Demographic and epidemiological changes on the Flathead Reservation 1887-1935

Christina Joy Heiner

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DEMOGRAPHIC AND EPIDEMIOLOGICAL CHANGES ON
THE FLATHEAD RESERVATION 1887-1935

By

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Master of Arts, University of Montana, Missoula 2006
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This dissertation examines the patterns of health among the Salish, Pend d’Oreille, and Kootenai tribes living on the Flathead Reservation in the late 19th and early 20th century. Previous research on early Native American demographic and epidemiological patterns has essentially focused on patterns following European contact to the pre-reservation era, ignoring that Native populations continued to struggle with ill-health and disease under the control of the Bureau of Indian Affairs. This research found while large infectious disease epidemics did not occur after the 1900s, infectious diseases such as tuberculosis and pneumonia were the leading causes of death for all ages on the reservation. In addition, chronic diseases such as heart disease and cancer began to emerge as causes of death. The importance of political and economic factors are stressed as ultimate causes of disease over biological or genetic factors.
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Chapter 1

Introduction to the Problem

European contact drastically disrupted the demographic and epidemiological patterns of Native peoples in the “Americas.” Cultural, social, religious, and health patterns changed dramatically as exchange between Europeans and Natives became more frequent. Europeans brought not only new technologies, but also a whole slew of infectious diseases, such as measles, scarlet fever, yellow fever, influenza, and smallpox (Ramenofsky et al. 2003). Controversy exists regarding aboriginal population size, diseases present before and after European contact, and the extent of demographic collapse. These topics are essential in the field of historical Native American demography as indicators of the impact of culture exchange, diseases distribution within “virgin soil” populations, and the effect of diseases on social structures (Snipp 1989). Disease and epidemics prove particularly important in historical demography as they directly affect demographic products such as fertility, fecundity, life expectancy, immigration, and of course, mortality (Mcfalls and Mcfalls 1984; Thornton 1997).

Studies concerning early Native American health have largely focused on demographic and epidemiological changes following European contact to the pre-reservation era, ignoring that Native populations continued to struggle with ill-health and diseases after being confined to reservations (Campbell 1987). Mortality and morbidity studies during the reservation period, according the scholars Trafzer and McCoy (2009:1) are usually “not as interesting or at least not as relevant” as earlier studies that have focused on “the more dramatic deaths and enormous loss of life associated with” early European contact. Access to western medicine and population growth has led scholars to falsely conclude that Native peoples improved in health and well-being. As a
result, few scholars have critically examined the relationship between Native American population
dynamics and the role which the U.S. Federal Government played in dealing with infectious
diseases during the early reservation period (Campbell 1987; Kelm 1998; Lux 2001).

This dissertation is an examination into the health patterns among the Salish, Pend
d’Oreille, and Kootenai during the late 19th and early 20th centuries. This research addresses the
epidemiological and demographic consequences of diseases that continued to affect Native peoples
following the creation of the Flathead Reservation and specifically following the integration of the
General Allotment Act of 1887.

**Diseases and Epidemics**

Diseases such as smallpox, measles, scarlet fever, whooping cough, and malaria killed
thousands and possibly millions of Native peoples (Ramenofsky et al. 2003). Although these
diseases were not present in North America before European contact, the continent was not
noted the following diseases already present in the Americas: bacillary and amoebic dysentery;
viral influenza and pneumonia; arthritides, rickettsial fevers; viral fevers; American leishmanisis,
American trypanosomiasis, and nonveneral syphilis and pinta. The lack of domesticated animals
might help explain why diseases occurred on a small scale (Thornton 1987:41). According to
McNeill (1976:45), “Measles for example is probably related to rinderpest and or canine distemper;
smallpox is certainly connected closely with cowpox and with a cluster of other animals infectious;
influenza is shared by humans and hogs.” While some Native populations did have some
domesticated animals such as dogs or turkeys, “there were comparatively few opportunities in this
hemisphere for horizontal transfer of infectious from animal reservoirs of disease to human beings”
Some infectious diseases also need large populations to sustain itself. Newman (1976:668) reminds us that, “Old World ‘crowd type’ diseases such as measles require of human reservoir of several million of maintenance, whereas there is no evidence for trans-Bering migrants numbering more than in the hundreds.”

Although a few serious infectious diseases existed before European contact, Native American life expectancies were strikingly similar to Europeans. “Life expectancies for Native Americans generally” as Thornton (2004:25) explains were “in the twenties to early thirties.” Warfare, accidents, and injury all led to shorter life expectancies rates. “There also might have been higher rates of infant and female mortality in childbirth among American Indians than among Europeans, a situation reflecting health practice and medical care than disease per se” (Thornton 1987:41). Thornton also cites famine, starvation, and parasitic diseases as major killers of Native peoples before European contact.

The most lethal European infectious disease was undoubtedly smallpox. Smallpox was the leading cause of death in Europe from 1650 to 1800, accounting for five to ten percent of all deaths, giving evidence to the infectiousness and tragic consequences of the disease (Riley 2010). Dobyns (1983) estimates of the 27 disease epidemics that occurred during the 19th century, 13 were smallpox. Elizabeth Fenn (2001:275) describes smallpox as a “virus of empire. It made winners and losers, at once serving the conquerors and determining whom they would be.” Henry Schoolcraft wrote that “no disease which has been introduced among the tribes, has exercised so fatal an influence upon them as small-pox” (Jones 2004:76). With a small survival rate in “virgin soil” populations and an incubation period of about a week, smallpox spread quickly among Native societies as mortality rates ranged between 45 and 90 percent (Thornton 1987).
Debate continues among scholars when the first smallpox epidemic first impacted the “New World.” Dobyns (1983) argued that a smallpox epidemic occurred in the sixteenth century devastating several Native populations before European contact. Cook (1998) found evidence of a smallpox pandemic that spread from the Caribbean to Mexico and south of Bolivia in 1512. Newson (1991) and Cook (1991) suggest Inca populations were decimation by smallpox in 1524/1525. Archeologist Steadman Upham (1986:126) argues with “the infectivity of smallpox and the climatic conditions in the Southwest, the introduction of infection to one group could have resulted in widespread transmission of the pathogen” before 1540.

Documented smallpox epidemics occurring first in New England and then in the southern and western colonies took place in 1633, 1634, 1638-1640, 1662-1663, 1669-1670, 1688-1691, 1696, 1702, 1716-1717, 1721, 1730, 1738, 1746-1747, 1755-1760 and 1764-1765 (Jones 2004:75). As Europeans moved westward so did smallpox epidemics striking the Blackfeet and Arikara in 1780. Other smallpox epidemics occurred in 1801, 1815, and 1819. From 1836 to 1840, one of the most severe smallpox epidemics occurred throughout the West killing more than 15,000 Native peoples including 6,000 to 8,000 Blackfeet, Piegans, and Bloods, 2,000 Pawnee, several thousand Mandan, 2,000 Arikara and Minetaree, 1,000 Crow and 4,000 Assiniboine (Jones 2004:76). The last major smallpox epidemic occurred in the 1860s.

Although smallpox caused unprecedented mortality, some tribes experienced population growth providing evidence that Native groups were able to cope and rebuild communities. Kelton’s (1998, 2004) study of the Four Nations (Cherokee, Creeks, Choctaws, and Chickasaws) shows how the tribes responded to population loss by actively capturing individuals of other tribes to boost and regain their population. Kelton writes:
In 1748, smallpox infected some Upper Creek towns and threatened to spread throughout the Creek Confederacy. The Indians, however, ‘cut off every kind of communication’ with infected villages and posted sentinels ‘at proper places, with strict orders to kill’ people from infected villages ‘as the most dangerous of all enemies.’ Such measures reportedly worked. Continual practice of quarantine, moreover, facilitated the Creeks’ population resurgence in the second half of the eighteenth century. The epidemics of 1764 and 1779 appeared to be confined to certain towns, and population estimates showed no major demographic losses. [Kelton 2004:58]

Trimble (1992) and Taylor (1977) suggest that Plains Indians also strategically minimized the effects of epidemics by breaking into smaller groups throughout the year and by avoiding villages or individuals thought to have a disease.

One of the problems with early smallpox studies, and other epidemic diseases, is the lack of evidence to support mortality claims. However some scholars have found ways to validate mortality claims. Sunstrom (1997) using winter counts of Northern Plains Indians studied smallpox and other disease epidemics from 1682 to 1920. From winter counts, Sunstrom determined diseases occurred on average every five to seven years for the Plains and every nine to 15 years for individual groups. Sunstrom also shows that malnutrition and stress were often present during epidemics. She ultimately demonstrates that winter counts are not only highly reliable, but a neglected source of firsthand information of the demographic changes that occurred on the Northern Plains over a period of two or three centuries.

In addition to mortality changes, infectious diseases significantly altered fertility and fecundity levels. Walker and Johnson (1992) found tuberculosis, syphilis, and dysentery heavily affected the fertility levels of Indians living at the Santa Barbara Mission in California in the late 18th and early 19th centuries. From 1782 to 1823, the population dropped drastically from 300,000 to 25,000 individuals. Kelsey (1985) also noticed that infectious diseases such as syphilis caused sterility, as well as a high infant mortality, killing three out of four infants within their first
to two years of life. Stannard (1990) found mortality and fertility changes among Native Hawaiians following colonization. According to Stannard’s research, in 1848 the death rate reached 98 per 1,000, while the birthrate remained 16 per 1,000. Fertility levels dropped so low that the adult to child ratio was 28:5. Stannard also found that few infants survived to their first or second birthdays. Following Walker and Johnson and Kelsy, Stannard also attributes this phenomenon to the overwhelming presence of gonorrhea and syphilis.

Besides diseases and epidemics, scholars have also investigated the relationship between early federal policy and Native health (Benson 1994, 1999; Hancock 2006; Jones 2004; Kunitz 1983, 1994). Pearson (2001:86) investigated federal policy of Native health from 1797 to 1871 and cites how missionaries were actively involved “the development of imperial medicine as part of the political processes of colonization.” Pearson (2001:87) argues that that the “provision of health care services provided a moral or ethical legitimization of the American presence among Indian nations while the treaties provided legal or political legitimization of the same presence.” Putney (1980) offers one of the best inquiries into the campaigns of the Indian Health Service in the early 20th century. She explores the rationale and beliefs surrounding the high death rates of Native peoples and how the Bureau of Indian Affairs sought to control infectious diseases and infant mortality in Native communities. She found that usually Native peoples were blamed for the diseases and the poor conditions relating to the reservation. DeJong (2008) has also investigated federal policy regarding Native health to the change of administration to 1954 when Native health improved.

Although small pockets of infectious diseases epidemics continued to inflict Native populations, a new set of chronic infectious diseases began to infiltrate Native peoples in the 20th century. Ales Hrdlicka taking samples from various Native groups in the United States found a
tuberculosis mortality rate of 9.7 per 1,000, twice the rate of African Americans and four times the rate of white Americans in 1909 (Hrdlicka 1909). While Hrdlicka (1909) wrote that “tuberculosis was rare if it did exist among Native tribes,” physical evidence found in skeleton analysis suggests otherwise (Mackowiak et al. 2005; Powell 1992; Roberts and Buikstra 2003). Physical evidence of tuberculosis in skeleton samples does not suggest that tuberculosis produced high mortality prior to European contact. Furguson citing Plain Indians as an example (1934:18) notes, “while tuberculosis was present among Plains Indians 1860 to 1880 it was not an important cause of death until after enforced settlement on reservations in 1879.” Tuberculosis mortality was heightened by malnutrition, starvation, and overcrowding that often accompanied forced removal to reservations.

According to Bureau of Indian Affairs reports, the tuberculosis death rate for Native peoples reached a peak at 1,040 per 100,000 by the year 1912 (DeLien and Dahlstrom 1951:528). In comparison, the United States death rate from tuberculosis was 145 per 100,000 (U.S. Bureau of the Census 1975:58). By 1923, Native tuberculosis death rates had decreased to 439 per 100,000 and by the 1940s decreased to 212 per 100,000 but still remained significantly higher than the general population of the United States (DeLien and Dahlstrom 1951:528).

Trachoma was also problematic for Native peoples. A study conducted in 1912 concluded that overall at least 23 percent of Native populations suffered with trachoma. By 1931, trachoma infections had decreased. At least seven percent still struggled with trachoma although rates were inconsistent throughout Native communities (DeJong 2008:92). For example, DeJong (2008:92) points out in the 1930s, the Zuni Pueblo reported an incidence on trachoma of one percent but at the Laguna Pueblo, the trachoma incidence rate reached upwards towards 25 percent. Benson (1994) explores specifically the health campaign of trachoma control by the U.S. Federal
Government of Native peoples in the early 20th century and how early experimental techniques used on Native peoples to control trachoma led to worse conditions.

The effect of the 1918 influenza epidemic on Native communities has received little attention from scholars. Although the 1918 influenza epidemic may have killed over 200,000 Americans (Crosby 1989), it is relatively unknown how the influenza epidemic affected reservation communities. D. Ann Herring’s (1994) research among the Ojibwa at the Norway House in Canada found not only high mortality rates from the influenza but malnutrition and starvation that also contributed to the high mortality especially of infants. Interesting, Herring also found significant population growth after the epidemic. More research is needed in this area to compare mortality in Native tribes to the larger American experience. Unfortunately, little data exist for Native tribes for this epidemic as many Office of Indian Affairs contracted physicians abandoned reservations and Native communities during World War I (Putney 1980).

**Field Study Area**

The Plateau is defined as a distinct geographic area that lies east of the Rocky Mountains, west of the Cascade Mountains, the northern boundary of the Frazer River’s bend, and the southern border of the Blue Mountains (Ray 1939:1). This includes portions of western Montana, northern Idaho and California, southern British Columbia and the eastern parts of Washington and Oregon (Figure 1.1). The climate of the Plateau region is harsh and subject to cold winters (-50 degrees F) and hot summers, (100 degrees +F) with an average annual temperature of 55°F. Precipitation is low with most of the precipitation occurring in winter.

Ecologically, the Plateau is diversified with at least seven different habitat types (Chatters 1998). Bunch-grass steppes were particularly abundant and later provided support to large herds of
Figure 1.1 Map of Plateau Tribal Territories

(Source: Walker 1998.ix)
horses (Ackerman 2003:7). The Plateau region also provided a variety of berries, plants, and animals that Native peoples successfully exploited for their subsistence needs in an annual round. Over 300 bird species are found in the Plateau region throughout the seasons which includes millions of ducks and geese that stop during their seasonal migrations (Chatters 1998:39). The Plateau region also supported a number of game animals such as mule and white-tail deer, black and grizzly bears, coyotes, mountain lions, gray wolves, caribou, antelope, elk and moose (Malouf 1998). In addition, numerous water sources such as rivers, streams, and lakes provided a secure economic and subsidence base of both resident and anadromous fish (Chatters 1998) and reliable transportation to hunting and gathering grounds before horses (Anastasio 1955).

Native peoples have resided in the Plateau cultural area from around 10,000-14,000 years ago. The first Plateau peoples depended on hunting, fishing and gathering. “Archaeologically, the Plateau was part of the Old Cordilleran Culture, characterized by lanceolate projectile points of the Cascade type” (Schuster 1975:18). Early cultural developments point to a similarity to the Basin and Plain Natives than to the Northwest Coast. The material culture of the Plateau peoples has only existed for at least 1,000 years before European contact (Cebula 2000).

Within the Plateau culture area, at least 30 different ethnic groups broadly resembled each other in terms of material culture, ceremonies, and religion (Cebula 2003). Distinguishing cultural features among Plateau Native peoples include riverine settlement patterns (Ray 1942), reliance on a diverse and complex subsistence patterns of hunting, gathering, and fishing (Frey 1998), relatively egalitarian societies (Ackerman 1982, 1994, 1998, 2003), extensive kinship ties and intermarriage (Ackerman 1994), extensive trade networks (Stern 1998) and mythological and religious beliefs focused on vision quests, shamans, and guardian spirits (Walker 1998:3).
Linguistically, most languages spoken in the Plateau cultural area belong to the Salishan family in the north and Sahaptian family in the south (Table 1.1). Dialects of Chinook and Athapaskan were also spoken. Four languages (Kootenai, Molala, Cayuse, and Klamath) spoken on the Plateau are considered isolates. Due to the dwindling number of speakers, at least three languages, Nicola, Molala, and Cayuse went extinct by the middle of the 20th century (Kinkade et al. 1998:70).

Early Plateau Diseases

Sarah Campbell (1989) claims a smallpox epidemic first hit the Plateau region as early as the 1500s based on the evidence of archeological material items and shell and bone residue. While this claim fits into a hemispheric smallpox pandemic that occurred in 1519, some scholars argue other causes such as famine or migration also need to be examined as possibilities to explain the seemingly depopulation of the Plateau area at that time (Walker and Sprague 1998).

Jones (2003) similarly argues that an early smallpox epidemic affected Plateau peoples in the 1660s, originating from the Southwest and Great Basin regions. Jones claims a basic misunderstanding of epidemiological theory has distorted perceptions of early diseases and thus ignores any possibilities of an early smallpox epidemic before the 1770s. For example, the concept of “virgin soil” usually refers “to a population as lacking any previous exposure to a particular pathogen which in fact this term refers to populations in which an organism has not been present for many years, if ever” (Jones 2003:6). John Moore (1989:131) furthermore points out “relevant to the issue of ‘Virgin soil’ populations is the process of cross-reactivity, which gives a person some immunological defense if that person has previously been infected by a similar microbe. That is, even if a person or population has never been exposed to a particular microbe, they might still
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Source: Kinkade et al. 1998
exhibit an immunity, if they had been exposed to microbes which were similar.” Native American immune systems might not had been entirely defenseless as many Native peoples did survive epidemics (Ubelaker 1992).

Jones also argues that scholars have relied heavily on appearance of pocked marked faces in the written record to indicate the presence of disease. He further contends that pocked marked faces are not a definite characteristic of smallpox and early historical studies of smallpox epidemics in England attest to this. “One study that looked at the occurrence of smallpox in England in the seventeenth and eighteenth century noted that only 12 out of 100 people exhibited pockmarks when infected with smallpox” (Jones 2003:5). If Plateau peoples had experienced an early smallpox epidemic of variola minor that spread through trade routes, not only would mortality would have been low but records would not have been kept.

Several scholars refute any evidence of smallpox or other disease pandemics before the sixteenth century (Thornton 1997:310). According to Larsen (1994:109) “archeological, historical, and bioarchaeological studies provide compelling evidence that the arrival of Europeans did not occasion a sudden pandemic of smallpox in the sixteenth century.” Rather, Native disease depopulation occurred as a result of local disease epidemics after initial European contact (Warrick 2003). In addition, scholars also reason early smallpox epidemics are difficult to unravel because of the lack of physical evidence and the questionability of written descriptions. As Brooks (1993:2) argues “some of the descriptions, which are supposedly of smallpox, are either imaginary or of some other disease.” Although most scholars do not agree that smallpox affected Plateau peoples before the 1770s, for some scholars the possibility remains intriguing and “implications for Plateau culture change and adaption” would be profound (Boyd and Gregory 2007:58).
1777-1782 Smallpox Epidemic

The first concrete ethnohistorical and epidemiological evidence of a smallpox epidemic occurred on the Plateau in 1777. According to research by Robert Boyd (1998), European infectious diseases were responsible for approximately one third of the population decline of Plateau peoples from 1777 to 1885. Although, not much evidence of this smallpox epidemic exists among Plateau tribes other than scarce and scattered recordings by missionaries and explorers 30 to 60 years after the occurrence, they provide important insights to the consequence of infectious disease on Native populations and to the Plateau people’s social networks. Merbs (1992:8) reminds us, the “task of reconstructing patterns of infectious diseases in the New World prior to 1492 is enormously complex, the sources of evidence are often woefully inadequate, and the chance of error great, but the challenge is too exciting not to be attempted.”

Smallpox in itself is a terrifying disease characterized by a rash, high fever, malaise, headache, severe backache, and abdominal pain and vomiting. Two forms of smallpox existed that of variola major and variola minor. Variola minor had a case fatality rate of one percent or less. Variola major had a case fatality rate in unvaccinated individuals of an average of 30 percent. A highly infectious disease, individuals could carry smallpox for up to two weeks without any clinical manifestations of the disease, spreading the disease to every personal contact. By the second day of illness, fevers would typically run about 103 degrees but could easily reach 105 degrees (Cunha 2004:94). Four days after the onset of fever (Stidstone Gromim 2006:248-249):

Fluid-filled pox erupted through the skins and in the mouth and throat. The pox made it excruciating painful to swallow, and pox-covered flesh stank like rotting meat. In the worst cases, people died before the pox even erupted, their bodies turning purple from blood vessels rupturing beneath the skin—or they suffered for weeks before dying, the eruptions of pox so massive that they all ran together, layers of skin peeling from the body…
Given the known epidemiology of smallpox, 30 to 50 percent mortality is not unlikely in a “virgin-soil” population. Survivors acquired natural immunity against any further smallpox epidemics. But survivors also inherited scabs that formed “after fifteen to twenty days. The disease left some survivors blinded by some pox-scarred corneas, caused many pregnant women to miscarry, rendered some men sterile, and disfigured them all” (Stidstone Gronim 2006:248-249).

Various theories suggest possible means how smallpox came to the Plateau in the late 18th century. One theory suggests that smallpox entered the Plateau by Natives returning from buffalo hunting on the Plains (Walker and Schuster 1998). Boyd argues origins from Spanish ships on the Northwest Coast or from the Russian colony at Kamchatka are also possible. Cole Harris contends that smallpox originated from the Plains and Great Basin through trade contacts to the Coast. Harris (1994:605) notes:

Certainly, smallpox was among the Shoshone in 1781. From a major rendezvous in southwestern Wyoming, the Shoshone traded with the Flathead, Nez Perce, Walla Walla, and various peoples along the Snake River. Any of these trading connections could have brought smallpox to the lower Columbia. So could parties of Flatheads, Pend d'Oreille, Nez Perce, and others that crossed the Rockies to hunt and raid along the upper Missouri.

A report recorded in 1829 by a Hudson Bay Company fur trader at Fort Colville, noted “Immense numbers of them were swept off by a dreadful visitation of the smallpox, that from the appearance of some individuals that bear marks of the disease, may have happened fifty or sixty years ago (Vibert 1997). Missionaries in the 1840s similarly recorded tribal members recalling the devastation of smallpox. Both the Salish and Nez Perce recounted to missionaries acquiring smallpox from a bison hunt although only the Nez Perce account states the bison hunt was a joint party with the Salish (Boyd 1999:29). According to Asa Smith, a missionary among the Nez Perce, recorded in 1840 that a smallpox epidemic had inflicted the Nez Perce 60 or 70 years prior and found almost “instead of finding their people as expected, they found their lodges standing in order,
& the people almost to an individual dead. Only here & there one survived the disease. It seems to have been the most virulent form of the smallpox. From thence it followed the people to this region & swept through the whole county, very few surviving the attack of the disease. Some fled & thus avoided the contagion” (Drury 1958:136-137).

Mengarini (Lothrop 1977:193-194), a Jesuit missionary among the Salish recorded:

About seventy years ago (1777), according to the calculations of the elders, the Flathead included at least eight hundred families or about four thousand people. Now it occurred that while a small number had left for a buffalo hunt, all those remaining in a camp were attacked by a devastating plague which in a very few days killed everyone with the exception of fifteen children who were not infected by the disease…The disease caused the growth of large red and black pustules over the entire body, particularly on the chest. Those developing red pustules died within a few days, but those who were plagued by black pustules died almost immediately. During this same period the epidemic destroyed another entire nation of savages who spoke a different tongue and dwelt about five days’ journey from the Flatheads. Of them there remained not even the name.

Another smallpox story exists from this epidemic among the Salish people. In the 1930s, Zephire Lumprey told Claude Schaeffer how Grizzly Bear Looking Up survived smallpox as an adolescent and went on to become head chief of the Salish.

The Flathead were camping around Missoula and the smallpox had stricken them bad. They split into two parties, one went up the Bitterroot River and the other up the Missoula River. The Bitterroot party camped at Birch Creek while the Missoula party camped at Drummond. None of the Missoula party had smallpox while the Bitterroot had it.

The smallpox became very severe in the Bitterroot party and men, women, and children were dying of it. There was a boy around 15 years old who went out every day to play. He noticed that fewer and fewer people were going about and after several days, none were going out. Then one day he returned home to find his mother dead but he crawled under the blankets with her. He continued doing this while none of the rest of the people were around. [Challenge to Survive 2008b:22]
Lumprey continued to tell the story of how a grizzly bear took pity on him and carried him to the other Salish camp. “When his arrival became known, the people asked him what had become of his people and he told them that they had all died” (Challenge to Survive 2008b:23).

At least one band of the Kootenai, referred to as the Tunaha, were almost completely destroyed by the first wave of smallpox epidemics, with the exception of few survivors joining the Salish (Turney High 1941). Curtis notes that while the Tunaha camped east of the Rocky Mountains were nearly exterminated by smallpox. “Fleeing from the strange evil, the remnant hurried eastward, but before they had gone far, eight young men left the party and turned their faces to the south. The larger party was never heard from, but the smaller found refuge among the Flathead in a valley near the site of Butte, Montana” (Curtis 1911:17).

While these accounts leave little doubt about the impact of smallpox on the southern and eastern Plateau, accounts do not exist for an early smallpox epidemic to have occurred in the northern part of the Plateau (Vibert 1997). Ackerman (2003) points out that trade, marital and social links were extensive among the peoples of the Colville and Okanagan areas. For example, Kettle Falls was a place for Plateau peoples to meet for trade and to fish. “Given such extensive interaction, it is almost inconceivable that a virgin-soil smallpox epidemic would not have had some impact in these northerly regions” (Vibert 1997:55).

1801/1802 Smallpox Epidemic

From oral history and recordings from fur traders and missionaries, a subsequent smallpox epidemic occurred in 1801 a generation later among some tribes on the Plateau. This epidemic was similar to the one that occurred in the late 18th century, “in that this epidemic proceeded
unwitnessed and unrecorded by Euroamerican eyes, extant accounts consist largely of oral traditions collected from Native informants in later years” (Boyd 1985:99).

Thornton (1987) writes that the 1801 smallpox pandemic spread north along the Missouri River, devastating the Plains tribes. “Smallpox was transmitted to the Pacific Northwest when the Crow carried it what was to become Washington Territory and to the Flathead (Salish) Indians” (Thornton 1987:92). Salish oral tradition recounts that, “so many people died that the lodges were full of corpses. Some of the ‘long lodges’ were quite full of dead and dying people. So many people died, that they could not be buried and the dogs ate their bodies” (Teit 1927:279-280). From the Salish, smallpox spread to other Plateau tribes including the Pend d’Oreille, the Kalispell, Colville, Spokane and down to the Salish tribes along the Columbia River where the smallpox epidemic eventually subsided (Thornton 1987:92). Stern and Stern (1945:76) write that “the Spokane suffered the worst though, all were seriously affected.”

This smallpox epidemic also affected tribes down the Mississippi River to the Louisiana Gulf, spreading into Texas, and the Southern Plains (Thornton 1987:92). Several tribes are reported to have suffered from this epidemic severely. “The prairie tribes are said to had lost more than half of their populations at this time, while the Wichita, Caddo, and others in the south suffered almost as severely” (Mooney 1898:168).

Plateau mortality from this second smallpox epidemic seems lower than the earlier smallpox epidemic (Teit 1927). Asa Smith recorded the second smallpox epidemic among the Nez Perce “was a milder form, perhaps the varioloid & did not prove so fatal. Many however died. Marks of this disease are now to be seen on the faces of many of the old people” (Drury 1958:137). John Work noted among Native peoples at Fort Colville “the same disease committed a second ravage, but less destructive than the first about ten years afterwards (Vibert 1997:54.) While
mortality from this epidemic may have been lower due to the lesser strain of smallpox (or *Variola minor*) as believed by Smith, the more probable hypothesis is that the acquired immunity (or herd immunity) by those who survived the first epidemic, left those born since the first epidemic open to infection (Boyd 1996:316; Taylor 1982). As mortality was also high from this epidemic among tribal groups in other areas, it is doubtful this smallpox was the lesser strain.

*Epidemics and the Fur Trade*

Besides smallpox, some Plateau tribal groups continually suffered during the winter months from European infectious diseases after the North West Company established a permanent fur trading post from 1810-1830. David Thompson recorded between 1807 and 1808 that:

> 2 Kootenaes informed me that a violent Distemper had taken the Flat Heads, which had communicated itself to the Kootanaes + Flat Bows, + had brought the major part of them so low, as to prevent Them from decamping, + that many Children had already died of it…three Tents of those People arriving Sept 7 +8th confirmed the above, they were all very ill + reduced to mere Skeletons…[Elliott 1925:45]

Individuals became particularly susceptible to viral infections at the forts in late winter as food became scarce and crowding allowed illnesses to spread easily. Chief Trader Francis Heron noted in December 1830 that many of the Natives were ill that year. “He attributed the sickness to ‘such numbers being crammed together in large tents, their filth and bad foods, which consist of rancid dried Salmon and unwholesome roots’” (Vibert 1997:57). According to Boyd (1998:473), “each year the fur brigades apparently brought with them a new strain of cold or influenza, which during the winter, spread among the artificial concentration of fort hangers-on, peaking
<table>
<thead>
<tr>
<th>Disease</th>
<th>Year</th>
<th>Groups Affected</th>
<th>Estimates of Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smallpox</td>
<td>Between 1777-1782</td>
<td>Flathead, Nez Perce, Kootenai</td>
<td>Entire band of Kootenai Tunaha band killed; 1000+</td>
</tr>
<tr>
<td>Smallpox</td>
<td>1801/1802</td>
<td>Nez Perce, Salish, Pend d’Oreille, Kalispell, Spokane</td>
<td>30% to 50 % of tribes</td>
</tr>
<tr>
<td>Whooping Cough</td>
<td>1807</td>
<td>Kootenai, Flathead, Thompson</td>
<td>No estimate</td>
</tr>
<tr>
<td>Smallpox</td>
<td>1824/1825</td>
<td>Cayuse, Yakama?, Coeur d’Alene?</td>
<td>No estimate</td>
</tr>
<tr>
<td>Malaria</td>
<td>1830-1833</td>
<td>Chinook, Sahaptin</td>
<td>No estimate</td>
</tr>
<tr>
<td>Chickenpox</td>
<td>1840</td>
<td>Nez Perce</td>
<td>“claimed several children”</td>
</tr>
<tr>
<td>Smallpox</td>
<td>1843</td>
<td>Yakama</td>
<td>No estimate</td>
</tr>
<tr>
<td>Whooping Cough</td>
<td>1844</td>
<td>Cayuse</td>
<td>“claimed several children”</td>
</tr>
<tr>
<td>Dysentery</td>
<td>1844</td>
<td>The Dalles, the Cascades</td>
<td>400+</td>
</tr>
<tr>
<td>Smallpox</td>
<td>1846</td>
<td>Yakama</td>
<td>No estimate</td>
</tr>
<tr>
<td>Measles</td>
<td>1847</td>
<td>Cayuse, Yakama, Spokane, Salish</td>
<td>1000+</td>
</tr>
<tr>
<td>Influenza “la grippe”</td>
<td>1848/1849</td>
<td>Salish, Yakima, Nez Perce, Cayuse</td>
<td>80+</td>
</tr>
<tr>
<td>Smallpox</td>
<td>1853</td>
<td>Yakama, Okanagan, Sanpoil, Colville, Coeur d’Alene, Spokane</td>
<td>500+</td>
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<tr>
<td>Smallpox</td>
<td>1862</td>
<td>Shuswap, Lillooet, Upper Thompson</td>
<td>20,000</td>
</tr>
</tbody>
</table>

Sources: Boyd 1998:472-478; Gibbs 1854:408
during the lean season when food stocks among this economically semi-dependent population were low, and the Indians were most susceptible to infection.”

Smallpox 1820s-1840s and other diseases

“A great mortality” was recorded for the winter of 1824/1825 which Boyd believes was smallpox. Among Plateau groups Boyd (1985:339) writes there is probable documentation that the Walla Walla, Yakama, Wanapam, Columbia Salish, and Coeur d’Alene suffered from this epidemic. James Teit offered the date of 1825 for a smallpox epidemic for the Columbia Salish but the date of 1831/1832 for the Coeur d’Alene. Splawn (1917) accounts for a smallpox epidemic in 1836 among the Yakama and Wanapam, but Boyd believes this to be in actuality the 1825 smallpox epidemic. Smallpox epidemics occurred among Plains Natives in 1831 and in 1837 so it is possible that transmission of smallpox from the Plains to the Plateau in those years (Taylor 1982). The only definite account of any Plateau tribe suffering from smallpox at this time is of the Cayuse which is reported that “the mortality among the Cayuse to be as bad as to prevent them from hunting” (Simpson 1968:127). Respiratory diseases are recorded among Plateau peoples in the 1830s and 1840s. John Work reported a severe cold epidemic among whites at Fort Nez Perce which Boyd (1985:347) argues was the same disease that Captain Bonneville diagnosed as pneumonia among the Nez Perces and Salish camps on the Salmon River that same year:

A disease, which Captain Bonneville supposed to be pneumonia, now appeared among the Indians, carrying off numbers of them after an illness of three or four days. The worthy captain acted as physician, prescribing profuse sweatings and copious bleedings, and uniformly with success, if the patient were subsequently treated with proper care. In extraordinary cases, the poor savages called in the aid of their own doctors or conjurors, who officiated with great noise and mummerly, but with little benefit. Those who died during this epidemic were buried in graves, after the manner of the whites, but without any regard to the direction of the head. It is a fact worthy of notice that, while this malady made such ravages among
the Natives, not a single white man had the slightest symptom of it. [Irving 1961:64]

The winter of 1848-1849 la grippe (influenza) claimed the lives of at least 30 individuals Yakama and spread to the Cayuse, Nez Perce, and Salish claiming the lives of at least 50 individuals (Boyd 1985:347)

Chickenpox, dysentery, and whooping cough occurred in the 1840s, following mass migration of Europeans onto the Plateau landscape. Hunn writes (1990:31) “with the immigration came a potpourri of diseases again which the Indians had no resistance.” Scarlet fever and typhoid fever were observed among white settlers but seems not to have caused any significant mortality for Native peoples at this time (Boyd 1998). In 1843, “smallpox spread with great virulence” among the Yakama and again in 1846 (Schuster 1975:193) but it not recorded as occurring among other groups.

Malaria

First recorded in the 1830s, epidemics of “intermittent fever” “ague” or “pestilence” swept through the Indians of the lower Columbia. Some controversy has occurred over the identity of this disease but current censuses among scholars favors malaria (Boyd 1975, 1999:84; Cook 1972; Strong 1959).

Malaria is a complex disease and is transmitted by an anopheline mosquito, a parasite and a secondary host (Boyd 1999:289). According to Hunn (1990:31) the anopheline mosquito thrived “along the Columbia east to near The Dallas and required only the introduction of the disease agent in the blood of an infected passenger of one of the numerous trading vessels arriving from the Mexican coast, where malaria had arrived with the African slaves brought to work colonial
plantations in the sixteenth century.” Malaria did not spread above The Dalles north of the Puget Sound or to Canada (Hunn 1990).

Dr. John Townsend (Cook 1972:183) writes of the devastation that malaria caused:

The Indians of the Columbia were once a numerous and powerful people; the shore of the river, for scores of miles was lined with their villages…The spot where once stood the thickly peopled village…is now indicated by a heap of indistinguishable ruins. The depopulation here has been truly fearful [near Fort Vancouver]. A gentleman told me that only four years ago as he wandered near what had formerly been a thickly populated village, he counted no less than sixteen dead, men and women lying unburied and festering in the sun in front of their habitations. Within the houses all were sick, not one escaped the contagion; upwards of a hundred individuals, men, women, and children, were writhing in agony on the floors of the houses, with no one to render them any assistance. Some were in the dying struggle, and clenching with the convulsive grasp of death their disease-worn companions, shrieked and howled in the last sharp agony…

Samuel Parker (1846:191) adds: “so many and so sudden were the deaths which occurred, that the shores were strewed with the unburied dead. Whole and large villages were depopulated; and some entire tribes have disappeared, but where there were any remaining person, they united with other tribes.” Boyd (1998:473) notes that in 1805 Lewis and Clark estimated 3,900 Upper Chinookans from the Cascades to The Dalles but by 1841 roughly only 1,000 Natives were left. Boyd (1998) also notes that the malaria vector was absent throughout most of the Columbia Plateau.

*Measles Epidemic 1847*

In 1847, a virulent form of measles and dysentery “spread with devastating rapidity through all of Old Oregon, leaving in its wake an appalling list of dead” (Drury 1937:391). According to Boyd (1994:7), “the disease spread from its focus, in the mid-Columbia region, northeast to the Indian peoples of the Columbia Plateau, downstream to Fort Vancouver and then south through the
Willamette Valley, and north along the coast as far as Sitka (Alaska).” This epidemic was prevalent and caused high mortality among Plains Indians as well (Taylor 1982).

Characterized by prodromal fever, bronchitis and Koplik spots, both adults and infants are highly susceptible to measles. Children under three are particularly susceptible. Transmission occurs by direct person to person, droplet spread and less commonly by touching articles, such as clothing (Heymann 2008:404). Following incubation, illness begins with a fever followed by cough. Diarrhea is common in children. Usually on the third or fourth day, a rash begins in the mouth and at the hairline and moves down the body. The Koplik spots fade as the skin rash evolves and fade generally with 10 days (Bannister et al. 2003). Fatality rates are usually between five and 20 percent but higher in immunosuppressed communities and malnourished children.

Dysentery manifests itself in two acute forms, a protozoan parasite called entamoeba histolytica and bacillary dysentery (Campbell 1987:108). Dysentery attacks the small intestines and colon, producing swelling, ulcerations, and micro-lesions (Linton 2010:607). Dysentery is transmitted by contaminated food, milk, or water and by the fecal-oral route by individuals who have the infection. Secondary cases in households are common. Individuals with dysentery “experience small-volume frequent stools consisting of blood, mucus, and pus, with abdominal cramps and tenesmus. Most patients recover over the period of up to a week, although with severe disease, they can suffer colonic perforation that can prove fatal” (Hilborne and Goblum 2001:36). Individuals can experience as many as twenty bowel movements daily giving rise to severe dehydration quickly (Linton 2010:607).

Father Mengarini in 1847 noted that a terrible smallpox epidemic inflicted the Salish at the St. Mary’s Mission of which at least 86 individuals died (Lothrop 1977). Mengarini blamed the wagon train which brought the smallpox in the region and then spread from Fort Hall. “As a result
the Pend d’Oreille, the Nez Perce, the Caldaj, the Walla Walla, the Kaius (Cayuse), the Saluspen, and the Chinook were each attacked by smallpox and a great number died” (Lothrop 1977:197). This smallpox epidemic is probably the measles epidemic that affected the Plateau peoples that year. Measles is similar to smallpox and often is mistaken for the smallpox or scarlet fever especially if the inflicted individual is observed after the initial phase and Koplik spots are distributed over the entire body (Cunha 2004:95).

This epidemic first appeared among the Fort Nez Perces in July and then reached the Cayuses the beginning of October and by the November many Natives were sick (Drury 1937:391). From the Cayuse, the disease spread to the Spokane and west with the immigrants to the lower Columbia (Boyd 1985:352). Boyd (1994b) hypotheses that this epidemic was not brought to the Plateau by white settlers but brought instead by Natives as measles appeared among tribes before immigrants came that year. Measles was probably then spread by immigrants that carried measles from the Columbia to Vancouver and through the Pacific Northcoast (Boyd 1994:7). At least 1,000 Natives suffered mortality from this epidemic with the Cayuse suffering near 50 percent of their population (200) perishing from this epidemic (Boyd 1998). Mortality was high most likely due to the Native’s use of sweat lodge and then plunging into cold water (Drury 1937). This epidemic also subsequently resulted in the deaths of Protestant missionaries Martin Whitman, his wife Narissa, and eleven others when Cayuse Natives blamed Whitman for the deaths of tribal members.

Smallpox 1850-1860s

The 1850s and 1860s were also eras of significant smallpox epidemics. In 1853, Plateau tribes again suffered a smallpox epidemic for the fourth time in less than 80 years. Boyd (1998:474) argues the origin of this epidemic stemmed from ships originating from San Francisco. Smallpox first occurred at the mouth of the Columbia, eventually entering into Washington (Boyd
Dr. George Suckley wrote that “The Indian tribes on the Columbia River, below Fort Colville, are rapidly becoming depopulated by the smallpox, intemperance, and syphilis. During the past summer (1853) the smallpox has prevailed in every direction, carrying off the Natives by hundreds. The Lakemans and Wyampus, during this short period, buried more than one-half of their numbers” (Suckley 1854:125). The Yakama were affected by this epidemic. Dr. Anson Dart estimated that the Yakama decreased in population from 1,000 to 600 in 1853 (Schuster 1975:194). Gibbs reported that “the whole course of the Yakama is lined with the vestiges of former villages” (Gibbs 1854:408). By May of 1853, it was present among the Natives at The Dalles. Joel Palmer, Superintendent of Indian Affairs of Oregon reported that smallpox was “making fearful progress in its fatal work among the Indians of that vicinity” (Boyd 1999:161). Indian Agent, A.J. Balon reported that the Wishram tribe had been reduced to 270 individuals, losing a total of 257 members of the tribe to smallpox, while Natives at White Salmon, had been reduced to only 21 survivors (Schuster 1975:194). The Salish, Pend d’Oreille, and Colville peoples vaccinated by priests were not heavily affected by this epidemic. Dr. Suckley (1854:179) wrote that “as most of the members of both of these tribes (referring to the Salish and the Pend d’Oreille) have been vaccinated by the missionaries, smallpox is of rare occurrence.” Lothrop (1977:194) writes that Father Ravalli brought a smallpox vaccine supply from Italy in 1845 and when he had exhausted his supply of vaccines he attempted to use herbs that the Salish also used in curing. The Spokane, on the other hand, “who said the medicine of the Fathers was a poison used only to kill them, were swept away by hundreds” (Desmet 1905:1235).

The last significant outbreak of smallpox in terms of wide spread mortality for the Plateau culture area occurred in 1862. Originating in Vancouver, smallpox spread from British Columbia at a rapid rate into the Plateau. Despite vaccination efforts among several tribes, the epidemic was
still destructive, killing as many as 20,000 Natives in British Columbia alone (Walker and Sprague 1998:142). Four bands of the Shuswap, the Riske Creek Bank, the North Canyon Band, the South Canyon Bank, and the Chilcotin Mouth Band were all destroyed due to this epidemic (Ignance 1998:203-204; Teit 1927).

The Flathead Reservation

The Flathead Reservation is situated in northwestern Montana and is currently home to the Bitterroot Salish, Upper Pend d’Oreille, and the Ksanka Band of the Kootenai. The Confederated Salish and Kootenai tribes organized in 1934 under the Indian Reorganization Act, are governed by a tribal council of ten elected officials. Four officials serve in the capacity of chairman, vice chairman, secretary and treasurer. The offices of the Confederated Salish and Kootenai Tribes are located in Pablo Montana. There are eight voting districts that exist within the reservation that comprise the towns of Polson, Ronan, Hot Springs, St. Ignatius, Arlee, Pablo, Dixon, and Elmo. The council meets together every Tuesday and Thursday to discuss tribal business. As of March 2012, there were 7,900 enrolled tribal members of which approximately 4,500 individuals live on or near the reservation. Although there are other Native individuals from other tribes on the reservation, tribal peoples are a minority population.

In 1855, tribal leaders signed the Treaty of Hell Gate with the Federal Government relinquishing 12,806,000 acres of traditional homeland and established the Flathead Reservation (historically called the Jocko Agency) (Bigart and Woodcock 1996). However, even after signing the treaty, the Kootenai and Pend d’Oreille people continued their annual rounds for subsistence leaving the reservation boundaries freely as the seasons and food availability dictated until the 1880s. The Salish continued to live in the Bitterroot not realizing that by 1891 they would be
forcibly moved to the Flathead Reservation by the Federal Government. By the late 19th century, Native peoples could not leave the reservation without a written pass from the Indian Agent. As traditional hunting and gathering sites were sold to white farmers and ranchers, Native peoples were forced to replace hunting and gathering subsistence activities with a cash economy. Indian Agents and missionaries instructed tribal members in agricultural, horticultural, and ranching practices although agriculture was the primary focus for economic stability (Bigart and Woodcock 1981a). Missionaries established schools for boys and girls in present day St. Ignatius to teach children English as well as agricultural and domestic pursuits.

While the reservation was established for the protection and exclusive use for Native peoples, the treaty itself contained an article that directly contradicted this purpose (Lahren 1998:491). In 1887, the passage of the General Allotment Act authorized the President to survey the Flathead Reservation for allotment altering Native farming patterns and making remaining land available for sale to white settlers. Despite strong arguments and repeated visits to Washington D.C. by tribal leaders, the reservation was allotted and opened to white settlement in 1910. Land not allotted to tribal members was sold to white homesteaders, further impinging on the sovereignty of Native peoples, reducing reservation acreage and in turn restricting access to natural resources and economic opportunities.

This study investigates how the creation of the reservation and the process of allotment altered the health patterns of the Bitterroot Salish, Pend d’Oreille, and Kootenai tribes in the late 19th and early 20th centuries. This time period is significant to Indian History as Native peoples faced continual social inequality, as well as insurmountable pressure to assimilate to Western values of religious, cultural, and economic standards (Prucha 1975). Regarding the time period 1887 to 1934, Francis Prucha (1984:263) said this:
Perhaps because the period was devoid of striking policy changes, historians have neglected it, jumping for the most part from the Dawes Act of 1887 to its antithesis, the Indian Reorganization Act of 1934. Yet it was in the intervening years that the nineteenth-century policy was tested in the fire of experience. It was in these years that the Indian-Office came face to face with the problems of dealing with the Indians, not as a relatively few tribal units, but as thousands upon thousands of individual wards of the federal government. Under these conditions the paternalism of the federal government, which was supposed to end with the individual Indians disappeared into the dominant American society, increased instead of diminished, until the bureaucracy of the American Service dominated every aspect of the Indian’s lives.

This study primarily focuses on the political economic, social, and cultural changes for the Salish, Pend d’Oreille and Kootenai peoples from 1887 to 1934. However, for easier decade comparisons of demographic and epidemiological changes, some epidemiologic and demographic information were calculated to 1940.

Numerous publications have been written about the Flathead Reservation and the Native peoples who live there. An annotated bibliography compiled by Bigart (1981) in the 1980s contained nearly 1,000 scholarly and noteworthy references to the Salish, Pend d’Oreille and Kootenai people, many dating to the 1800s. Scholars still find the Flathead Reservation an engaging place for research and inquiry, mainly focusing on the present economic and political circumstances as well as the religious and cultural history of the Native peoples (for example see Acker et al. 2005; Bigart 2010; Bigart and Woodcock 1996; Bigart et al. 2005; Bigart et al. 2007a, Bigart et al. 2007b, Bigart et al. 2009; Cahoon 2005; Cornell and Kalt 1990; Hart 1996; Krigbaum 1997; O’Nell 1994, 1996; Puisto 2000, 2002; 2004, 2009; White 1996). In addition, the Salish and Pend d’Oreille Culture Committee (2004, 2005) and the Kootenai Culture Committee (1997) have published numerous books and produced educational films relating to historical and cultural events from their own perspectives.
However, little has been written about the health changes or health status of the reservation over time. Theresa O’Nell’s (1996) seminal work on the Flathead Reservation in the late 1980s revealed the extent of depression and loneliness of the reservation. Recent contemporary studies have investigated the prevalence of diabetes and cancer among Montana Indians in general identifying the prevalence and degree which these two diseases afflict Native communities (Harwell et al. 2006). Ron Stubbs (1964) and Jeff Hart (1974) wrote master’s theses on the ethnobotany of the Salish, Pend d’Oreille, and Kootenai tribes and the knowledge that tribal peoples’ had regarding the medicinal properties of plants and roots. Yet nothing has been written (that the author is aware of) about the health patterns of the Flathead Reservation of the early 20th century besides basic overviews of disease epidemics (Bigart and Woodcock 1981a, 1981b; Boyd 1998, 1999).

Similarly, little has been written on the health status of Plateau tribes for the early part of the 20th century. Robert Boyd (1975, 1985, 1994a, 1998, 1999) has researched and written extensively about the health patterns of Plateau peoples in general, but his investigations have not gone into detail after the 1880s. Kelm's (1998) research shows not only the extent of ill health and disease among Canadian Plateau tribes but brings attention to how Native peoples continually contested health services from the Canadian government. Trafzer (1997, 1998, 2001) has written extensively of the demographic and epidemiological changes of the Yakama tribe in Washington. Examining the years between 1888 and 1964, Trafzer focused on the nutritional and epidemiological transition for the Yakama people as they shifted from hunting and gathering to life confined on the reservation and controlled by the Bureau of Indian Affairs. Heiner (2006) investigated demographic and epidemiological changes among the Coeur d’Alene from 1900 to 1930 finding that the Coeur d’Alene also heavily suffered from infectious diseases such as
tuberculosis and trachoma. James (2011) has recently investigated the Nez Perce tuberculosis sanatorium where many Native peoples went sent in the 20th century including tribal members from the Flathead Reservation. James (2011:144) argues that the increase of tuberculosis among Native peoples coincided with assimilation campaigns in federal Indian policies and shows the devastating effect of tuberculosis on the Nez Perce tribe. More research is needed to investigate what diseases continued to affect Native populations during the reservation era, the demographic effects of those diseases, and the social and political climate of reservations that fostered the spread of disease and epidemics.

Dissertation Format

This chapter gave a brief overview of diseases and epidemics that afflicted Native peoples, and particularly the Native peoples living in the Columbia Plateau, before and since European contact. Smallpox was a devastating disease that caused high mortality in Native populations. Native peoples also suffered from malaria, measles, chickenpox, dysentery, influenza, and whooping cough that spread throughout the population.

The rest of the dissertation is organized as follows. Chapter 2 describes the theory and the methodology for this study. Chapter 3 investigates the changing political economy of the Salish, Pend d’Oreille, and Kootenai people to the 1930s. I offer a brief history of the Salish, Pend d’Oreille, and Kootenai peoples to the formation of the Flathead Reservation and the Bitterroot’s Salish removal to the Flathead Reservation. The early dealings of the Bitterroot Salish with explorers such as Lewis and Clark, as well as with the Jesuits missionaries, are well documented (Bigart et. al 2005; Bigart 2010; Forbes 1951; McKevitt 1994; Mellis 1992, 2009; White 1996). This chapter does not address all the cultural and historical differences between the different
groups on the Flathead Reservation but the “history held in common by the Confederated Tribes” (Krigbaum 1997:10).

Chapter 4 investigates the traditional beliefs and concepts of health and disease among Plateau people. Before European contact, the Salish, Pend d’Oreille, and Kootenai had their own medical practices as Plateau peoples had intricate knowledge of various plants and methods used for healing. The Salish, Pend d’Oreille, and Kootenai also had their own explanations to why an individual became ill. The changes of health care practices on the Flathead Reservation to the 1930s are examined in the next chapter. The Federal Government challenged traditional beliefs and practices and attempted to eradicate them along with other cultural practices. In addition to an agency physician, the Federal Government also contracted the Sisters of Providence in St. Ignatius for the health care for Natives on the Flathead Reservation. Diseases and epidemics between 1870 and 1930 are also examined in Chapter 5. Chapter 6 explores the demographic history of the Salish, Pend d’Oreille, and Kootenai peoples for the late 19th and early 20th centuries. Diseases and epidemics changed the demographic profile of tribal peoples in the late 19th and 20th centuries. Changes in tribal membership requirements also changed the demographic profile of tribal peoples on the Flathead Reservation. Chapter 6 also reports the leading causes of mortality on the Flathead Reservation from 1900 to 1935 from available death records. Chapter 7 contains the conclusion of this study as well as a short description of current health conditions of the Flathead Reservation.
Chapter 2

Theory and Methods

This chapter describes the theory and methods used in this study. Given that this is a historical view of the health changes among the tribal groups on the Flathead Reservation, a number of sources as well as a number of different methodologies were used to obtain all the needed information. The first half of the chapter gives a brief description of the theory while the second half describes the methodology.

Politics and Health


Young and Frankenberg were particularly instrumental in providing a framework to understand how ill health is socialized or in Frankenberg’s (1980) words “the making social of disease.” Young was also influential in bringing attention to the social determinants of health and healing (Singer and Baer 1995:41). According to Young (1982:270), “social forces help to determine which people get sick with which sickness…Symbols of healing are simultaneously symbols of power… and medical practices are simultaneously ideological practices.” Sophei Morsy (1981:159) advocated for adopting a political economic perspective which “undermines the
idealistic, reductionist, and dualist approaches.” In addition, Morsy criticized medical anthropologists for “focusing on supernatural etiological beliefs and folk healing while ignoring even their informant’s awareness of social and asymmetrical power relations as the ultimate causes of sickness” (Singer and Baer 1995:41). She wrote on her research:

Indeed, medical care for the peasants of FatiHa like that for the rural inhabitants of other parts of Egypt, cannot be divorced from the sociopolitical superordinate power relations which direct every facet of their lives. The peasants of FatiHa do not live an isolated, independent existence, they are part of a stratified sociopolitical entity. Their subservient power status within the nation state precludes independent planning of their lives in their own best interest and leaves them subject to the imposed planning of the requirements of their livelihood by the ruling power elite. [Morsy 1980:153]

Singer and Baer (1995), affirm the work of Morsy was critical in developing a new and distinct perspective within medical anthropology.

Although critical medical anthropologists research a number of different phenomena in many countries, critical medical anthropology is guided by questions such as: “Who has power over the agencies of biomedicine? How and in what forms is this power delegated? How is power expressed in the social relations within the health care system? What are the economic, sociopolitic and ideological ends and consequences of the power relations that characterized biomedicine?” (Baer, Singer, and Johnsen 1986:95-96). Critical medical anthropology focuses on the "importance of political and economic forces, including the exercise of power, in shaping health, disease, illness experience, and health care" (Singer and Baer 1995:5).

Singer and Baer (2007:64) define health as “access to and control over the basic material and nonmaterial resources that sustain and promote life at a high level of satisfaction. Health is not some absolute state of being but an elastic concept that must be evaluated in a larger sociocultural context.” Health conditions are affected by political decisions “regarding resources for
immunizations provided for care, accessed to care and nutrition and exposure to environmental conditions and socially produced risks such as poverty and crime” (Winkelman 2009:16).

Sander Kelman (1975) differentiated between what he called “functional health” and “experiential health.” Functional health “is a state of optimum capacity to perform roles within society particularly within a context of capitalism, to carry out productive work that contributes to profit-making” (Baer et al. 2003:4). Experiential health “entails freedom from illness and alienation and the capacity for human development, including self-discovery, self-actualization, and transcendence from alienating social circumstances” (Baer et al. 2003:4). Functional health is an evitable part of social life of capitalism while experiential health tends to occur in preindustrial societies (Baer et al. 2003).

Traditionally, biomedicine and science have focused on diseases as unique entities, existing separate from social and political conditions. As Singer (2005:9) has argued, “biomedicine is guided by the confident conceptualization of disease as distinct, discrete, and disjunctive entities that exist within individuals human bodies.” It has become increasingly clear, however, that diseases do not exist in isolation from social contexts but that “a variety of problems including malnutrition, economic insecurity, occupational risks, bad housing, and lack of political power, create an underlying predisposition to disease and death” (Waitzkin 1981:98). While this perspective does not deny the role of bacteria, parasites, or viruses, diseases and epidemics operate within a social and economic context that is constantly changing (Doyal 1979). “The perspective of political economy merges the biological and social aspects of health by examining the etiology of disease with respect to human action in historical and social relations” (Campbell 1987:25).

In particular, my research is informed by Turshen’s (1984) classic study of Tanzania. Turshen points out that the epidemiologic triad of disease (agent, host, and environment) are
inadequate because it fails to consider the ultimate cause of disease. Rather, Turshen (1984:10) argues for the study of “unnatural history of disease,” that is, the study of the economic, social, and political roots of disease. Solutions to ill health are often sought in conditions “like malnutrition, gastroenteritis and pneumonia in the way people live” with little consideration to a population’s access to medicine and resources (Turshen 1984:2). My research will seek to understand and build upon the notion of “the unnatural history of disease” on the Flathead Reservation and how infectious diseases were not simply the result of Native peoples’ hygiene, unresponsive immune systems, and individual lifestyles, but the result of political and social conditions in which Native peoples lived.

Scholars have written how politically impoverished populations are often blamed for ill health by the larger society (Farmer 1999; Inhorn and Brown 1990). In a powerful article, Nations and Monte (1996) show how poor individuals are often blamed for “their” diseases and poverty by the wider community and a more powerful political biomedicine community. Randall Packard (1989a:689) writing of South Africa and tuberculosis noted that “white authorities had considerable influence on the development of popular thinking among whites about the status of Africans in South African society and the development and persistence of stereotypes.” These studies emphasize how capitalism defines sickness as individualist, rather than the outward sources of social, economic, and environmental factors and solutions to ill health often sought in a population’s living conditions with little consideration to power relations and class-based differences in access to health risks and resources.

Research regarding disease and health histories has shown that diseases and epidemics cannot be solely understood as a medical event. Echenberg (2002:3) argues studies that concentrate “exclusively on the medical dimension perpetuates the old Cartesian paradigm of clinical
medicine,” stress the “individual physiology of the human body while excluding the body politic from its purview.” While differing in locations, Packard’s (1989b) historical study of tuberculosis, Lyons’ (1992) study of trypanosomiasis, and Kunitz’s (1994) study of indigenous peoples of Australia and the Southwest (U.S.) demonstrate the extent that colonization ultimately affected the health of politically disadvantaged populations. Changes in the social structures often allowed diseases and epidemics to occur and permitted biomedicine to replace traditional medicine practices becoming the dominant authority for diagnosis and health outcomes.

Although early reports and surveys of Native communities in the 19th and 20th century often confirmed that diseases such tuberculosis and trachoma were in epidemic proportions and that Natives suffered high mortality and morbidity, a politically economic perspective of health is relatively new for studies of Native Americans. Early reports and writings confirmed what was already believed at that time, that Natives’ biologically were more susceptible to diseases. Even the Meriam report of the 1920s failed to “broaden the Indian Office’s concept of the ‘Indian health problem’ to expose the underlying political, economic, and cultural origins and solutions” (Putney 1980:329). Dr. Charles Eastman, a physician on the Sioux Reservation wrote:

> The health situation on the reservation was undoubtedly even worse twenty years ago that it is today, but at that period little was heard and still less done about it. It is well known that the wild Indian had to undergo tremendous and abrupt changes in his mode of living. He sufferer severely from an indoor and sedentary life, too much artificial heat, too much clothing, impure air, limited space, indigestible food-indigestible because he did not know how to prepare it, and in itself poor food for him. [Campbell 1987:12].

Some scholars have linked the political economic changes of Native peoples in the early part of the 20th century to current health issues. Wiedman’s (1987:57) study of diabetes connects changes in the economic patterns of Cherokee “that transformed the Cherokee agriculture infrastructure into one based on an industrial technology and cash economy” in the early 20th
century to causing diabetes in the 1940s. Essentially due to the larger political economy, the Cherokee could no longer rely on their traditional foods of corn, beans and squash and had to be satisfied with refined corn meal, wheat, and flour, not only decreasing the nutritional value of the food but also increasing consumed calories by 13 percent. “They also increased their intake of fats when they changed from boiling and broiling on wood burning stoves and in open fireplaces to deep frying on gas and electric stoves” (Wiedman 1987:58). Wiedman also found that the Cherokee people no longer were walking great distances for fruits and berries but took cars and trucks and appliances reduced arduous household chores. These changes soon led to what Wiedman claimed was the first death of diabetes within this tribal group.

Trafzer (1997) similarity linked the establishment of the reservation to an increase of heart disease and cancer among Yakama people yet. Moffat and Herring's (1999) examination of the Ojibwa people from 1900 to 1930 shows that rather recognizing a failing political economy and unfavorable social conditions, the Canadian Government blamed mothers and their lack of “education” in housekeeping and skills for caring for their infants deaths. Campbell’s (1987, 1989) historical study of the Northern Cheyenne of Montana revealed that Northern Cheyenne health patterns were connected to the oppressive, malnourished, and unsanitary environment which they were forced to live in due to the policies set by the Bureau of Indian Affairs.

According to Hunn (1990:32) “the history of Indian-white relations in the Columbia Plateau has been first and foremost a history of the ravages of disease, for the most part inadvertently transmitted by Old World immigrants to defenseless New World populations, which drastically reduced aboriginal populations and disrupted the social and spiritual fabric of Indian life.” Most importantly, Hunn states (1990:32) that “after the treaties were signed and the Indians confined to reservations, the significance of introduced diseases faded and political events affecting Indian life
took center stage.” This is true of the Natives living on the Flathead Reservation as well. Infectious disease such as smallpox, measles, and malaria no longer devastated Native peoples to the extent that they had in the 19th century (Trafzer 1997). However, Native peoples became subject to chronic infectious diseases such as tuberculosis and pneumonia. This dissertation seeks to investigate the health patterns which occurred on the reservation and what social and political conditions influenced the presence of diseases on the Flathead Reservation.

Methodology

Ethnohistory

In this particular study, I used an ethnohistorical approach. According to John Wunder (2007:591), “The study of the history of indigenous peoples today requires an ethnohistorical approach. Such methodology is essential in order for Native history to be properly written and understood.” As defined by Axtell (1979:2) “ethnohistory is essentially the use of historical and ethnological methods and materials to gain knowledge of the nature and causes of change in a culture defined by ethnological concepts and categories.” Barber and Berdan (1998:12) offer a more specific definition of ethnohistory as “an interdisciplinary field that studies past human behavior and is characterized by a primary reliance of documents, the use of input from other sources when available, a methodology that incorporates historiography and cultural relativism, and a focus on cultural interaction.” “Ethnohistorical studies, therefore, are based on historical documents, but they are written with anthropological insight” (Wood 1990:82).

The goals of ethnohistory are more than to “illuminate the past” but to find facts, put it together in a “plausible way, and try to explain something about human activity in the past: how it happened and why it happened” (Barber and Berdan 1998:15). In finding facts and explaining an event, an ethnohistorian must scrutinize their sources for credibility and authenticity.
Documents can be subject to bias. Wood (1990:82) writes that “all too often anthropologists are guilty of accepting historical documents at face value, producing poor results by simple acceptance of authority without establishing criteria for selecting data.” Historical documents usually include records such as government records, correspondence between tribal members and federal and state governments, missionary letters, and newspapers but can also include “archaeological records, photographs, maps, and even the landscape itself” (Wood 1990:82; Krigbaum 1997). According to Barber and Berdan (1998:148), “documents that form the basis for most ethnohistorical research can provide valuable, accurate information but… they also can provide distorted or false information based on mistakes, misunderstanding, confusion, ignorance or deceit.”

Ethnohistorians use external criticism in the evaluation of documents. External criticism is concerned with the authenticity of the document and asks if the document is what it asserts to be (Wood 1990:85). “Authentication generally focuses on the author and date of a document, and on establishing the most precise reading of the text” (Wood 1990:85). Barber and Berdan argue that a way to evaluate a document’s authenticity is to see the document in “historical continuity” that is, if the document “can be traced in a more or less unbroken chain from the time of writing to the present” (Barber and Berdan 1998:149). The documents written by Indian Agents and other inspection reports sanctioned by the U.S. government are no doubt authentic and possess historical continuity because they were written from the Flathead Reservation and sent to Washington D.C.

Whether or not documents written by government officials contain accurate information about tribal members on the Flathead Reservation is another issue and subject to internal criticism. According to Wood (1990:88) in terms of credibility, “sources may be readily separated into two categories: those produced by eyewitnesses to an event and those written by individuals who were
not present when the events being described took place.” Barber and Berdan further explain two major weaknesses of historical documents. One, “documents are the most likely type to be manipulated by their authors” and two, documents were usually the domain of the dominant society (Barber and Berdan 1998:259). Most documents dealing with non-dominant ethnic groups were “written by members of the dominant ethnic group and have been filtered through a screen of bias, ignorance and indifference” (Barber and Berdan 1998:259).

The use of oral history is another facet of information although it is somewhat contested within the field of ethnohistory. According to Barber and Berdan (1998:248), all “spoken descriptions of the past are called oral accounts” but there two major types. Oral histories are “accounts of events and conditions witnessed or experience by the speaker” (Barber and Berdan 1998:248). Oral traditions, on the other hand, are “accounts of events and conditions in the more distant past, not witnessed by the speaker, but passed down through generations” (Barber and Berdan 1998:248). Although I did not collect oral history for this project, I read and incorporated interviews that were recorded by other scholars (Schaeffer 1935, 1936; Carling Malouf collection at the University of Montana’s Archives) and by the Salish and Kootenai people themselves during the 1960s and 1970s. I also used tribal history that was written by the Salish-Pend d’Oreille culture committee (2004, 2005) and a series of short books written by tribal scholars called Challenge to Survive (2008a, 2008b, 2008c, 2010). Although the Challenge to Survive series is an eighth grade level course of the history of the Salish and Pend d’Oreille people, it uses a number of primary sources such as portions of unpublished interviews by anthropologist Claude Schaeffer, located in the Glenbow Archives in Calgary, Alberta and an unpublished manuscript by Johnny Arlee.
Epidemiology

Part of this dissertation is concerned with reconstructing the epidemiological patterns of diseases that have affected the Salish, Pend d’Oreille, and Kootenai people during the reservation era. Epidemiology, in general, “is concerned with the patterns of disease occurrence in human populations and of the factors that influence these patterns” (Lilienfeld and Lilienfeld 1980:1). Timmreck (2002:28) further writes that epidemiology has been “of key importance in ascertaining the causes and control of human death, disabilities, diseases, defects, disorders, conditions, dysfunctions, syndromes injuries and illness throughout the world.” While clinical medicine is concerned with disease in individuals, epidemiology differs because it is concerned with disease and disease patterns in populations.

Terms and concepts used to classify the general patterns of diseases are important to an understanding of epidemiology and are divided into a number of profiles (Trimble 1985:83). An epidemic is “an outbreak or occurrence of one specific disease from a single source, in a group, population, community or geographical area, in excess of the usual level of expectancy” (Timmreck 2002:4). On the other hand, the concept of endemic refers to the “ongoing, usual, or constant presence of a disease in a community or among a group of people” (Merrill 2010:6). For example, malaria in certain African countries is said to be endemic. A pandemic is “an epidemic that occurs on a global scale” (Wiley and Allen 2013:37). The 1918/1919 flu epidemic was pandemic because it affected every continent. Other useful concepts to understand in relation to disease are morbidity, the occurrence of disease, and mortality which refers to death (Wiley and Allen 2013:37).

“Human diseases do not arise in a vacuum” but “result from an interaction of the host, the agent, and the environment” which in epidemiology is illustrated by the epidemiologic triad of
disease (Gordis 2009:19). The agent is the “cause of the disease” (Merrill 2010:8). Examples of agents include infectious agents such as bacteria and viruses but also can include trauma, stress, or nutritional factors (Gordis 2009:20). The host is “an organism, usually human or an animal that harbors the disease” (Merrill 2010:8). According to Gordis (2009:19) “human susceptibility is determined by a variety of factors including general background and nutritional and immunologic characteristics. The immune status of an individual is determined by many factors including prior experience both with natural infection and with immunization.” The environment refers to the “extrinsic factors which influence the existence of the agent, exposure or susceptibility to the agent” (Lilienfeld and Stolley 1994:38). The environment can include the physical or biological environment but also includes socioeconomic conditions (Lilienfeld and Stolley 1994).

A number of ethnohistorians and other scholars have been successful in applying an epidemiological methodology in describing diseases and epidemics in a historical context especially in regards to indigenous peoples. One scholar has stated that “epidemiology and ethnohistory can be used as complimentary research orientations” (Trimble 1989:43). Combining epidemiological knowledge of diseases with the ethnographic patterns of culture, these scholars hope to shed more light to the epidemiological impact of European contact on Native peoples. Michael Trimble (1985) investigated diseases and epidemics among Natives on the Great Plains between 1582 and 1840. Robert Boyd similarly used epidemiological methods to follow diseases and epidemics among the Northwest Coast and Plateau peoples through the 18th and 19th centuries. John Taylor (1982) also used epidemiology and ethnohistoric methods in his study of the social and cultural effects of diseases and epidemics among Plains Indians 1735 to 1870. While these particular studies used a combination of ethnohistory and epidemiology to follow disease epidemics in history, I drew the importance of using epidemiological data to understand how these
diseases would have been played out and understood in a tribal context. While not an
ethnohistorian, Trafzer investigated the epidemiological patterns changes in terms of the
epidemiological transition for the Yakama people from 1888 to 1964. I also followed Trafzer in
regards of finding the most common cause of death and explaining the gender and age differences
of those who died.

**Historical Demography**

Willigan and Lynch (1982:xi) describe the goals of historical demography as twofold: “to
reconstruct demographic characteristics of past populations and to explain the causes and
consequences of these characteristics.” Researchers cannot rely on quantitative approaches alone to
achieve these goals. As David Kertzer (1997:839) has noted this involves an understanding of
“how and why people acted as they did, how they came to change their behavior, and of course the
impact of these changed demographic behaviors on other aspects on their lives and on larger social
institutions and social interactions.” These factors “can only be understood in terms of a complex
web of relationships involving cultural norms, social structure, political power, and economic
relations” (Kertzer 1997:839).

Many scholars have ignored Native populations as a mode of inquiry for demographic
analysis. Native American populations’ demographic data has been deemed too defective and
culturally biased to abstract any meaningful population analysis (Campbell 1991:341). However,
as Moore and Campbell (1989:19) argue, mistakes or biases in Native American demographic data
are not random or arbitrary but are “structured, regular, discoverable, and correctable” if one also
has ethnological knowledge of the population under study.
Anthropological studies bring to the surface various sources and methods necessary for studying Native historical demography that go beyond the parish records of traditional historical demography. This variety of records and sources “should inspire new methods, provide adequate cross-checks, and broaden our understanding of population changes in the past” (Cordell and Gregory 1980:397). As Pool notes regarding African historical demography, “African historical demography may depart significantly from classical historical demography…The African historical demographer will probably be forced to build upon the existing methodology and perhaps may have to create his own new tools” (Cordell and Gregory 1980:397). New tools include tribal censuses, oral history, death certificates, and vital records recorded by missionaries. The same can be said for Native American historical demography.

Sources

Trafzer (1997:xi) urged scholars researching historical patterns of health of Native peoples “to create their own grassroots data bases rather than rely on those created by the Census Bureau or presented in the Annual Reports of the Commissioner of Indian Affairs” (Annual Reports). Trafzer relied exclusively on death certificates for his statistical data often citing the incompleteness and biased record keeping of the Bureau of Indian Affairs. Other scholars who have created data bases from records kept by the U.S. government concerning Native peoples note they are of “generally poor quality” and declare that “any conclusions drawn from them are to be regarded as more suggestive than definitive” (Kuntiz 1983:12). Kelm (1998:19) writes that government records are often “self-serving” as they both “define and quantify the ‘problem’ of aboriginal health.” Native peoples health on the Flathead Reservation was not a priority for Indian Agents or for the Bureau and any regards to health in Annual Reports and The Superintendents’ Annual Narrative and
Statistical Reports from Field Jurisdiction of the Bureau of Indian Affairs (Narrative Reports) are often brief and in many cases non-existent. In addition, the Flathead Reservation was also excluded from early state surveys of health conditions. The lack of narrative by the Bureau or from the state of Montana leads to more reliance upon the available epidemiological data to construct patterns than reports.

Death records were rarely kept on the Flathead Reservation by the Bureau before 1915 although a few death certificates were filled out for tribal members as early as 1908 and kept at the county level in Missoula and Kalispell. Lake County, which hosts the majority of the Flathead Reservation, was not formed until 1923. Records between 1915 and 1923 are better but still incomplete. Between 1918 and 1923, Indian Agents often just noted on tribal censuses the death date of an individual but did not include the cause of death or the location of their death. Death records are incomplete for children and infants, the most vulnerable segments of the population. The deaths of elders or adults would have been brought to the attention of the Indian Agent as large feasts were usually held. Deaths of children or infants would not have been celebrated and would have gone unrecorded except by those Native peoples who reported these deaths to priests at the St. Ignatius Mission.

The best complete records are those made after 1924 in response to national reforms and pressure by the Bureau of Indian Agents to keep more accurate vital records (Putney 1980). In addition, the Bureau of Indian Affairs created a health division in 1924 to specifically record vital records of Native peoples. Circular No. 2410 (OIA 1928) distributed to all superintendents and physicians stated:

The health of our Indian population is a factor of the utmost importance in the administrative control of the Indian situation. The best index of health conditions is obtained through a study of the birth and death records from which much valuable data is secured, particularly with reference to the
principle causes of death which suggest methods of disease prevention and control…In order to obtain reliable data from the study of births and death certificates, it is vitally important that all births and deaths be completely and accurately reported to the responsible authorities. Emphasis must be placed first on more complete reporting and second, upon more accurate certification in the individual case.

Agencies were required to submit duplications of all birth and death certificates to the Bureau of Indian Affairs. The Bureau also felt that “the agency office should have no difficulty in keeping up the birth and death register, the birth and death certificates, the census roll, and any other special records that may be necessary, with the perfect agreement between them” (OIA 1928). To illustrate the difficulty of this on the Flathead Reservation is demonstrated in the following letter dated January 20, 1940. “Under date of January 5, 1939 the Indian Office stated that during the fiscal year 1934 through 1937, 165 deaths were reported on the Flathead Reservation; that the report of Father Taelman and the priests at Ronan show that three districts, St. Ignatius, and Arlee, and Ronan, there were 205 deaths in the same period of time from 1934 to 1937” (Shotwell 1940). The agency physician was to check the records and to discover where the differences were. It is unknown if the agency physician did this. For this same time period, I found a total of 241 deaths, 76 more deaths than recorded by the Indian Agent and 36 more than recorded at the St. Ignatius Mission. While the agency was required to send birth and death certificates to the Bureau of Indian Affairs, the folders labeled death and birth certificates were empty at the Denver Archives, which could mean that they were accidently filed somewhere else or that they were never sent.

Poor and inaccurate medical records were a common problem for Native peoples as a whole in the early 20th century. Lewis Meriam wrote in 1928, “it is a generally accepted axiom today that the quality of a service is accurately reflected in the completeness and accuracy of its records. In this respect the Indian Service has been weak” (Meriam 1928:266). Meriam also stated, “vital
statistics and records of medical activities at present are incomplete and as a rule unreliable” (Meriam 1928:266). For example, Meriam found that for the Fort Peck Reservation (Montana), at least 50 percent of all deaths from 1921-1925 did not have a cause of death recorded. For the Flathead Reservation over 700 deaths (30 percent) did not have a cause of death listed, which distorts an accurate view of the Salish, Pend d’Oreille, and Kootenai peoples’ health conditions. Due to the size of the reservation, agency physicians were often hindered in their efforts to give adequate care to ill tribal members and well as resistance by Native peoples towards agency physicians.

To compensate incomplete and inaccurate records kept by the Bureau of Indian Affairs, a combination of church records (from the St. Ignatius Catholic Church), newspapers (usually obituaries), death certificates, cemetery records, state and county resources, and Bureau of Indian Affairs records such as Annual Reports, Narrative Reports, and death records, were used to make the most complete and accurate record possible. Often on the Flathead Reservation, deaths were only recorded on the censuses or by Jesuit priests (this is especially true for infants and children) but were not recorded on a county or state level. Similarly, some deaths were recorded on the county level but not recorded by Indian Agents. As the Flathead Reservation spans four counties, of Missoula, Lake, Flathead, and Sander counties, it does not seem impossible that such an incomplete record would exist. Names and dates were cross-checked across multiple sources to ensure accuracy and to avoid duplication of records.

**Censuses**

A common source for historical demography is the use of censuses. Censuses provide enumerations of populations and provide insights to the age and sex structure of the population
(Cordell and Gregory 1980:398). For most Native populations complete censuses only exist for the latter-part of the 19th century. Early enumerations of Native peoples sometimes only consisted of head counts or village estimates without any consideration of the age and sex structure. Early estimates for Native populations made by missionaries, explorers, and others are often only limited to a single tribe, a small geographic area, and are considered exaggerated or unreliable. With the possible exception of military and religious personnel, most Europeans were not interested in the exact population size of villages or communities (Snipp 1989). The U.S. Federal Government did not require Indian Agents to take censuses until 1884 and a complete census was not taken for the Salish, Pend d’Oreille, and Kootenai people until 1886.

The quality of data of Bureau of Indian Affairs censuses for historical demography analysis has been discussed in several studies (Campbell 1987; Moore and Campbell 1989; Meister 1976; Johannson and Preston 1982; Meyer 1982; Shoemaker 1991). Imperfect data from censuses has discouraged demographic analysis of Native populations (Cordell and Gregory 1980; Moore and Campbell 1989). However, contemporary demographers have developed techniques for dealing with imperfect data and cultural biases that occur in census taking (Ewbank 1981; Van de Walle 1968; Vinovskis 1978). Censuses are useful to estimate sex ratios (James 1987; Johannan and Preston 1978), household composition (Meyer 1982; Ruggles 1987; Shoemaker 1991), fertility changes (Campbell 1987; Heiner 2006), and age and sex structures (Meyer 1992; Johanson and Preston 1978).

Censuses taken by the Bureau of Indian Affairs are subject to the same errors and limitations of other government censuses, such as under-numeration, over-numeration, and misreporting (Mason and Cope 1987; Steckel 1991). Meister’s (1975, 1976, 1978) demographic work with the Pima and Maricopa Indians in Arizona demonstrates the extent that some tribes were
grossly under-numerated. For example, J. Ross Browne (Meister 1980), using information he
deemed as “reliable” reported the Pima and Maricopa populations in 1864 as numbering 3,405.
Using the 1860 census, Meister (1980) calculated an additional 300 individuals that Browne
supposedly missed and questioned how many individuals were not counted by 1864. Meister also
found errors made by enumerators due to counting errors.

Errors in Indian censuses is especially problematic for reconstructing demographic data due
to cultural factors such as linguistic and social differences of kinship. According to Nancy
Shoemaker (1991:331), “census-taking is a modern, western phenomenon” and “taking a census of
a nonwestern society could introduce biases in the results. For example, one group's cultural and
linguistic schema for organizing relationships might not translate accurately onto the census
forms.” Shoemaker cited the example of finding a discrepancy between women’s recorded children
living and children ever born of an analysis of Ojibway women. She notes that “since in the
Ojibway language daughter and niece are often the same word, sister and cousin, and so on,
presumably the translation from one language to another could not as easily translate Ojibway
relationships into equivalent Euroamerican concepts” (Shoemaker 1991:331).

Johansson and Preston’s (1978) study of Hopi and Navajo demography using the 1900
census, found women often under-reported the total number of children-ever-born for cultural
reasons such as fear of attracting ghosts. In addition, Indian Agents often exaggerated population
numbers for political reasons. Indian Agents received resources, such as money or medical
supplies, according to population growth or the appearance of population growth (Shoemaker
1999:16).

Native populations are unique because tribes were enumerated by both the Bureau of Indian
Affairs and the U.S. government. Several scholars have used the federal censuses, especially the
1900 and the 1910 federal census, as a baseline for demographic analysis of tribal populations (Campbell 1987, 1991; Choong 1992; Heiner 2006; Presenell 2000; Meyer 1982; Thornton 1999). While Campbell (1991) used the 1900 federal censuses as a baseline in his analysis of the Northern Cheyenne in Montana and found it to be fairly accurate, it is unknown how accurate federal censuses are for every tribe. The 1900 and 1910 U.S. federal censuses are particularly valuable because of important questions not asked on tribal censuses or federal censuses thereafter. Native peoples were asked to give information relating to the birth place, tribal membership of themselves and parents, marital status, the number of years married, blood quantum, the number of children born, and how many of these children were living. In regards to fertility, analysis such as children ever born and percentage of childless couples can be calculated. The only fertility analysis that was calculated for this study were crude birth rates.

**Bureau of Indian Affairs Records**

Already mentioned, Native Americans are a unique population because of their relationship with the Federal Government. As such, the Bureau of Indian Affairs has numerous resources for demographic analysis of population changes and diseases that afflicted Native tribes. Indian Agents often wrote letters to Washington containing information regarding epidemics, diseases, and population structures which some of this information is printed in *Annual Reports*. As demonstrated from Meister’s (1976) work, these records are reliable and useful when cross referenced with censuses and other historical records.

From 1907 to 1938, Indian Agents complied reports labeled *The Superintendents’ Annual Narrative and Statistical Reports from Field Jurisdiction of the Bureau of Indian Affairs*, (Narrative Reports). *Narrative Reports* contain short reports of the economic, law, and health
statistics of Native populations. While the economic and law sections of the Narrative Reports were detailed of the Flathead Reservation for these years, the health section was lacking. Usually the health section contained a small paragraph or a few sentences regarding the health situation of the Flathead Reservation which indicates that Indian Agents were not primarily interested in the health experiences of Natives in their jurisdiction.

Another record from the Bureau of Indian Affairs is the Series C: Indian Health and Medical Affairs, Part 2, Diseases C. This series contains 12 rolls of medical reports of tribes during the early 20th century from 1907-1939. This collection consists of documents regarding quarantines, tuberculosis, trachoma, venereal disease, sanitation, diseases and injuries, and epidemics. While the Flathead Reservation did not specific statistics regarding these diseases, some letters were included in Series C that described the health conditions of the early part of the 20th century.

Mission Records

Records recorded by missionaries have proven particularly useful for historical demographic and epidemiological analyses of Native tribes (see Cook 1976; Jackson 1992, 1994; Trafzer 1998; Moffat and Herring 1999; Walker and Johnson 1992). The Jesuits at the St. Ignatius Mission began recording births and deaths on the Flathead Reservation consistently in 1898. I used the death records at the St. Ignatius Mission as another source for vital records for the reservation. Moffat and Herring warn that cause of death recorded at missions must be approached with caution. “Parish records of causes of death must be viewed with caution, no matter how carefully maintained the registers. Often lacking the benefit of medical training, clergymen may make cause of death determinations inaccurately and inconsistently; over-represent specific causes with which
they are familiar (e.g., measles) or which are easily diagnosed (e.g., accidents); or show no
diagnostic pattern at all” (Moffat and Herring 1999:1824). Death records were matched against
other vital record sources such as “Montana Death Index” on Ancestry.com and Bureau of Indian
Affairs records.

Death Certificates

There are only a few studies that have extensively relied on death certificates in analyzing
historical Native American diseases and demographic changes. These studies are limited to the
20th century as death certificates did not become standard for many states until after 1910 and were
not standard for reservations until the 1920s (Trafzer 1998). In his analysis of epidemiological
trends for the Yakama Tribe from 1888 to 1964, Clifford Trafzer (1997) relied solely on death
certificates completed by Indian Agents on the Yakama Reservation. While gathering a wealth of
information regarding the epidemiological trends among the Yakama during this time period,
Trafzer noted several shortcomings of death certificates, also mentioned by other studies, such as
the absence of information, missing certificates, and errors (Mauser and Bahn 1982; Rittgen and
Becker 2000). Namakura (et al. 1999) also relied on death certificates to investigate infant
mortality patterns on the Warm Springs Reservation in Oregon from 1940 to 1990. Although death
certificates have shortcomings, they can be valuable in describing the distribution and age, sex,
race, and cause of death characteristics in populations (Sorlie et al. 1991:181).

Using the “Montana State Death Index” on Ancestry.com, I looked for death certificates that
were not recorded in the Bureau of Indian Affairs death records and cross checked those names
against tribal censuses. Given permission by Montana’s Vital Records Department, I was allowed
to look at original certificates that were recorded at the county level and sent to Vital Records
Department. Although many death certificates did not have a cause of death, they were instrumental in filling in gaps missing from Bureau of Indian Affairs records.

**Demographic and Epidemiological Measures**

There were a number of epidemiological and demographic measures that were derived from the data set that indicated the epidemiological and demographic patterns on the reservation. There are three key morbidity rates used in epidemiology—incidence, prevalence and attack rates (Timmreck 2002:134). Only the prevalence was calculated in this study. Calculation of incidence or attack rates were not possible. As incidence is concerned with new cases of diseases within a period of time, Bureau of Indian Affairs records were not considered reliable enough to calculate new cases of diseases in the population. Similarly because attack rates depend upon the incidence of disease in a population, this rate along with any rates associated with risk (risk ratio, relative risk, and attributable risk) were not included in this study.

For this study, I chose to focus on “one side of the population equation,” or mortality patterns associated with health (Boyd 1999:270). I calculated basic demographic statistics including crude death rate, crude birth rate, infant mortality rate, and cause-specific death rates. My purpose was to give a basic outlook of the health patterns and not a detailed demographic description of changes over time. While the demographic statistics calculated are basic, they give a general outlook of the health conditions of the Flathead Reservation during the late 19th and early 20th centuries.
Period Prevalence

Incidence and prevalence rates are generally used to describe morbidity in a population. Incidence is a “direct estimate of the probability, or risk, of developing a disease during a specified period of time” (Lilenfeld and Stolley 1994:109). On the other hand, prevalence refers the “number of cases that are present or during a specific period of time” (Lilenfeld and Stolley 1994:109). “Prevalence can be viewed as a snapshot or a slice through the population at a point in time” at which it is “determined who has the disease and who does not” (Gordis 2009:43). This study investigated the point prevalence of certain diseases.

$$PP=\frac{\text{New and existing cases of a disease in a given point of time}}{\text{Total Population}} \times 1,000$$

Crude Death Rate

Several methods are used in epidemiology and demographic to measure mortality. “Expressing mortality in quantitative terms can pinpoint differences in the risk of dying from a disease between people in different geographic areas and subgroups in the population” (Gordis 2009:59). The most common measure of mortality is the crude death rate (McGehee 2004). The crude death rate (CDR) is calculated by the number of deaths within a year, divided by the mid-year population, multiplied by 1,000.

$$CDR=\frac{\text{Deaths in year}}{\text{Total population}} \times 1,000$$

In this study, crude death rates were calculated from information in Annual Reports, Narrative Reports, death certificates, and cemetery records. Bureau of Indian Affairs reports contained supplemental information concerning deaths at the end of census beginning in 1924. The
supplemental lists contained information pertaining to an individual’s full name, date of death, sex, age at death, cause of death, tribal information, and blood quantum.

Infant Mortality Rate

The infant mortality rate serves as an approximation for the chances of death between birth and a child’s first birthday (Shryock et al. 1971:410). The infant mortality rate is “the most sensitive index of social welfare and of sanitary improvements” (McGehee 2004:284). Infant mortality indicates “general living conditions, social well-being, rates of illness and the quality of environment” (Reidpath and Allotey 2003:344).

The infant mortality rate is found by dividing the number of infant deaths (children under 12 months of age) per year by the number of live births in a year multiplied by 1,000.

\[
\text{IMR} = \frac{\text{Deaths of infants}}{\text{Live Births}} \times 1,000
\]

Cause-Specific Death Rate

“To describe the distribution of disease in a population with respect to person, place or time, it is necessary to utilize specific rates” such as the cause-specific death rate (Laing 1993:246). Cause-specific death rates indicate the rate of deaths from a particular cause in a specified time period to the total population at the mid-point of the time period (Laing 1993:247).

\[
\text{CSDR} = \frac{\text{Number of deaths assigned to a specific cause}}{\text{Mid-point Population}} \times 100,000
\]
There are several methods to measure the fertility performance of a population. A basic, yet descriptive formula, which demographers use to assess a population’s fertility, is the crude birth rate (CBR). The crude birth rate is useful because it demonstrates variations of fertility within the population while taking into account the size of the population (Shryock et al. 1973:7). Crude birth rates are calculated by dividing the number of births in a year, by the midyear population, multiplied by 1,000.

\[
\text{CBR} = \frac{\text{Births}}{\text{Population}} \times 1,000
\]

Information regarding the number of births within census years was obtained from Annual Reports, Narrative Reports, and tribal censuses. After 1924, birth information was taken from supplementary information added at the end of tribal census rolls. Supplementary information lists all individuals who had been born between January and December of that year, blood quantum, and residence information.

Although a crude birth rate is statistically descriptive, it does not take into consideration the age structure of a population, nor does it describe a population’s composition. Populations with unequal age compositions may produce skewed results. For example, populations with a higher percentage of younger women within the reproductive age will most likely have higher crude birth rates because younger women produce a higher percentage of babies (McFalls 2003:7).
Variables

Cause of Death

One of the important variables in this study was the cause of death. In coding causes of death, each death was given a single cause of death even though death certificates often indicated individuals died from more than one cause. For this study, the primary cause of death was recorded but the secondary cause of death was also noted. For example, if a person died of influenza but also had tuberculosis, influenza was recorded as the cause of death although the presence of tuberculosis probably contributed to the individual’s death from influenza. For deaths labeled simply as “fracture of bones” or “fractured skull,” effort was made to determine the cause and then coded accordingly to the categories of accident, homicide, or suicide.

Gender

Gender is a “fundamental variable to be considered both for its effect on the level of disease morbidity and mortality within a population, but also for its influence on differential risk factor exposure” (Laing 1993:249). As such, gender was coded as recorded from death certificates or other tribal records as a nominal variable. In this study, both genders died from similar causes of death although not at the same frequency. For example, tuberculosis and pneumonia were the leading cause of death for both males and females but more females died from tuberculosis than males and more males died from pneumonia than females. The impact of cause of death between genders is discussed more in chapter 6.
Blood Quantum

While Trafzer (1997) coded for blood quantum in his study, blood quantum was not coded for this study. Blood quantum refers to the amount of Indian blood that an individual has according to definitions set by the Bureau of Indian Affairs (Thornton 2004). Blood quantum was not often not recorded in early death certificates as many individuals were simply labeled “Indian” or “red” in the race category on death certificates. Blood quantum was not recorded in Bureau of Indian Affairs records until later in the study. With the allotment process, many individuals were adopted into tribal membership for various reasons. All individuals enumerated on tribal censuses were included in the study. It is important to note that enrollment criteria for tribal membership changed at least twice during this study and then again in 1960 (Thornton 2004).

Conclusion

This chapter explained the theory associated with this study. Critical medical anthropology provided a framework which to understand the health changes on the Flathead Reservation for the last half the 19th century and the first half of the 20th century. Specifically the critical medical anthropology approach addresses the importance of political economic factors in the causes of diseases. Given tribal peoples’ history of low socioeconomic status and the tumultuous relationship that Native people have had with the U.S. government,” makes this approach valuable and will offer insights and perspective that other approaches would not (Daley et al. 2006:424).

Another purpose of this chapter was to explain the methodology behind this study. While focusing mostly on the methodology of ethnohistory, I also used aspects of epidemiology, and historical demography. While these approaches differ in scope, they provided a structure in evaluating archival documents and narratives of tribal peoples as well as providing guidelines for
health indicators that could be calculated for a historical study. I also described a number of sources available to complete this study and associated them with other scholars that had success in using them.

The next chapter explains the political economy of the Salish, Pend d’Oreille, and Kootenai through the 1930s. Specifically I will discuss how U.S. government policies of the General Allotment Act of 1887, coupled with assimilation policies, lead to the unfavorable socioeconomic conditions that existed for the first half the 20th century.
Chapter 3
The Changing Political Economy of the Flathead Reservation to 1935

Introduction

The first part of this chapter provides a brief historical background of the Salish, Pend d’Oreille, and Kootenai leading to the formation of the Flathead Reservation and the Bitterroot Salish’s removal to the reservation in 1891. The second half of this chapter examines the political economy of the reservation with specific regards to the implementation of the General Allotment Act of 1887 on the Flathead Reservation by the Dixon Bill in 1904.

Historical Background

The primary Salish tribes of the Flathead Reservation consist of the Bitterroot Salish and the Upper Pend d’Oreille peoples. Although the Salish and Pend d’Oreille spoke different Salishan dialects, they could mutually understand each other (Malouf 1998). A number of Salish and non-Salishan speakers including the Shoshone, Nez Perce, Coeur d’Alene, Kalispel, Kootenai, and Blackfeet bordered the Salish territories. According to oral history, “all the Salish, Pend d’Oreille, Spokane, Coeur d’Alene, Shushwap, Okanagan, and Colville, among others—were all one Salish people, speaking the same language. The tribes split up long ago because food was becoming hard to gather as one big tribe” (Salish-Pend d’Oreille Culture Committee 2004:11). Intermarriage was common and encouraged between the Salishan speaking groups and non-Salishan groups to secure good relations and access to resources.

The Salish proper name is Sélis (pronounced Séh-lish) although “Salish” is used in official documents and most contemporary writings. The Salish peoples are also commonly referred to as
“Flathead” in historic documents and sometimes in contemporary terms although the Salish did not flatten their heads like Natives living in the Pacific Northwest Coast or lower Columbia River. According to tribal scholars (Challenge to Survive 2008b:12), “The term Flathead is a misnomer and there are no ‘Flathead Indians.’” Malouf (1974) has confirmed archeologically that cranial deformation did not exist at any times for the Salish peoples. Scholars cite confusion over the term “Flathead” as stemming from the Salish sign for themselves (the pressing of both sides of the head with hands) signifying a flatten head (Teit 1927).

The Salish-Pend d’Oreille Culture Committee note (2004) that historically, five or six Salish bands resided in present day western Montana and northern Idaho. Although there are disagreements between archaeological evidence and tribal oral history regarding the location and movements of the Salish peoples during the pre-historic period (Chalfant 1974:33), the Salish-Pend d’Oreille Culture Committee states (2004:83):

> With the onset of the epidemics, the presence of horses, and the destabilizing effect of guns, the Blackfeet swept into the northern Montana plains, pushing the plains Shoshone bands south and west, and forcing the plains bands of Salish, Pend d’Oreille, and Kootenai west across the mountains...The western tribes continued to use their ancestral buffalo hunting grounds east of the mountains but with the constant threat of Blackfeet raids…

While not all scholars agree with the Culture Committee’s description of the location of the Salish territory in Western Montana, scholars do agree that the Salish permanent residence was restricted to the Bitterroot Valley by the presence of the Blackfeet (Chalfant 1974:59).

The other Salishan speaking tribe called themselves Ql’ispé. Early fur trappers called the Ql’ispé, “Pend d’Oreille” meaning “earring” in French, referring to the round shell earrings worn by both men and women (Fahey 1974). The Pend d’Oreille occupied the “Clark Fork River’s vast drainage system forming two distinct groups, the Upper Pend d’Oreille and the Lower Pend
d’Oreille” or Kalispel (Salish-Pend d’Oreille Culture Committee 2004:6). The Upper Pend d’Oreille refer to the bands “upstream” located “on all forks of the Flathead River, the Flathead Lake area, the Swan River, and other drainages” (Salish-Pend d’Oreille Culture Committee 2004:11-12). The Kalispel lived “downstream” in western Montana, northern Idaho and eastern Washington and presently live on the Kalispel reservation in Washington. The Upper Pend d’Oreille people presently live on the Flathead Reservation.

The Kootenai (or Ktunaxa) traditional territories included three major ecosystems —“the Columbia River Basin, the Rocky Mountain region and the Northern Great Plains. Early settlements spanned the Columbia River Basin and the western corridor of the Rocky Mountains extending from British Columbia to Wyoming and eastward onto the high plains of Alberta Canada” (Kootenai Culture Committee 1997:xiii).

By 1800, the Kootenai had divided into six bands, four among the Upper Kootenai and two among the Lower Kootenai (Brunton 1998) referring to their home on the drainage of the Kootenay River (Turney-High 1941:9). The Kootenai Culture Committee claims seven bands, five in British Columbia, one in Idaho and one in Montana (Kootenai Culture Committee 1997). The Lower Kootenai were “the meadow people” including the Bonners Ferry Band (Idaho) and the Lower Kootenay Band at Creston, British Columbia (Brunton 1998:226). The Upper Kootenai bands comprised on the Columbia Lake Band, the Saint Mary’s Band, the Tobacco Plains Band, and the Libby-Jennings Band (Brunton 1974). Part of the Libby-Jennings Band, also called Ksanka (Fish Trap People), located on the west side of the Flathead Lake, and later became one of the principle components of the Confederated Salish and Kootenai tribes on the Flathead Reservation, Montana. Although the Upper Pend d’Oreille also occupied this area, they did not contest the Ksanka settlement at Flathead Lake (Malouf 1952).
Kootenai oral history maintains they have lived in the Rocky Mountains for at least 14,000 years and are the “true guardians of the region” (Kootenai Culture Committee 1997:xii-xiii). “The Ksanka are the original inhabitants of Montana and have descriptive histories that chronicle the geologic formations and other natural features of the region” (Kootenai Culture Committee 1997:xiii). The Kootenai believe the Creator granted them access to the vast substance and abundant resources in the area and held strict beliefs about the treatment of food and animals such as not to speak ill of spirits and not to waste food.

*Social Organization*

The extended family formed the basic social organization of Plateau peoples. Families traditionally consisted of “several nuclear families and often included one or two grandparents, their sons or daughters along with their spouses and young children” (Ackerman 1998:515) and could occupy a single lodge. Family sizes varied but could be large enough to make up half of a winter village’s population (Ackerman 1994:299). Working together as a unit, the family provided all the material needs and food requirements for all members.

Plateau peoples lived in autonomous villages or bands governed by a chief, a council, and sometimes by sub-chiefs (Ray 1939:8). Villages of various sizes were usually situated along rivers, streams or along the shores of lakes. Salish and Kootenai villages ranged between 150 and 300 individuals while western Sahaptins and Chinookans villages ranged between 2,000 and 3,000 individuals (Brunton 1998; Boyd 1985). Village sizes often fluctuated as families and individuals changed residence throughout the year for subsistence, personal, or political purposes.

The rights to particular resource areas such as fishing sites, root beds, berry groves, and hunting grounds belonged to the villages. Outsiders needed permission to use village resources but
consent was usually granted. Families could specifically “own” small pieces of land such as berry patches or a roots ground but only were “owned under the usufruct system” (Ackerman 2003:46).” If families did not utilize a particular resource consistently, another family could simply ask permission for access to those resources. Stubbs disagrees that berry patches or root grounds could be considered private property as Native people considered their options for maximum intake of plants from year to year. Stubbs (1966:35-46) writes that unusual weather patterns or extensive digging in previous years, “could cause a poor stand of plants in some area while they were plentiful in other areas. In the past and today when such conditions prevail the Indians go were the best digging or berry grounds are for that year. It is more likely that were considered communal property since several families often harvested the crop of one digging or berry grounds.”

Politically, tribal leadership primarily rested upon men although women could hold political office within some Plateau tribes. While women did not usually officially lead, they could offer advice to influence community members. Frey notes that (2001:44), “women were allowed to speak at social gatherings; and many women became well respected for their wisdom and ‘chieflike qualities’, exerting considerable influence over public opinion.” Priest Joset noted that “it was no rare occurrence to see a woman step in during council and severely upbraid the chief” (Ackerman 2003:21). Men served in a variety of positions as principle or head chiefs, sub-chiefs, war chiefs, councilmen, or as spiritual advisors (Smith 1998). Principle chiefs were usually chosen based on character, courage, leadership skills and to a certain extent, ancestry.

Qualification for leadership for the Salish and Kootenai peoples included the above characteristics and the ability to count coup. Wealth was not a contributing factor for leadership for any Plateau group (Ray 1939). Usually, Plateau chiefs were often poor because of their obligations to provide food and materials for families in need (Ackerman 2003).
In addition to the village or band chiefs, headmen or task leaders were also selected to lead particular activities (Frey 2001:45; Turney-High 1941). Headmen or task leaders chosen for a specific task or activities (such as hunting, fishing, or warfare) served only for the duration of that activity. “Men so elected had distinguished themselves as great hunters, fishermen, or warriors, possessing expert knowledge…And like the role of village chiefs, the hunting and fishing headmen supervised the redistribution of the game meat and fish, assuring that those in need were cared for” (Frey 2001:45).

Subsistence

Following an annual round usually within their own territory, the Salish, Pend d’Oreille, and Kootenai relied on gathering, fishing, and hunting to provide all their subsistence and economic needs. Annual rounds were “based on a deep spiritual connection to the land, on a finely honed ability to care for and harvest its bounty, and on an intimate knowledge of its fluctuating cycle across seasons and years” (Salish-Pend d’Oreille Culture Committee 2005:32). Frey adds (2003:27), the annual round “reflected a routinized, though consciously adjusted, pattern of year to year travel,” and was anything “but a random, nomadic existence where chance encounters determined the success or a deer hunts or camas digging.” Boyd and Gregory 2007: 39 write “that while the wide varied of wild foods utilized yielded reliable harvests, the seasonally availability and patchy distribution of these foods dictated that people move often, to take advantage of these foods when and where there were available.”

The annual round began in spring as large winter camps broke up into smaller camps of four or five families. Those too old or ill often remained at the winter campsites protected by a few warriors.
Women worked hard through spring and summer gathering roots, nuts, and berries that provided a major portion their diet. Gathering provided between a 1/3 to ½ of Plateau peoples diet with variations between groups, resources available, and tribal preferences (Anastasio 1955: 19). Plants provided not only food but medicine and raw materials to make tools, basketry, cordage, shelters, and other items (Malouf 1998). Anastasio (1972:119) reports that roots were often in abundance on the Plateau and early observers sometimes noted that women could gather a year supply of roots in specific locations on the Plateau in a few days.

The bitterroot root was of primary importance for the Salish people for its symbolic and physical characteristics. After women dug the bitterroot, it was peeled, washed and dried in the sun. However, gathering and root digging could not officially begin until after the First Fruits Ceremony. According to Schaeffer (1940:46):

The root digging activities were initiated each year by a simple first fruits ceremony. Some elderly woman who had never been visited by serious misfortune assumed leadership in this activity. Determining that the bitterroot was ready for gathering, she brought some to the chief and then announced that digging might begin. The gatherers then brought to their digging sticks and parfleches bags to the chief’s lodge. After these objects that been placed before him, he offered a prayer for the safety of the owners during the gathering season. If bitterroot was eaten by anyone prior to this observance, a scarcity of the plant was believed to result.

After the first bitterroot had been dug and placed in the chief’s lodge, women secured their own supply. Gathering the bitterroot was especially tedious and hard work taking three or four days to fill a 50 pound sack. Two parfleches filled with bitterroot fed at least two people throughout the winter (Schaeffer 1940:47).

Camas was another plant that the Salish and Kootenai people relied on for subsistence. After the camas plant bloomed in June, women dug the bulbs, cooked and dried them. The elders noted that digging and baking camas must “be done carefully and in the right way, spiritually and
well as physically, or the camas will not come out right” (Salish-Pend d’Oreille Culture Committee 2005:25). Dried bulbs stored well and lasted a long time.

In late summer women also gathered a variety of other plants and berries which included serviceberries, raspberries, Oregon grapes, red currants and strawberries. Huckleberries and chokecherries were also of importance and gathered and dried in large portions. Vegetables such as onions, pine nuts, and tree lichen were also collected. Dried plants and berries were pounded into small cakes and stored for winter use.

Fishing was common throughout the Plateau and resembles fishing techniques similar to the North Coast Natives (Walker 1998). Similar fishing gear was used throughout the Plateau region, representing centuries or millennia of exchanges in techniques (Hewes 1998:622). The Kootenai relied more on fishing as a subsistence strategy than the Salish and Pend d’Oreille people. From early spring to May, the Kootenai went to their fishing grounds for salmon, sturgeon, whitefish and trout, mostly caught in basket traps and wicker weirs (Brunton 1998:226; Schaeffer 1936). The Pend d’Oreille often floated down the Clark Fork River fishing with weirs and catching basket at the mouth of side streams (Malouf 1998:298). While the Salish placed less emphasis on fishing than most Plateau peoples, they fished enough to set them apart from the Plains people to the east (Hewes 1998:631). The Salish frequently traveled west to obtain salmon either fishing themselves or trading excess bitterroot, camas or deer hides for salmon (Salish-Pend d’Oreille Culture Committee 2005:29). Many Plateau peoples also had a first salmon ceremony when salmon season began.

Unlike most Plateau peoples, the buffalo was a vital part of the Salish and Kootenai peoples’ material culture and reflected another important aspect of their subsistence strategy. Before horses, Natives used an elaborate system of buffalo drive lanes, cliffs, and corals to hunt
buffalo (Malouf 1998:297). Religious preparations were also needed for a successful hunt. A shaman was needed to lead the drive, or divined the location of the animals, enticing them to move them towards the drive lanes (Malouf 1998:297). After the hunt, meat was evenly distributed among all the people. With horses, Natives could travel faster and farther to reach buffalo herds and new hunting techniques were devised.

The Salish and Kootenai peoples traditionally went on two buffalo hunts, one in the summer and one in late fall/winter when the thick fur of buffalo would make warm robes. For protection against Plains Natives, the Salish and the Kootenai often formed task groups with other Plateau peoples. Buffalo hunting task groups composed of 500 to 2,000 individuals but usually averaged around 1,000 individuals (Anastastio 1955:50). “A task group refers to a number of groups which unite for a specific purpose and for a specific time duration” (Anastasio 1972:152). Louise Lumprey gave the following description of a typical hunt to anthropologist Claude Schaeffer.

The hunters would return to camp sometime in the afternoon. The women would immediately start slicing and putting the meat up to dry. It was hung on a drying frame—two tripods between which poles were lashed horizontally. It was called sncqaye. The large tripod was also used for drying meat also used and was called sncqaye, when used for drying meat and was called snx wlmn when set up to tan hides. (These racks were not used during the winter.) The racks remained up all during summer hunt. Fires were built underneath them. The poles were taken along when moving, but were thrown away when returning to the Bitterroot. It didn't take long to slice up a buffalo. If two buffalos were brought in at 2 o'clock with two women to slice, they would finish by twilight. One or two other women would assist in hanging up the meat and keep the fire going, turning the meat over, etc… The smoking fires would be kept up until late at night and [the meat] would be dried sufficiently by morning so that it could be pounded the next day. [Challenge to Survive 2008a:11]

When all the parfleches were full, women informed the chiefs and the hunt was over. It was important to avoid taking too much meat and not waste it.
Outside Contact-The Fur Trade

The Lewis and Clark expedition paved the way for the establishment of the fur trade on the Columbia Plateau. The Montreal-based fur trade company, the North West Company established posts among the Eastern Salish peoples that monopolized the fur trade in this region to 1811 (Ackerman 2003:12). Posts included the Kootenai House in 1807, Kootenai Falls in 1808 and in the following year, the Kullyspell House on Pend d’Oreille Lake and the Saleesh House on the Clark Fork River near Thompson Falls (Walker and Sprague 1998). The North West Company later merged with the Hudson Bay Company in 1821.

While, several fur trading posts were built among the Columbia Plateau peoples, the Columbia Plateau “never proved an ideal location for producing furs. In part this may be attributed to the fact that a good fraction of the territory is not forested and supported relatively few fur bearers” (Hunn 1990:36). More importantly, Plateau peoples expressed little interest in participating in the fur trade. “Governor George Simpson of the Hudson Bay Company blamed the abundant food sources” from the river and root grounds (Vibert 1997:122). As peoples received supplies of guns, tobacco, and ammunition, the fur trade offered little profit (Ackerman 2003:11-12). As described by a present Salish tribal member, “We already met our needs so well…The Salish and Pend d’Oreille generally engaged in trapping only to meet our limited need for non-Indian goods, usually firearms, or metal pots, or a few simple trade items” (Salish-Pend d’Oreille Culture Committee 2004:24). Decline in the world market for beaver pelts and other items drew the fur trade in the Plateau area to an end by the 1840s. The end of the fur trade did not heavily influence the Salish and the Pend d’Oreille people’s economies as they had only traded “sporadically as their own needs demanded” (Smith 1998:306).
Missionaries

Missionaries followed the arrival of the fur traders. For the Salish peoples though, early missionaries came in the form of other Natives. By the 1820s, a group of French speaking Iroquois had settled among the Salish in the Bitterroot Valley (Smith 1998:306). The Iroquois taught the Salish their own version of Catholicism mingled with Native belief and ritual. These teachings fit well within Plateau people’s worldview as Native peoples were familiar with prophecies of Christianity even before Christian missionaries came to the Plateau (Ackerman 2003).

Between 1831 and 1839, four delegations of Salish and Nez Perce warriors traveled to Saint Louis to request the teachings of the black robes. Only three of the delegations were successful in traveling to Saint Louis as the third delegation were killed by Sioux warriors. After the fourth delegation’s request and nearly nine years after the first request, Father Pierre Jean de Smet traveled to the Montana territory and established the St. Mary’s Mission in 1841. De Smet also visited the Kootenai at Flathead Lake but did not any have any real influence until the Mission was built in St. Ignatius in 1854.

At the St. Mary’s Mission, Native peoples were taught Christianity and encouraged to become farmers. The missionaries firmly believed that Native peoples could not truly become converted living a non-sedentary way of life. Annual buffalo hunts were particularly problematic as Native peoples were gone for months, hindering the priests influence. According to Jesuit priest, Nichols Point, “it was our first concern to introduce them, little by little, to a much more sedentary existence. This could be done by only substituting the fruits of agriculture for those of the chase, the innocent pleasures of the fireside for those offered the varied life of the hunter. Above all, religion had to assume an important position in their lives” (Point 1967:43).
Some Native peoples cultivated small gardens. The Salish were fond of potatoes as it resembled foods familiar in both texture and taste, easy to plant, and required little attention. “Indians could plant them in the spring, depart on their seasonal round, and return in the fall or winter to harvest what they needed. Potatoes fit into the ‘traditional way of life’” (Cebula 2003:100). A few Natives adopted other crops such as corn, beans, peas, turnips, carrots, and wheat but preferred crops that required little work and big yields (Brown 1975; Evans 1976). However as Cebula (2000:162) has pointed out, by combing agriculture with the seasonal round, Native peoples defeated the intention of the missionaries in introducing agriculture in the first place.

Beside religion and agriculture, priests also changed several social aspects of Native life. The dissolution of gambling and polygamy practices were of a particular focus. De Smet declared all non-Christian marriages as invalid and men became “legally” only married to the first wife. Children became classified as “legitimate” or “illegitimate” (Ackerman 2003:14).

The St. Mary’s Mission operated nearly eight years until the missionaries sold it in 1849 to Indian Agent John Owen. Thompson Smith argues that social control by missionaries and the constant danger of Blackfeet raids at St. Mary’s failed to meet the “spiritual” needs of the Salish people. Most Salish people never even settled at the mission, but only stopped on their seasonal round before 1843 and after 1846 stopped completely (Cebula 2000:198). According to Thompson Smith:

The Salish sought to expand their existing spiritual pantheon with Christianity and to gain power in their struggle against the Blackfeet, with the missionaries were intent on complete conversion and the expunging of tribal traditions, which they characterized as ‘the work of the devil.’ It was probably a heightening of the priest’s campaign against Salish spiritual practices, and their establishment of a mission among the Blackfeet, that led to the Salish apostasy in 1849. [Cahoon 2005:34]
Financial problems and a general disinterest by Natives, forced the Jesuits to abandon St. Mary’s and establish missions in other places. The Jesuits later established the St. Ignatius Mission in the Mission Valley in 1854, occasionally visiting the Bitterroot Salish until the St. Mary’s Mission reopened in the 1860s.

The Hell Gate Treaty of 1855

In July of 1855, Governor Isaac Stevens met tribal representatives of the Salish, Pend d’Oreille, and Kootenai peoples with the intention of creating a reservation and making remaining lands available to white settlers (Ackerman 2003:129). Within three months of meeting with Plateau tribes, Stevens had held “five major councils with western tribes, made four treaties, and established nine reservations” (Seifried 1968:3). Treaties committed the United States to supply tribes with annuities, while Native peoples committed to end wars between tribes, slavery, and give up claims to ancestral lands.

After a week of intense negotiations, tribal leaders reluctantly signed the treaty of Hell Gate. Under the Hell Gate Treaty, Native peoples relinquished 12.8 million acres of aboriginal territory and agreed to remain permanently on the newly formed Flathead Reservation (Puisto 2000). In exchange for land, “the Federal Government agreed to provide annual payments for tribal members, set aside a reservation, allow tribal people to hunt and fish in their accustomed territory and, pay the reservation’s educational, social, and administrative expenses” (Puisto 2002:50; see Bigart and Woodcock 1996 for a transcript of the treaty negotiations). Puisto (2004:2) argues there are five reasons why tribal leaders signed a treaty with Stevens.

They believed that the government would provide them protection from the raiding Blackfeet; Stevens ambiguously promised them two reservations (a promise he knew he could not keep); the tribes would receive seemingly generous monetary payments and annual appropriations; Indians were unfamiliar with American concepts of land ownership; and both the treaty and the discussions leading to it were poorly translated.
Increased white settlement, the disappearance of buffalo, and food shortages intensified tensions between whites and the Bitterroot Salish. Missoula and Bitterroot white residents continually sent petitions to the Federal Government arguing that it was cheaper to remove Natives peoples to the Flathead Reservation than it was to remove all the whites in the valley (Brown 1975). In addition, Missoula and Bitterroot residents also feared a military response from the Salish and continually requested military assistance from the Federal Government although Salish reactions to the increasing white settlement were minimal.

By executive order in November of 1871, President Ulysses S. Grant ordered the Kootenai and the two Salish bands to the Flathead Reservation (Puisto 2002:50). The Bitterroot Salish tribal leaders initially refused to move to the Flathead Reservation but starvation and pressure from whites forced the Bitterroot Salish to relocate to the Flathead Reservation in October of 1891.

**Reservation Political Economy 1855 to 1903**

Shortly after the treaty of Hell Gate, the Salish and Pend d’Oreille people began supplementing their annual round food intake with farming and stock raising. In 1857, Indian Agent Lansdale (Annual Report 1857:379) estimated the Upper Pend d’Oreille people located near the St. Ignatius Mission, owned three thousand horses, four hundred cattle and were proving “to be successful farmers.” The crops the year before (1856) were “so abundant as to supply much of their food to many of them.” Lansdale (Annual Report 1857:379) also added “others, seeing this result, were incited to take to cultivating small patches, so that this year their fields number about fifty, containing half to ten acres, averaging say five acres, making two hundred and fifty acres of wheat, peas, potatoes, turnips, cabbages, carrots, corn and a few other crops.”
In 1865, an observer noted that around 40 Bitterroot Salish families engaged in agricultural pursuits and “remained at home the year round and do no other hunting than for small game in the adjoining mountains. Their farms look very credible, and last year they harvested about 2,500 bushels of wheat besides other products. Some of them have log houses, cows, and work cattle, and a few agricultural implements, for none of which, they are indebted to the government” (Burlingame 1968:97-98). Years before the Jesuit priests had tried to integrate agriculture into tribal culture but had little success.

To show the residents of Missoula the effectiveness and productivity of the Natives on the Flathead Reservation, produce from the reservation was collected for a window display in Missoula. According to the Anaconda Standard (newspaper) in 1894:

The collection in the Standard window includes cabbages, squash, potatoes, field corn, beans sweet corn, carrots, oats, cucumbers, and beets, and all the specimens compare favorably with those that have been shown by the white ranchmen. The best collection comes from the ranch of Michel Rivais, the blind interpreter, of the agency. It includes some very fine potatoes, two large cabbages, some sweet corn and some excellent cucumbers. Alex Matte, the other agency interpreter, also has a creditable display of vegetables, and Louison, a full blood, has a fine lot of oats. One lot of vegetables comes from Louise Moiese, a woman who runs a ranch in her own right without the encumbrance of a husband. Antoine Moiese has some squashes and other vegetables that are worthy of notice, and other Indians have contributed to the display, which reflects great credit upon the Indians. [Challenge to Survive 2010:9]

Statistics kept by Indian Agents confirm the relative success of farming and ranching among the Salish and Pend d’Oreille. Although one must approach this data with caution (see Trosper 1974:146), statistics show an upward increase of productivity for most years. For example, from 1875 to 1903, the number of acres in cultivation increased from 1,500 to 208,000 acres, wheat production increased from 4,000 to 82,000 bushels, herds of cattle and horses increased from 2,500 and 1,800 to 23,000 and 27,000 by 1903.
Agriculture did have its setbacks. Drought, insects, lack of irrigation were all problems that occurred on the reservation. In 1883, “the inclemency of weather” during May destroyed seedlings and then “the cold and constant rains of the spring were followed by scorching heat” (Annual Report 1883:99). The year 1889 was also a particular poor year for agriculture:

The outlook for the Indians this year is gloomy in the extreme. The drought of the summer has been unknown to the oldest Indians. The country is parched and the usually luxuriant bunch grass is burned to the roots on prairie and upland. Nothing green remains save along the banks of the rivers and the line of the irrigation ditch. The hay crop is almost a total failure; the grain and vegetable crops have suffered in the same way and not one quarter of the usual amount can be harvested this season. To add to this the forest is now and has been for weeks on fire all around us. The prairies where any grass grew this season was fired also. The smoke covers the country, obscuring the sun and causing business houses in neighboring towns to be lit up at an early hour in the evenings. Breadstuff will certainly be scarce on the reservation, and unless assisted great want prevail among the Indians until another crop can be harvested. The failure of crops this year is very discouraging to the Indians, as unusual efforts were made by them to exceed the planting of last year, which yielded so bountifully and encouraged them to greater efforts last spring to put in crop and fence and plow new and more extensive fields. [Annual Report 1889:229]

By the 1880s the buffalo on the Great Plains had mostly disappeared. Droughts like the year 1889 were problematic because the people had no other source of food as the buffalo and their crops were both gone. After the 1880s, tribal people had to rely more on agriculture as a necessity rather than a choice.

The railroad also provided an economic opportunity for Native peoples. A report in 1884 stated that many Native peoples were “cutting wood for the railroad and many cut many logs to haul them to the agency saw-mill to procure lumber for their houses. In no tribe is there such an opportunity for testing the capability of the Indian for the modes and arts civilized life and their progress so far demonstrations that this unfortunate people have a future other than barbarism or ultimate extinction” (Annual Report 1884:112).
Figure 3.1: Bushels of Oats, Barley and Wheat Produced by Tribal Members, 1875-1904

(Source: Trosper 1974:164)
Figure 3.2: Acres Cultivated on the Flathead Reservation, 1875-1904

Acres Cultivated

(Source: Trosper 1974:164)
Figure 3.3: Horses and Cattle Owned by Tribal Members, 1875-1904

(Source: Trosper 1974:164)
Before 1904, cattle and horses were an important aspect of the tribal economy. Horses, in traditional culture, were a sign of wealth. Paul Charlot remembered that he “could go anywhere and see the cattle and the horses all over the reservation. The cattle were plentiful. They were everywhere you looked and there was Indian horses mixed up with the cattle. Over at the Mission, in Camas Prairie, wherever the Indians lived—it was just the same. They even had buffalos, and they were the Indian’s buffalos” (Hanson 1947:19).

Agent Samuel Carter (Annual Report 1894:174) wrote that Native peoples who raised cattle and horses were profitable. “Some have large and valuable herds of beef cattle and annually ship directly to Chicago many carloads; other sell to the traders or to butchers in the neighboring towns. A few have valuable well-bred stallions and are improving their breed of horses.” The next year, Carter (Annual Report 1895:188, 190-191) provided more specifics. In the fall, “$40,000 worth of fine beef cattle was shipped direct by these Indians to the Chicago market, one full blooded Indian shipping steers that netted him $6,000.” Carter added, “these progressive Indians manage their affairs shrewdly and well.” Ronan wrote in 1883 (Annual Report 1883:100) regarding the high quality herdsmanship of the Salish people and of the “great attention to their stock, each owner of many number having his own brand, which is respected quite as much as in the case among white herdsman.”

Cattle and horse herds decreased heavily between 1903 and 1906, due to bad weather and a tax placed on cattle introduced by the Bureau of Indian Affairs in 1903 (Trosper 1974). Indian Agent Samuel Bellew (Annual Report 1904:229) wrote, “There has been considerable demand for ponies this spring, and prices have ranged higher than for years past; and from all data I can obtain I find that more than 4,000 have been sold during the year, decreasing the number remaining on the reservation in the neighborhood of 2,000 from last report.” Bellew added, “the fall demand for beef...
cattle was good, but very poor this spring.” In 1905 and 1906, herds of cattle were reduced heavily, opening the land for additional acreage needed for farming (Annual Report 1905, 1906:256).

Although most Native families farmed or raise stock, they still continued to hunt and gathered traditional berries and plants. Hunting and gathering continued well into the 1950s though not on the scale that it had years before. Salish scholars argue that tribal peoples only supplemented not replaced their hunting and gathering activities with agriculture (Challenge to Survive 2008b).

The Kootenai people continued to rely only on hunting, gathering, and fishing for their subsistence. Indian Agent Landsdale wrote in 1857 (Annual Report 1857:379) that only a few Kootenai farmed at the Mission but the Kootenai had stopped buffalo hunting “being more confined to elk, deer, and mountain sheep, to fowls, and to fish” for subsistence. A priest’s letter in 1885 wrote of the general poverty of the Kootenai compared to the Salish and Pend d’Oreille people. “They are the poorest and the wildest. They live either in the woods or near lakes and live off hunting and fishing. They live far away from the Mission and have contact with the whites to whom they sell fish and furs and from whom they do not learn anything good” (Bigart and Woodcock 1981:157).

In 1885, the Kootenai had begun cultivating 200 acres of land, growing 1,000 bushels of wheat, potatoes, turnips, cabbage, onions, carrots, parsnips and peas (Annual Report 1886). Several Kootenai families also maintained small gardens. In 1889, Indian Agent Ronan wrote the Kootenai “live chiefly by hunting and fishing. They have few houses, and fenced in some land, and with proper assistance and encouragement by a resident farmer among them might soon be brought to the civilizing habits which mark in contrast the Pend d’Oreille and Flatheads, who occupy jointly the Flathead Reserve” (Annual Report 1889:227).
Economically, while tribal peoples may have prospered, the Office of Indian Affairs maintained tight control over their financial affairs. For example, an instance occurred where Indian Agent Peter Ronan found the presence of four large herds of cattle on the reservation. Although the cattle owners had been given permission by tribal leaders to lease the land for $300, Ronan ordered the removal of the cattle from the reservation (Krigbaum 1997:54). While Ronan was protecting the boundaries of the reservation from non-Indians, Native peoples could not enter into agreements outside the dealings of the Office of Indian Affairs thus prohibiting economic use of Native land by Native peoples.

The Office of Indian Affairs maintained tight control over the cultural and religious affairs of tribal peoples as well. In 1877, Indian Agent Peter Ronan formed a police unit “composed of the very best men of the tribes,” who would perform “any duty required of them by their chief without any payment” (Annual Report 1877:136). The police force was to suppress any “illegal activities” such as horse races, gambling, feasts, dances and any traditional gathering for celebrations or ceremonies. Resistant individuals were cut off from receiving agricultural supplies and rations (Smith 1998:308). In 1884, the Bureau of Indian Affairs encouraged the adoption of civil and criminal codes and established the Court of Indian Offenses (Beckham 1998:164). “Common charges that results in trials and fines were gambling, drunkenness, theft, disorderly conduct, contempt of course, perjury, and assault” (Beckham 1998:164). Individuals were also punished for adultery and marriage outside of the church.

In 1864, the Sisters of Providence from Montreal established the first day school on the Flathead Reservation and a year later, Indian Agent Charles Hutchins, recommended government support of a mission school under the supervision of Father Urban Grassi (Bigart and Woodcock 1981:151). Boarding schools were established in the 1880s. The Federal Government along with
priests felt that by “training youth in agriculture and industry, the school might free the Indians from their dependency upon hunting and root and berry gathering” (Bigart and Woodcock 1981:151). Children as young as five years old were often taken by force to the boarding school. Children were corporally punished for infractions such as speaking their Native language and were forced to cut their hair (Smith 1998:308).

The Jesuits continued their religious teachings towards adults as well. In 1897, the Jesuit priests ordered the destruction of medicine bundles and gambling equipment resulting in the traditional religion to go underground (Brunton 1998:234). Vine Deloria (2003:240) states:

As the reservations became more permanent, the churches devoted themselves wholeheartedly to converting the people. Religious controversies increased, and missionaries soon became one of the most vocal forces in demanding that tribal political activities be suppressed because it was apparent to them that the religious and political forms of tribal life could not be separated.

In general, tribal elders remember the reservation at this time in terms of prosperity and opportunity. However, the prosperity would soon end with the implications of the General Allotment Act on the Flathead Reservation.

**The General Allotment Policy-1887 to 1934**

In the late 19th century, to solve the “Indian problem” and assimilate Native peoples in mainstream American, the U.S. government passed the General Allotment Act or the Dawes Severalty Act in 1887. By assimilating Native peoples through the use of private land ownership, the General Allotment Act would also serve several purposes 1) a response to demands for Native land and natural resources by Euro-Americans 2) a solution to “congressional resentment over the spiraling costs of Indian appropriations” and 3) satisfy humanitarian desires by pro-Indian groups
(such as Friends of the Indian) to “civilize,” “christianitize,” and ultimately destroy all traces of tribalism (Smith 1979:131).

The General Allotment Act authorized the allotment of reservation lands and specified the amount of land that individual Native peoples could receive (McDonnell 1991:2). In areas of available acreage, the Allotment Act provided heads of households (men) 160 acres of land, single individuals over 18 and orphans under the age of 18 received 80 acres, and single individuals under 18, were allotted 40 acres of land. Native people who wanted to raise stock were allotted additional acreage. To protect Native women, a provision in 1891 changed that each adult would receive 80 acres rather than the 160 acres to the head of household. In addition, the Secretary of Interior was authorized to lease allotments belonging to children, elderly, and others incapable of farming (Bolt 1987:99).

Under the General Allotment Act, allotted lands were to be held in trust for 25 years to protect the allottees while they learned to use their lands “properly” to support themselves (McDonnell 1991:2). Trust status also meant that Native peoples were restricted in their use of their land as “allotments could not be leased or sold without either the permission or the supervision of the Interior Department” (Biolsi 1992:11). According to Biolsi (1992:11):

There were two administrative agendas which informed the agencies’ execution of this trust responsibility. One involved simply protecting Indians from their assumed incompetence. Except as specifically noted in individual cases, Indians were administratively classified by the Office of Indian Affairs as incompetent wards. For individuals so designated, the Office of Indian Affairs assumed the role of trustee over trust property and over “unearned” income from trust property or trust funds...The other agenda was to foster ‘self-support.’ ‘The chief duty of the agent the Regulations of the Indian Office stated in 1904 is to induce his Indians to labor in civilized pursuits.’

“At the end of the trust period, when Native peoples were presumably self-supporting, the government would replace the trust patent with a fee patent—a deed of unrestricted ownership—
relieve itself of its trust responsibility” (McDonnell 1991:2). Allottees would also receive US citizenship. Unallotted land or “surplus land” could be purchased by the Federal Government and then make available to homesteaders (McDonnell 1991:2). As part of the original act, the cession of surplus land was to be approved by tribes, however this aspect changed in 1903 when federal courts held that approval from tribal entities was not needed for the sale of surplus lands (Carlson 1981:10). Further control by the Federal Government was endorsed as money from the sale of surplus land was to be held in trust for Native peoples and controlled and distributed by the Office of Indian Affairs. Tribal groups could only invest in approved items such as farming or stock equipment.

Besides imposing Euro-American values of land and property management, the General Allotment Act was compulsory in that, tribes “could not elect to remain unallotted, and an individual could not refuse to accept an allotment” (Carlson 1981:10). Carlson (1981:10) further notes because this act was compulsory it reflected an unwillingness to accept any opposition from Native peoples and an attitude by the U.S. government that “progress was something to be forced on Indians in their own best interest.” Henry Dawes, a senator from Massachusetts, chairman of the Senate Committee on Indian Affairs, and a major sponsor of the General Allotment Act commented, “Inasmuch as the Indian refused to fade out, but multiplied under the sheltering care of reservation life, and the reservation itself was slipping away from him, there was but one alterNative: either he must be endured as a lawless savage, a constant menace to civilized life, or he must be fitted to become part of that life and be absorbed into it” (Smith 1979:131). Prucha (1973:122) has noted, “so nearly universal was support of allotment of land in severalty that it is difficult to find statements opposing the proposal.”
In 1906, another amendment to the Allotment Act called the Burke Act, furthered reduced tribal sovereignty and Native’s ability to keep land. This act denied US citizenship to future allottees and extended the trust status an additional 25 years. More importantly, this act authorized the Secretary of the Interior to issue fee patents to Natives deemed “competent and capable of managing his or her affairs before the end of the trust period” (Prucha 1984:298). However, fee patented land became subject to state taxes. In 1907, authority was given to the Commissioners of Indian Affairs to sell trust allotments, and in 1910 Indian Agents could sell deceased allottees land without consent or knowledge of the heirs. Bolt (1987:100) argues that these amending legislations “perpetuated the basic paradox of the Dawes Act by simultaneously attempting to ‘emancipate’ the Indians and to provide special protection for them.”

Although the General Allotment Act applied equally to all Native lands, “the allotment act required passage of another, more specific bill in order to deal with a particular reservation” (Smith 1979:132). The bill that specifically called for the allotment of the Flathead Reservation was called the Flathead Allotment Act or Dixon Bill as proposed by Joseph Dixon in 1904 (For an in-depth review of the Dixon Bill see Smith 1979).

The idea of the opening of reservations had become a popular idea by the end of the 19th century by Montana white citizens. “Local and state politicians argued that the future progress of the state was linked to the availability of these lands, and that settlement would mean an economic boom to everyone-even the Indian would be better off, once he had modified his culture to white perceptions of civilization” (Puisto 2000:64). Puisto (2002) also points out that Dixon (with others) stood to profit financially from an allotment on the Flathead Reservation. As Dixon owned shares in the Missoula & Beckwith Mercantile Co, a company on the reservation, the allotment would allow Dixon to seize land for debts incurred in the store (Puisto 2002:51).
In 1901, a federal commission had met with tribal leaders to discuss the sale of land of the northern boundary of the reservation (Smith 1979). The meeting failed and head chief Charlo adamantly declared that he wouldn’t sell a foot of land. Another tribal leader, Chief Isaac of the Kootenai, also refused to sell reservation lands. He firmly told the federal commission, "You told me I was poor and needed money, but I am not poor. What is valuable to a person is land, the earth, water, trees…and all these belong to us ...We haven't any more land than we need, so you had better buy from somebody else" (Smith 1979:138).

After years of trying to push an allotment bill through Congress with little success, Dixon, discovered the controversial article 6 of the Hell Gate Treaty. Dixon used this as an argument stating that tribes had consented to the opening of the reservation within the treaty agreement itself (Krigbaum 1997). “The bill sailed through Congress with the aid of Montana’s Democratic Senators William Clark and Paris Gibson and President Theodore Roosevelt signed the ‘act for survey and allotment of lands in the Flathead Reservation, Montana, and the sale of the disposal of all surplus lands after allotment’ into law on April 23, 1904” (Puisto 2000:66). As Burton Smith (1979:139) explains, “Joseph Dixon and the western Montana white community had actually decided policy and brought about the opening of the reservation; the Indian office had been content to offer slight modification.”

Tribal leaders vehemently opposed allotment. Not only did tribal leaders recognize the Allotment Act as infringing upon the Hellgate Treaty but allotment superimposed western ideals of land management and use. The Salish-Pend d’Oreille Culture Committee note, “historians, as well as the U.S. Court of Claims, have long concluded that this obscure clause could never have been translated sufficiently during the 1855 negotiations…Dixon seized upon it anyway, and used it to
push his bill through Congress without tribal consent-in fact, in the face of obvious tribal opposition” (Cahoon 2005:48).

While Indian Agent Peter Ronan had resisted allotment and urged Congress not to break the treaty, other Indian Agents felt that Native people must be allotted and assimilated into US white culture. Indian Agent William Smead published a pamphlet about the Flathead Reservation promising homesteaders help with choosing good plots of land while he was in office. While Smead was later dismissed for corruption, he still profited from advising settlers to the best agricultural parts of the Flathead Reservation (Krigbaum 1997).

Apart from traveling to Washington DC to express their concerns, tribal leaders wrote hundreds of letters asking the government to sustain the treaty and not allot the reservation. The Supreme Court case of *Lone Wolf v Hitchcock* decided in 1903 that Congress could abrogate treaties without contest from the courts or tribal consent (Trosper 1974:32). Krigbaum (1997) states that the Salish and Kootenai sent delegates to Washington D.C. contesting allotment nearly every two years from 1910 to 1935. One response letter from the Interior is of particular interest as it reflects an insincere and unemphatic attitude of the government towards Natives and their plight at this time. In 1908, Baptiste Kakashee, Sam Resurrection and Charles Molman wrote a letter to Secretary of Interior James Garfield and asked “asked how the treaty of 1855-one that Garfield had himself acknowledged-could be broken. ‘Garfield asked us three tribes, Kakashee wrote, ‘what kind of treaty did we make with Stevens. We told him that we had it understood that this was always to be a reserve. Garfield agreed with Stevens. We believed these two gentlemen from Washington’” (Smith 1979:139). Acting Commissioner of Indian Affairs C. G. Larrabee response similarly reflects not only the assimilation attitude of the early 20th century but the idea that Native peoples could not make decisions for themselves.
When Governor Stevens made his treaty with the Flathead, Kootenay, and Upper Pend d'Oreille Indians on July 16, 1855, conditions were altogether different from what they are today. The lands that were given to you were of small value, and the settlers were few. Now, however, the [white] people have increased in numbers, and they must have land in order to live and support their families. You and I must bow to the laws which Congress in its wisdom sees fit to enact…

On April 23, 1904, Congress decided that it was for the best interest of your Indians that, the land in the Flathead reservation should be allotted to them, and that all lands left over should be opened to settlement by white people under the proclamation of the President, and that of the money received for these lands, one-half should be used for paying the expense of the allotment, and sale, and for constructing irrigation ditches, for purchasing stock, cattle and farming implements, and other articles which will aid you in farming and stock raising, and in the education and civilization of your people, the remaining half to be paid to all people having tribal rights on the reservation. …This law of Congress is supreme, and you must accept that which it believes to be for your best interest. [Challenge to Survive 2010:85]

Tribal leaders not only fought against allotment of the reservation but conflicts arose regarding eligible tribal members to receive allotments. The Flathead Allotment Act held that opening of the reservation would occur in 1910. However, before the reservation could be opened a complete and accurate accounting had to occur of tribal members. This task was already difficult but made more difficult as full-bloods resisted the census count (Puisto 2000:68). The final census count of 1905 included, 2,133 Natives; 840 identified themselves as Pend d’Oreille, 557 Bitterroot Salish, 556 Kootenai, and 180 Natives from other tribes (Puisto 2000:68). In an interview Chief Charlo gave in 1905 to a Missoulian reporter through his interpreter Michael Rivas, Charlo stated:

…The fact is, Charlot does not want the reservation opened at all, and will do in his powers to prevent its being opened. He says that under the plan of allotment provided for in the bill too many...[mixed bloods] are getting a finger in the pie. He has no objection to the …[half-bloods] of the three tribes on the reservation getting land, but there is an innumerable host of quarters an eights, and many with just a trace of Indian blood who have been enrolled and who will be given land. Again, there are a number of Nez Perces on the Flathead Reservation who claim to have been transferred there and they go demand enrollment and land. Indians from other lands are there who demand enrollment, but it is not known whether any of them have succeeded in their desire or not. [Challenge to Survive 2010:82]
Over tribal protests, the reservation was “opened” in 1910 and surplus lands sold to settlers. By 1910, a total 245,000 acres were allotted to 2,390 tribal members, nearly one fifth of the reservation (Puisto 2000:69). By the 1950s, about only 1 percent of Native peoples owned land on the Flathead Reservation. Trosper states (1974:43):

> Based on the 1904 Act which started the process, a total of 485,171 acres were disposed of. These dispositions were of three types. Land patented to settlers totaled 404,047 acres, these lands were ‘normal and ‘cash’ homesteads. School lands granted to the state of Montana totaled 60,843 acres. The other dispositions were miscellaneous; of this group, the creation of the National Bison Range was the largest, consisting of 18,524 acres. The total miscellaneous dispositions were 20,281 acres.

Tribal members recall the early days the reservation opened to whites and how the cultural, physical, and economic landscape quickly altered. Besides losing land, the tribal population became a minority population on the reservation almost overnight. Tony Incashola, current director of the Salish-Pend d’Oreille Culture Committee recalled, “my grandparents, my parents always felt like they didn’t belong in certain parts of town, when in reality this was their land. This was their home first, before anybody’s. They are not the visitors; they are the residents of this area. But they were made to feel like visitors” (Smith 1991:8). Salish elder Charlie McDonald recalled “you’d go out to Charlo, in that country on horseback. When you would be coming home late in the evening, hell, maybe the roads, the trail you took going out, when you’re coming back, you couldn’t go on it. There’d be a wire fence and a shack there-it would be a homesteader pulled in there to set up his homestead outfit” (Rockwell 2008:23).

Sophie Moiese discussed the losses of the allotment at a discussion organized by the University of Montana in the 1940s. “Forty years ago before the reservation was opened it was easy for the people to get rich. It was not fenced and they had lots of cattle and horses. But since they closed up they cannot do that (Hansen 1947:19). Paul Charlot added, “ever since they threw
the reservation open we all went broke and the stock disappeared. There wasn’t an Indian among
the tribe that was poor like they are today. They had too much stock and they could not take care of
it on the allotments that they got, so the Indian just gave up his ambition and sold their stock and
got poor. That is what I have seen and witnessed” (Hansen 1947:19).

The Indian Agent reported that by 1910 at least 30 percent of tribal members were living on
and cultivating their allotments. He further commented:

In some cases the cultivated area is little more than a garden plot, while in others it may cover half a section. The average area cultivated is not large, probably not more than 20 acres, and not more than three hundred of these Indians are cultivating more than garden plots, but some of the mixed bloods
and cultivating as much as four hundred acres, which is the maximum per family…[Narrative Report 1910]

The principle crops were wheat, oats, barley, timothy clover, and hay with a few families planting
extensive vineyards.

Several allotments were not conducive to ‘self-sufficiency’ due to their location. Most of
the good agricultural land surveyed, admittedly by the Federal Government, saved for white settlers
(Narrative Report 1930). The Indian Agent wrote that “some of the lands allotted to the Indians
particularly in the western and northwestern portions of the reservation, are very poor. They are
often rocky, steep hillsides, and afford no opportunity to establish the allottee as a productive
farmer. It is small wonder in such cases that he does not take much interest in agriculture”
(Narrative Reports 1919). Joe Antiste recalled that his allotment in Pablo was less than desirable, “I
looked at the land, all there was, was rocks” (Rockwell 2008:23).

Amendments to the Allotment Act in 1906 by the Burke Act loosened the restrictions on
fee-patents and for the Indian Agents who could issue them. Between 1906 and 1911, fee patents
were issued easily to Native peoples who wished to take their land out of trust status. From 1910
to 1922, a total of 1,216 fee patents were issued on the Flathead Reservation (Trosper 1974:37). In
1911, the Commissioner of Indians Affairs tightened competency rules, which remained until 1917. Between 1917 and 1920, patents issued during these years were called “policy patents” or “forced patents.” Cohen (1972:109) writes that the Burke Act “did not in terms require the consent of the Indian allottee as a condition to the issuance of a patent in fee simple by the Secretary of Interior. Under a deliberate policy of hastening the ‘emancipation’ of the Indian, many fee patents were issued without Indian application and even over Indian protest.” In addition, “competency” almost always was associated with the blood quantum. “There was an assumption at least on the part of some Office of Indian Affairs personnel, that competence correlated with degree of blood” (Biolsi 1992:15). “Mixed bloods” were usually granted competency.

Trosper reports for the Flathead Reservation, 647 fee patents issued between 1917 and 1920 were “forced patents” meaning patents were issued without a person’s permission and sometimes without their knowledge. In 1921, another reversal occurred when the Office of Indian Affairs administration required a formal application to established competency but fee-patents were still issued easily over tribal objection. An act in 1927 authorized the cancellation of fee patents issued without the application or consent of the patentee, provided the patentee had not sold or mortgaged any portion of the land described in the patent (McDonnell 1991:117). Of the hundreds of forced fee patents on the Flathead Reservation, the Federal Government only cancelled 32 or 5 percent (McDonnell 1991). Trosper (1974:41) argues:

One must conclude that the laws governing the allotment system allowed officials of the Bureau of Indian Affairs to deny the wishes of an Indian owner of an allotment, whatever his wishes were. If he wished to sell, the certificates of competency could be withheld. If it were not withheld, restrictions could still be placed on the Indian’s use of the proceeds of the sale. If the owner did not wish to sell, the agency superintended could nonetheless put his land on the tax rolls of the county in which the land was located. He then had to pay the taxes or face a forced sale to pay the delinquent taxes. Finally, should he die, his heirs would be even more restricted in their options, for the superintendent or his superiors could sell
any land in heirship status without the owners’ consent between the years 1910 and 1934. Administrative discretion also allowed the representative of the federal government to follow the wishes of the Indian owner or owners; but nothing required him to do so.

An act of Congress in February of 1920 provided a second allotment for children born after 1908. The 1920 allotments were mostly on range and timberland equaling 124,795 acres, worthless though in terms of agricultural pursuits (Smith 1998). Those born after 1920 inherited their share in existing allotments but “heirship interests on allotments caused fractionalization of individual trust and increased the costs of establishing a clear owner and manager for the parcels and made coordination of production nearly impossible” (Puisto 2000:70).

The issuing of fee-patents whether forced or not, gave Native people access to cash. Cash from allotments were attractive to Native peoples because as Biolsi (1992) points out, was not controlled by the Bureau and Native people could spend the cash as they pleased. Most Native peoples did not buy farming implements as the Bureau of Indian Affairs wished and according to Indian Agents usually spent it quickly. The Indian Agent wrote in 1930:

> About 60% of their original allottees have been issued fee patents for their lands. There was a very large percentage of allottees of a small degree of Indian blood in this class. The great majority of them have disposed of their lands. Some them sold soon after receiving the patents and squandered the proceeds of their lands. In some such cases the Indian did not pay the interest or the taxes and eventually lost his lands by foreclosure of the mortgages. [Narrative Reports 1930]

Natives lost their allotments in other ways. According to Brockman (1968:71) “several tribal members used their allotments as collateral in the early years after the opening of the reservation to borrow money from non-Indians. When they defaulted on their payments, the Euro-American lender obtained the land.” In addition, land dealers received advanced information about fee patents issued on the Flathead Reservation. This allowed Native peoples to be specifically targeted to sell their land or to lease them at extremely low rates. Rules later changed to prevent
Indian Office clerks to reveal any information “oral or written regarding fee patents until 10 days after they had been mailed to the superintendent” (McDonnell 1991:101). Some allotees also sold their lands “to stave off hunger” (Puisto 2002:52).

The 1930s proved to be tough economic years, not only the United States in general, but also for the Flathead Reservation. As white settlers continued to flock to the Flathead Reservation though at a slower rate and Native peoples sold their allotments, Native peoples had to find alternate sources of income. The Indian Agent reported in 1930:

The general depression which exists all over the country is noticeable here. Prices of all farm products are low and the farmer finds it necessary to retrench. He is doing more work himself and hiring less. One of the largest timber contractors finished cutting out contract and laid off 125 men. Mexican laborers imported to work in the sugar beet fields have encroached considerable in the Indian labor situation in the Bitter Root valley, particularly in the harvest and hay fields. Our Indians are, therefore, not getting the usual amount of work and are having to work for lower wages than for several years. [Narrative Report 1930]

Those who could not find work locally often traveled outside of the state searching for seasonal economic opportunities. For example, several families went to Washington to pick hops (Rockwell 2008). In the 1930s, the Flathead Reservation saw the establishment of the Civilian Conservation Corps (CCC). The CCC employed hundreds of people giving many Native peoples their first experience with wage income until it ended during World War II (Smith 1998:311). Tribal members found short-term employment picking and selling berries but usually little money was earned (Schaeffer 1936).

A survey conducted in 1935 found 165 families owned at least 20 acres irrigated land, 76 families owned at least 40 acres of dry-farm land, 184 families owned at least 160 acres of grazing land and 192 families owned no land (McCullough 1936:15). Simply put, “approximately one-third
of the population of the reservation had no land, and still another third had holdings of unusable land, either because of its impractical size or its location” (Malan 1948:120).

Although not a large percentage of Native peoples were farming by the 1930s, many Native peoples continued to cultivate gardens. In 1935, at least 196 families cultivated small gardens producing a total of 160,000 pounds of vegetables such as potatoes, squash, cabbage, carrots, tomatoes, and turnips for winter storage (Schaeffer 1936). In addition, Native families canned and dried fish, meat, and fruit. Pend d’Oreille elder, Mary Smallsalmon, recalled her family’s garden:

  
  About the food, we had a garden, a big garden. My Dad planted a garden-potatoes, beans, corn, carrots, cantaloupe, watermelon, and squash. All this was in my Dad’s garden at Crow Creek, where we had our house. We had a big garden…But we were not really poor—we had gardens, we had deer meat, and we make deer dry meat. My father’s mother, my brother Peter, they would make deer dry meat. [Rockwell 2008:21]

  
  In the mist of allotment were irrigation issues. Besides the opening of the reservation, whites were further attracted to the Flathead Reservation because of the Flathead Irrigation Act. This act passed in 1908 called “for the construction of a massive canal and reservoir system to over 150,000 acres of dry lands on the reservation” (Smith 1998:308). According to Cahoon (2005:85):

    The irrigation system was to consist of approximately fifteen reservoirs that would collect water from streams coming out of the Mission Mountain Range. The main canal would run along the foot of the mountains, enabling the collected water to be spread over the irrigation project. There would also be another six canals totaling sixty miles, and 910 miles of laterals, as well as three pumping plants, one that would lift 335 feet, 43 feet and 79 feet.

    Tribal member Agnes Vanderburg recalled, “In order to get the irrigation ditches, they told the Indians, ‘if we build the ditch, there will be a lot of water for your gardens. If you plant potatoes, you’ll have water.’ And the Indian thought, ‘yes, that would be all right’” (Smith 1991:12). In many places, the government built new canals over preexisting Native ditches. However, Native peoples were not informed they would have to pay the cost of building the new
ditch. Agnes Vanderburg further recalled, “the white people built the ditches but when they finished, they said they needed to be paid” (Smith 1991:12). Several individuals subsequently lost their allotments as they did not have the cash to pay for ditches.

By 1916, when Congress ended the use of tribal funds to build the irrigation ditches more than 2.3 million dollars had been used (Puisto 2000:70). Trosper (1974) has argued the irrigation project was never intended for Native use but for white settlers who relied on the irrigation. Most Native people could not even afford the water. The Indian Agent reported, “irrigation while necessary for the best results in farming on this reservation, is still perhaps the greatest stumbling block to the Indian farmer. He is afraid of the irrigation costs and so many of them refuse to use water for irrigation. These costs are a serious problems on the Indians lands” (Narrative Report 1930). By 1929, of the 32,484 irrigated acres only 1,291 acres (about 4 percent) were owned by tribal members (Puisto 2000:70). Albert Lemery, a tribal member testified to Congress in 1934 that the Flathead Reservation “was an ideal stock country,” but now it was “a secondhand farming country by reason of the construction of a useless irrigation project” (Survey of Indian Conditions 1934:3268; Puisto 2000:70). Lemery further testified:

We were not in favor of this project from the beginning and protested against it, but they came in and put it in anyway, and they promised us at that time that the Indians would never be charged anything for the water; now we are taxed water rent, construction charges, and everything else. The charges are so high that enough can not be produced on the land to pay them, and it has caused a great deal of dissatisfaction among the Indians, and many of them are in very poor circumstances and have a hard time to get along, as many of them have lost their land. There are very few of the old long-haired Indians farming on this reservation. [Survey Conditions 1929:3270]

In essence, “the irrigation project would profoundly change the natural water tables of the valley, ruining Indian gardens and devastating the fisheries. In effect, if not in intention, the project
was part of the destruction of the economic and cultural independence of the people” (Cahoon 2005:84).

In 1934, the implementation of the Indian Reorganization Act cancelled the policies of the General Allotment Act but did not change any of the damaging results. On October 4, 1935, the Salish, Pend d’Oreille, and Kootenai became the first tribal group in the United States to accept the terms of the Indian Reorganization Act and become the Confederated Salish and Kootenai Tribes of the Flathead Reservation (Lahren 1998:491). While the Indian Reorganization Act allowed tribal governments “to set up a credit fund from which loans to tribal enterprises could be made,” this act mandated that tribes re-create their government based on Euro-American cultural standards and ideals, which included a constitution and elected tribal council members from various districts around the reservation (Puisto 2002:52). While serious issues were associated with the Indian Reorganization Act, Smith (1998:310) writes, “from this point on, the tribes gradually began reasserting their sovereignty, often to the consternation of Whites who had become accustomed to considering the Flathead a ‘formal reservation.’” The IRA also helped tribes reduce their dependency of government welfare (Puisto 2002:52).

Conclusion

The political economy of the Salish, Pend d’Oreille, and Kootenai peoples changed drastically during the 19th and early 20th centuries. For centuries, the Salish, Pend d’Oreille, and Kootenai subsisted on a diet from hunting and gathering. Native peoples were introduced to and accepted European items such as guns and knives but largely did not enter in a market economy. After the formation of the Flathead Reservation, the Bureau of Indian Affairs attempted to control virtually all aspects of Native life including their economic and cultural way of life. Tribal peoples prospered on the Flathead Reservation from 1855 to 1903 both in their agriculture and in stock
raising pursuits. An attempt to assimilate Native peoples into mainstream America, the Federal Government introduced the concept of private land ownership through the implementation of the General Allotment Act. However, instead of improving tribal economics, Native peoples were poorer and more dependent upon the Federal Government.

After the Flathead Reservation was allotted, nearly 410,000 acres of the best agricultural land on the Flathead Reservation “opened” for white settlement (Smith 1998:309) between 1910 and 1929 with the bulk of land transferring out of Native control between 1910 and 1915 (Trosper 1974). By the 1930s, one third of Native peoples had lost their land, another third lived on land suitable only for grazing purposes, and the last third was living on a wage income. Hunting and gathering became more difficult as more whites entered Montana and fences blocked access to traditional sites. In addition, conflicts arose and presently continue between the tribal government and the State of Montana regarding hunting and fishing treaty rights (see Fahey 1974; Krigbaum 1997). The following chapter examines the traditional health practices and beliefs of the Plateau peoples.
Chapter 4

Traditional Plateau Native Medical Beliefs and Practices

Introduction

Plateau peoples had complex and diverse medical traditions concerning health and illness. Oral history, stories, and experience conveyed to Native peoples the importance of following strict guidelines regarding their relationship between themselves, members in the community, and the spirit world, believing illness could develop from taking those relationships lightly. Medical treatments predated European contact but also developed as Plateau peoples “adapted to the environment, economic, and political changes wrought by Europeans” (Waldram et al. 2006:126). The first half of this chapter explores Plateau peoples’ traditional theories of disease causation, spiritual power, medical practitioners, and treatment approaches. The second half of this chapter explores health and demographic conditions of Plateau people before European contact.

Curing, Healing and Illness

Medical anthropologists have delineated between the terms curing, healing, and illness. James Waldram (2000:604) defines curing as a “primarily biological process that emphasizes the removal of pathology or the repairing of physiological malfunctions, that is disease.” Healing on the other hand, “refers to a broader psychosocial process of repairing the affective, social, and spiritual dimensions of ill health or illness” (Waldram 2000:604). Thus it is possible for one to be healed without being cured and for an individual to be cured without being healed.

While terms such as illness and sickness are often used interchangeably, medical anthropologists have studied how these terms differ in meaning as well. Sickness is the “social
manifestations of the body’s physical reaction to a disease” such as fever, pain, or rashes (Erickson 2005:9). Illness refers to a patient’s experience of sickness. According to Singer and Baer (2007:65), illness “constitutes a cultural construction that can be identified only through interpretive activities or narratives. Illness is rooted in a culturally constituted explanatory model that seeks to clarify the source of distress and to outline a course of treatment to be pursued by both the healer and the patient.” Disease, on the other hand, is a biomedical measurable lesion “or an anatomical or psychological irregularity” (Sobo 2004:3). Frankenberg (1980:199) defined disease as a “biological or pathological state of the organism whether or not it is socially or culturally recognized, and whether or not the patient and his/her advisers, lay or professional, are aware of its existence.”

For Native peoples, medical systems were an integral part of their culture, in which they were developed, existed, and continued to evolve and cannot be understood apart “from the social, religious, economic, and political organization of the societies in which they are found” (Erickson 2008:5). The following is a short discussion on the importance of obtaining a guardian spirit, which is the foundation for both religion and medicine for Plateau people and the means by most healers, medicine men (and women) as well as shamans received power.

**Spiritual Power and Landscapes**

Plateau peoples believed in a Creator, known among various tribes as Old One, Ancient One, Father Mystery, or Old Chief (Cebula 2003). While the Creator was seen as “good” he was not a central figure in Plateau cosmology or prayed to for daily spiritual practices (Stern 1998). Instead, a complex cosmology of acquiring spirits and spiritual power formed the foundation of the Plateau peoples’ religious and medicine beliefs and practices (Cebula 2000:17). Spiritual power came from dreams, vision quests, songs, the sweat lodge, and ceremonial dances.
Among Plateau Native peoples, puberty was the time to initiate a relationship between themselves and the non-human world through vision quests. According to Ackerman (2003:56) by puberty most children had at least one successful vision quest as puberty ended the possibility of having a vision or acquiring a guardian spirit. Kelm (1998:87) writes that although contact with “non-humans was available to all people in most societies,” “the rigorous of the training depended on the spirit guides which the individual wished to contact.” Children traveled to traditional places of power within their cultural landscape such as cliffs, mountains and river valleys away from villages. For the Lilooet, the Stein River Valley offered the best place to train and to have dreams (Kelm 1998:87). For the Coeur d’Alene, the mountains served as the meeting place for the non-human and the human world. Lasso Stasso, a Kootenai medicine man received many of his powers from one particular cliff, near Flathead Lake in western Montana. Recalling that “All kinds of spirits are there: birds, animals, rocks, everything” (Malouf and White 1952:1).

To attract the attention of the spirits children fasted, prayed, and sang. Vision quests could last a few days to a week. If a child’s first quest was unsuccessful they might be sent several times until they were successful in attracting a guardian spirit. “For the Plateau individual, finding a guardian spirit was literally a quest for his identity and meaning in life” (Ackerman 2003:53). When a particular guardian spirit appeared to an individual (either in a vision or in person), it bestowed specific powers of endeavors such as hunting, gathering, or healing (Frey 2001:33). Instructions were also given to how enhance an individual’s powers. A story among the Salish tells of a boy who is admonished by Rabbit to take rabbit ears and wear them in battle promising that no weapon would ever touch him (Challenge to Survive 2008a). In this same story, Hawk shows the boy a weapon that would make him “victorious” and “brave warrior” (Challenge to Survive 2008a:58). Recipients also received a dream name, “reflective of a characteristic or actual name of
his or her associated animal spirit” (Frey 2001:33). The spirit also listed a set of taboos for the individual to follow or else the individual might lose their power. For example, a woman who had been given Salmon power might be restricted from touching live salmon (Cebula 2000:23).

Any spirit could become an individual’s guardian spirit and no spirit had preeminence over another (Forbes 1950). According to Ray (1941), spirits took the form of animals, insects, birds, rocks, lakes, water, mountains, trees, plants, whirlwinds, thunder, clouds, fire, and heavenly bodies though some spirits were more common than others. While all spirits were equally important and valued, spirits did not bestow equal amounts of power to individuals. For the Yakama, Sweat lodge was the most powerful guardian spirit, possessing the power to both protect the user and restore one to physical and spiritual purity (Schuster 1998:340). A person who obtained a particular powerful guardian spirit or more than one spirit might become a shaman although Ray (1939) reports that one could also inherit shamanistic power. A Kootenai medicine man described his first vision experience as: “Coyote spoke to me up there one night—the spirits come out there at night—he gave me a song. It is the song which contains the power. When I was older, 14 or 15 years of age, Fawn came to me and so did Deer. Deer gave me power to hunt better while Fawn gave me gambling power” (Malouf 1974:55).

Sometimes guardian spirits appeared to individuals unsolicited. One Kootenai medicine man recalled a time when he was walking in the mountains, alone with only his dogs.

We were walking along, and were passing stream…when I saw a bear swimming in the water. I was going to run away as I was scared, but he told me, ‘You stop, I want to talk to you.’ He told me he would make me smart…he made me a medicine man…Bear talk to me just this once. He gave me songs and power, but he never came to see me again. [Malouf and White 1952:2-3]

A Salish man told anthropologist Claude Schaeffer of another medicine man, who only as a young boy, was told by a bear that “he would be able to cure certain kinds of sicknesses” when he
was older (Challenge to Survive 2008a:62). This boy was not seeking a guardian spirit but was accompanying his grandmother on a fishing trip and briefly was separated from her. Such occurrences were rare though.

Individuals who had received guardian spirit power were recognized and celebrated by the community at the winter dances, as spirits were thought to be closer in the winter (Ray 1939). Winter dances lasted three or four days and finished by February. Cebula (2003:24) notes:

Participants danced their spirit dances and sang their spirit songs, people with related spirits danced together. Recipients were usually prohibited from naming their guardian directly, but it was easy enough to guess what animal a given dancer was imitating. The winter dance also featured shamanic performances power contests between rival shamans and much feasting and giving of gifts.

Guardian spirits were believed to help in times of need such as famine or drought. If a particular root or even salmon were not found, individuals who were known to have power associated with that root or salmon were asked to remedy the situation (Ackerman 2003:50).

**Plateau Theories of Disease Causation**

According to medical anthropologist George Foster (1983:17), every culture employs a form of a medical system, “the pattern of social institutions and cultural traditions that evolves from deliberate behavior to enhance health.” The Native people that lived on the Columbia Plateau were no different. Columbia Plateau Indians employed a complex medical system for curing illnesses that centered around shamanism and to a lesser extent, herbal specialists. Cultures also develop theories of disease causation that explain why people get ill (Erickson 2008:5). For Plateau people, diseases and illnesses resulted from moral transgressions, offensive behavior towards guardian spirits, and sorcery sent from malevolent shamans (Ray 1933; Schuster 1975). Ill individuals relied upon the knowledge and skill of healers and shamans, as they possessed the
ability to effectively remove diseases and illnesses from individuals. Depending on the diagnosis, medical treatments could involve the use of plants, the sweat lodge, and other community rituals and ceremonies to restore individuals to “good” health and balance.

Plateau peoples categorized the various kinds of illnesses as “natural illnesses” or “unnatural illnesses” (Ray 1939). Natural illnesses or afflictions resulting from physical trauma or afflictions considered “inevitable” were mostly cured by herbal doctors, who relied up their skill and knowledge of the medicinal properties of plants, roots, and trees to treat individuals. Physical trauma could include falling, wounds from conflict, and pregnancy and labor issues.

Unnatural illnesses, illness stemming from supernatural means, were more complicated in nature and for the Plateau peoples most often related to guardian spirits (Ray 1939:98). Ray (1939:98) further writes that serious illness resulted from the loss of the guardian spirit but proved “fatal only after prolonged abuse combined with consistent futility of shamanistic efforts to effect return.” These two categories were not mutually inclusive as natural illnesses could originate from supernatural means as well. Ill health could also stem from “sacred totems or other objects, moral transgressions, soul or spirit power loss; and the practice of sorcery or witchcraft, which was operational by intrusion of evil thoughts, evil eye, harm substances or malevolent spirit powers” (Schuster 1975:166).

The loss of one’s soul constituted the most serious of illness as the soul becomes temporarily detached from the body. The individual died if the soul is not retrieved in time (Ray 1939:100-101). Although most Plateau Native communities recognized soul loss as an illness, whether or not this is a curable illness varied among Plateau tribes (Ray 1939). Soul loss was usually considered fatal and beyond the curing ability of shamans although some tribes seem to have been able to cure soul loss (Ray 1941).
Shamans, Healers, and Medical Practices

Hultkrantz (1992) suggests that among Native peoples there are basic types of healers; herbalists, medicine men, and shamans which differ in their spiritual assistance needed for healing (Waldram et al. 2006:133). Herbalists “employ various botanical substances often in combination, with which they treat a wide variety of disorders” (Waldram et al. 2006:133). A medicine man denotes a person “who has supernatural sanction to make a person well and who follows supernatural dictates in his curing activities” (Hultkrantz 1992:18).

A shaman “is an individual with the ability to fall deep into a deep trance or ecstasy and understand spirit flight or summon spirits to counsel him” (Hultkrantz 1992:19). Shamanic powers geared towards locating lost items, predicting the future and curing illness. According to Singer and Baer (2007:109):

A shaman is a complex figure with multiplicity of roles. As a religious intermediary, the shaman visits the supernatural realm to petition favors, including the curing of diseases, as a diviner the shaman locates wild game for hunting or lost objects or diagnoses illnesses as a judge, the shaman determines when people have violated rules, such as having eaten taboo food, or expressed anger inappropriately…

A shaman could be male or female, as both sexes had equal access to the spirit world on the Plateau though women had more difficulties in becoming healers (Ackerman 1998). Male shamans were usually more numerous in most Plateau tribes with the exception of the Lower Chinook where female shamans numbered equally with male shamans (Ray 1939:93). Among Plateau peoples, young women were usually guarded and had few opportunities to gain the attention of a spirit. Young women could acquire an addition spirit or acquire their first guardian spirit during their first menses (Ackerman 2003:56) but after, during menses women were considered unclean and therefore undesirable to spirits. During menses women were isolated from the community and
were forbidden to do certain things. Some women were able to become healers after menopause “when the power of menstruation had passed” (Kelm 1998:88). These women were considered powerful. One Salish woman was promised “medicine power” to help women in childbirth after she had “passed middle age” when she was only seven years old (Challenge to Survive 2008b:68). She was also warned that she “must not try to do more” than her guardian spirit allowed her to or else “she would be responsible to sufferings and even to death.”

Messengers, usually relatives, called upon a shaman for curing when an individual had taken ill (Tro 1968:99). Shamans could also volunteer their services after visiting a patient. Among the Kootenai, a “newer” shaman’s powers were preferred for services as their power was perceived as stronger than older shamans (Turney-High 1941). The shaman usually never voluntarily went to a sick patient, even if the shaman knew of the illness beforehand but there were exceptions. Bob Adams, a tribal member on the Flathead Reservation recounted this experience:

When I was young I was living with my grandparents. My grandfather knew when someone was sick and he could go to him without having to be called. He just knew when someone needed him. He would be sitting in the cabin. We had no chairs, beds or tables in those cabins in those days, and we sat on the floor. He would get up and get this things and herbs together saying, ‘I have to go to (person’s name). He needs me.’ A few days later I talked to a man who had been treated by him and he had gone to him at some distance away without anyone telling him he was needed. The man got better. [Adams n.d.]

Shamans differed in powers according to strength and specialty. For example among the Nez Perce, Snake Hawk was superior to all snake powers, including Rattlesnake. Thus if an individual was thought to have a disease resulting from Rattlesnake power, the Snake Hawk shaman was called (Walker 1968:26-27).

Blanket shamans were the most powerful shamans among the Kootenai (Turney-High 1937). A blanket shaman would hang a blanket in a corner of their lodge which the shaman behind
the blanket would cure, find lost objects, or predict the future. Not all blanket shamans hung their blankets; some medicine men placed their blankets on the floor but the outcome was the same (Turney-High 1937).

Shamans arrived at the patient’s dwelling often dressed in some fashion suggesting the insignia of their office. While Kootenai and Salish medicine men and women did not dress different from other members of the community, Yakama medicine men arrived at a patient’s house wearing a bear’s claw necklace, a coyote or wolf headdress, and carrying a dewclaw rattle (Schuster 1975:172). Middle Columbia River Salishan shamans wore feathers and porcupine quill decorations (Miller 1998:260). Shamans would then ask for a pan of water. Water is used for both symbolic and practical purposes. Water works in “curing rites as an ablution, to render an evil force impotent and to cleanse one’s self of contact with sickness” (Schuster 1975:170). At first, the shaman smoked for a few moments. John Tom, a shaman of the Sanpoil, claimed pipe smoking helped “build him up strong” for the hard work to come (Ray 1954:204). The shaman then began to sing eliciting the help of their guardian spirits. To diagnosis an illness, shamans sometimes placed their hands on the body. For the Nez Perce, a powerful shaman did not need to touch the patient to find the source of the illness, but could “isolate” the illness by placing their hands slightly over the patient’s body (Walker 1968:27).

Upon discovery of the illness, the shaman described to the family how the patient became ill. Illnesses caused by the intrusion of foreign objects were common. Intrusive foreign objects lodged in an individual’s body were believed to have been sent by a malevolent individual or by another shaman (Cebula 2003:15). Intrusive objects could be physical in nature such as a strand of hair or an insect. The loss of a guardian spirit could also bring illness. Guardian spirits left
individuals because a shaman stole them, wandered away, or became offended due to mistreatment or neglect (Ray 1939:98).

After diagnosing and locating the site of the illness, shamans often used a “sucking tube” or placed their hands like a tube to draw (literally) the illness out of the patient. Salish medicine men “used a tube made from the tip end of a bison horn” (Schaeffer 1936:143). Objects recovered in the sucking tube might consist of small pieces of bone or tufts of hair. Objects were shown to the family and then thrown away, allowing the patient to recover (Frey 2001:47). The following is an example how shamans from the Nez Perce tribe might cure a patient:

Sucking shamans… usually used a small leaf funnel or a bone whistle as a sucking instrument. Shamans with power from Woodpecker merely extended their index finger and placed it on the spot under which the curse was thought to have been concentrated. The curse was then ritually withdrawn from the victim’s body much as a woodpecker withdraws a worm from a tree. [Walker 1968:67]

Shamans were in a unique position, as they were both healers as well as instigators of harm or illness. For this reason, shamans were both feared and respected. Yakama children were told not to “get in front of the Indian doctors; they’ll do something to you or take your power” (Schuster 1975:168). Alexander Ross noted of the Sinkaiietk Natives that all individuals avoided offending shamans “from a belief that they have the power of throwing, as they express it, their bad medicine at them, whether far or near, present or absent” (Ross 1986:286-287). Among many tribes, like the Sanpoil and Nespelem, shamans had more influence than chiefs (Ray 1954:200).

Feigning illness or seeking to test the powers of a shaman by a non-shaman usually was meant with powerful negative consequences. An informant of anthropologist Claude Schaeffer, related the following story.

An incident is told of a young Kutenai girl who scoffed repeatedly at the pagan ceremonials. In order to test the power of the shamans, she pretended to be ill and asked that the conjuring ceremony be held in her behalf. During the
performance the Supernaturals became aware of her deceit and informed her that she was not sick. However she continued to ask for aid until the Spirits became angry. They informed the girl, ‘You do not know what sickness is like. We will show you and if you then fail to ask for aid, your whole family will die. You are breaking all supernatural laws.’ The girl however failed to heed their warning. Soon after her grandmother died, then her father and in quick succession, her three brothers and two sisters. Only the girl and her mother were left. The former then asked that a performance be held, during which she asked forgiveness for her fault. [Schaeffer 1936:216]

Another incident is related where a shaman’s instructions during a dance were not followed. The shaman in charge of the dance asked the audience to remain serious and not laugh as he sung his medicine songs. “One young woman disobeyed his orders and began to laugh aloud. Immediately her jaw became dislocated. She was left in this condition until the next morning when the shaman set her jaw in place” (Schaeffer 1936:198).

If a shaman failed in curing and the individual died, the shaman could be blamed for the death, labeled inept of curing, and sometimes even put to death (Walker and Schuster 1998:499) however shamans usually knew ahead of time whether or not a person could be cured (Schaeffer 1936). Between the years 1837 and 1855, Boyd (1996:81) found 20 instances of “doctor killing” (a death of the shaman due to a failed curing) among the Upper Chinookans, Columbia River Sahaptins, and Cayuses. “Doctor killings” occurred in high numbers not only in time of epidemics, but in times of social tension and after severe or unusual diseases (Boyd 1984; 1996:80). Reverend Gustavus Hines recorded in his journal an instance where a father killed a female shaman for failing to cure his son.

There was sitting in the outskirts of the congregation an Indian woman who had been for many years, a doctress in the tribe, and who had just expended all her skill upon a patient, the only son of a man whose wigwam was not far distant, and for the recovery of whose son she had become responsible, by consenting to become his physician. All her efforts to remove the disease were unavailing, the father was doomed to see his son expire. Believing that the doctress had the power of preserving life or inflicting death according to her will, and that instead of curing she had killed his boy, he resolved upon
the most summary revenge. Leaving his dead son in the lodge, he broke into the congregation with a large butcher-knife in his hand, and rushing upon the now terrified doctress, seized her by her hair, and with one blow across her throat, laid her dead at his feet. [Boyd 1996b:81]

The most famous doctor killing on the Plateau was the massacre of Marcus Whitman’s family in 1847. Drury (1958:391) explains that as measles was a “white man’s disease as they thought, they expected Dr. Whitman to be able to cure all cases” and the “fact that the white people usually recovered, while the Indians did not, increased the resentment…” Hunn argues that a belief in “an excess of spiritual power leads to murderous power is a deep article of Plateau Indian faith. An Indian doctor with too much power eventually becomes a watay-lam, ‘one who kills people with power.’ So the Cayuses who killed Whitman acted in self-defense to prevent the final extermination of the Indians by his power” (Hunn 1990:40).

Herbal Medicine

One aspect of traditional medicine did not require the use of spiritual powers. Waldram (et al. 2006:133) writes that Native peoples “tended to possess a generic knowledge of medicinal plants and what amounted to ‘first aid’ techniques, and applied this knowledge when necessary.” Herbal cures, such as to cure coughs or rashes, were passed down from generation to generation and did not need any spiritual intervention to ensure the efficacy of the plant (Ackerman 2003:53) although plants were always treated with great respect. Among the Salish, most herbal doctors were women who also served as midwives and were particularly skilled in curing female troubles (Stubbs 1966:78).

Plateau Indians had knowledge and access to several hundred different types of plants and roots (Table 4.1). The Thompson used as many as 570 different plants for food and medicinal purposes. Herbal remedies included all parts of the plant such as the stem, bark, roots, flowers,
leaves, and fruit (Hunn et al. 1998:535). For example, the Thompson drank the sap of a birch tree for colds and coughs, ate the fruit of a blackhawthorn for general health, chewed the leaves of fleabane for a sore throat, and used a decoction from the inner bark of a peach leaf willow for pneumonia (Turner et al. 1990:44-45).

Hart (1974) working with Salish, Pend d’Oreille, and Kootenai informants in the 1970s found that elders could identify at least 71 plants used exclusively for medicinal purposes. Several plants, such as yarrow, had multiple uses. For example, the leaves of the yarrow plant were used to stop bleeding from wounds, tea for fevers and colds, and a wash for sores and other skin problems (Hart 1996:7-9). One informant told Hart that her uncle, who was 80, boiled the yarrow plant and rubbed the tea on his legs or anywhere that his body was aching. “And he is well. He is really old, but walks really well from using yarrow” (Hart 1996:9). Another popular plant was horsemint, used for fevers, pneumonia, and other respiratory ailments (Hart 1996:137). It was also used to increase milk for nursing mothers and dried as bundles and hung in a room for relief of colds (Hart 1974).

Specific herbal cures or remedies were often revealed in dreams or visions to individuals who later entered the healer profession. A Salish woman named Mary Finley, while camped at present day Bozeman Montana in the 1870s, dreamed that she should gather moss from a certain tree to help a woman in labor. After retrieving the moss, Mary took it, made a tea, and brought it to the woman who was almost dead. “The woman asked her ‘Well what do you want Mary?’ Mary said ‘I came to help you’. She tasted the medicine. It was just hot enough not to burn her mouth. She told the woman, ‘You take this and drink it up.’” Mary also rubbed the moss over the woman’s legs, back, and stomach and delivered the baby. From this point on, women routinely called upon her when
Table 4.1. Selected Plants and Treatments

<table>
<thead>
<tr>
<th>Scientific Name of Plant</th>
<th>Common Name</th>
<th>To Treat</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Achillea millefolium</em></td>
<td>Yarrow</td>
<td>cold, diarrhea, infertility</td>
</tr>
<tr>
<td><em>Arctostaphylos uva-ursi</em></td>
<td>kinnikinnick</td>
<td>colds, cough, tuberculosis</td>
</tr>
<tr>
<td><em>Berberis aquifolium</em></td>
<td>Oregon grape</td>
<td>eye medicine, blood tonic</td>
</tr>
<tr>
<td><em>Juniperus communis</em></td>
<td>Common juniper</td>
<td>colds, tuberculosis, fever, pneumonia, kidney ailments</td>
</tr>
<tr>
<td><em>Opopanax horridus</em></td>
<td>devil's club</td>
<td>tuberculosis, influenza</td>
</tr>
<tr>
<td><em>Salix spp.</em></td>
<td>Willows</td>
<td>cough, colds, cuts, wounds</td>
</tr>
<tr>
<td><em>Urtica dioica</em></td>
<td>Stinging nettle</td>
<td>rheumatic pain, used in sweathouse</td>
</tr>
<tr>
<td><em>Ceanothus veluntius</em></td>
<td>Snowbrush</td>
<td>Cancer</td>
</tr>
<tr>
<td><em>Smilacina racemosa</em></td>
<td>False Solomon’s seal</td>
<td>Cancer</td>
</tr>
<tr>
<td><em>Anaphalis margaritacea</em></td>
<td>Pearly everlasting</td>
<td>rheumatic fever</td>
</tr>
<tr>
<td><em>Acer circinatum</em></td>
<td>Vine maple</td>
<td>Dysentery</td>
</tr>
<tr>
<td><em>Artemistia frigida</em></td>
<td>Pasture</td>
<td>venereal disease</td>
</tr>
<tr>
<td></td>
<td>wormwood</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Hunn et al. 1998:536-537; Turner et al. 1990:46-49
they were in labor (Stubbs 1966:77). In addition to dreams or visions, individuals learned herbal remedies from older members of the community and knowledge passed down through families.

The use of plants involved not only an extensive knowledge of medicinal properties but of botanical pharmacology. Herbal doctors knew what plants to use for specific ailments, how to properly harvest and prepare, administer, and store the plants (Lux 2001:81). Healers made medicinal plants into a tea until it “tasted right,” “looked right” and “smelled right” (Stubbs 1966:80).

Improper dosage and administration could easily lead to death. For example, while water hemlock has some medicinal properties, if not carefully used can lead to poison and death. According to Adeline Mathias and Alex Left-Hand:

> It is used as medicine if you use it right. If you don’t, it’ll kill you. They say you take a little bit of the root and make a tea. When you take a half cup of it you also take a quart or a half gallon of warm water and down the whole works and then heave it all up. You can’t keep just the tea in you. You got to drink something that will make you throw up right now. It has something to do with your insides. For headache you put some of the roots in a rag and start smelling it. Just the smell gets in there and goes all over. …I know of an old lady that gave me some of that root. It was powered up like salt. Somehow it got into the food or something, I almost died on New Year’s Day. I was out. Later they knew what caused it. It was this root. [Hart 1996:140]

Plants possessed an ability to influence the lives of individuals and were treated with respect (Hunn et al. 1998). Among the Salish, only individuals who had a particular dream about a plant and its’ uses were allowed to use specific plants for specific reasons. Others could not use the particular medicine without permission (Stubbs 1966). In addition, some plants were more “sensitive” than others. For example, the Okanagan-Colville took great care in collecting Devil’s Club as it is believed to lose its’ medicinal effectiveness if a shadow of another individual passed over it (Turner et al. 1980:150). The Kootenai believe that any disrespect to the spirit world ends badly; it is simply bad luck to treat plants without respect (Kootenai Culture Committee 1997).
addition, plants used for their medicinal purposes gathered in a careless manner or in a casual way, lose their ability to heal (Hunn et al. 1998).

There is some evidence that Native peoples in general had skills in bone setting and surgery including Natives that lived in the Plateau cultural area (Boyd and Gregory 2007). A physician among the Nez Perce in the 19th century recorded, “in surgery the medicine men are quite expert, and I seen results in several instances of their treatment of fractures and removals of tumors which would have done credit to the most skillful of our profession” (Gaillard 1871:602). “Typically fractures and bones were set and splinted with wood, or tightly wrapped with reeds or other firm but flexible materials” (Waldram et al. 2006:144). Waldram (et al. 2006:144) also comment that the “palaeopathological record demonstrates that many times these wounds healed effectively, although the record also suggest that limping or impaired function, combined with some degree of pain, likely plagued some individuals subsequent to injury.”

Sweat Lodges

While tribal use may have varied slightly, the sweat lodge was commonly used among all Plateau groups. Sweat lodges “purified bodies” before a vision quest, cured specific ailments, and were considered therapeutic in general (Kelm 1998:98). Hemispherical in shape, sweat lodge structures ranged from five to eight feet in diameter made from a frame of willow branches and covered with fir boughs (Ray 1954:55). Rocks heated by a fire were placed within the sweat lodge and used to create steam that purified as water was poured over the rocks. Plants, like juniper or yarrow, were often used for their aromatic quality as a vapor for respiratory problems or fever (Hunn et al. 1998:535). Individuals would remain within the sweat lodge for a short period of time, before jumping into a nearby creek and re-entering the sweat lodge.
Sweat lodges promoted both physical and spiritual health. “The heat and the darkness of the sweat-house produced ‘altered states of consciousness’ but also stimulated healing mechanisms within the body itself and released healing chemicals from the plant products that were brought into the sweat-house for therapeutic use” (Kelm 1998:98). Some scholars have suggested that the sweat lodge has a “sedative effect” and the high temperatures produced in the sweat lodge “mimics the body during a fever, which may stimulate the body’s natural reactions to toxins” (Waldram et al. 2006:141). Besides healing, the sweat lodge could be used “relax individuals after long periods of physical exertion, such as those associated with hunting and war” (Walker 1966:141). An elderly tribal informant of Deward Walker Jr., explained that he could “run miles with little effort after a long period of hot water bathing” (Walker 1966:141). The sweat lodge was also used by women after menstruation and parturition.

The use of the sweat lodge and the plunge into cold water appears to have been one of the major recognized cures for all aboriginal diseases (Taylor 1982). One Coeur d’Alene elder explained to anthropologist Rodney Frey that when smallpox entered into the villages, tribal members immediately went into the sweat lodge and bathed in Lake Coeur d’Alene. The reaction to smallpox was not “to flee into the plains, or flee into the mountains,” but “to seek their medicine powers” in the banks and waters of the lake Coeur d’Alene “where they all went to save themselves…Because that’s where the T’upye’s [grandmothers] had washed their babies…Part of our suumesh is in the lake” (Frey 2001:162). The use of the sweat lodge was also observed by European observers during the 1847 measles epidemic among the Cayuse which “almost always resulted in death” (Drury 1937:391). Taylor (1982) hypothesizes the vapor bath portion of the sweatlodge might have been effective in curing European infectious diseases if it had not been followed by the plunge into cold water. “With the high body temperatures accompanying high
order infectious exaggerated by the high temperatures within the sweat lodge, this plunge appears to have induced hypothermia, a physiological shock reaction which can terminate in cardiac arrest” (Taylor 1982:5). Despite continual failure of the sweat lodge for infectious diseases, Native peoples kept using this treatment until missionaries taught the people to instead keep still and wrapped in blankets (Teit 1927).

**Health Conditions of Plateau Peoples Before Contact**

The general health conditions of Plateau peoples in the absence of early European infectious diseases appear to be “good” as far as early explorers and fur traders observed. Clark recorded in 1805 that, “the Natives of the waters of the Columbia appear healthy” although he did also note “tumors on different parts of their bodies, and Sore and weak Eyes are common, many have lost their Sight entirely…They have bad teeth…Swelled legs and thighs” (Boyd and Gregory 2007:57). David Thompson recorded in July of 1811 in the Wenatchee area:

> Tho’ at present poor in provisions, they [the Indians] were all in good health, and except for the infirmities of old age, we have not seen a sick person, partly from using much vegetable food, and partly from a fine dry temperate climate…like all the other Tribes…they were as clean as people can be without the use of soap. [Glover 1962:52]

Ross Cox (1832:125) noted of the Salish in 1814, “The Flatheads are a healthy tribe, and subject to few diseases.” Samuel Black a fur trader at Fort Nez Perces recorded in 1829, “The Indians live to a good old age 50 to 60 & older, some very old but can give no account of the Number of Winters they have seen nor have the whites been long enough in the country to form for such calculations” (Boyd 1998:48).

While European infectious diseases were absent from the Plateau before European contact, several diseases did exist. Table 4.2 list diseases that effected Native peoples before European
contact. Boyd and Gregory (2007) report from the osteological records of the Alfred W. Bowers Laboratory at the University of Idaho that periostitis, osteomyelitis, and arthritis were found in the number of skeletons of Plateau peoples.

Conflict exists over the extent that treponemal diseases existed among Native peoples before European contact (Newman 1976; Merbs 1992, Powell and Cook 2005). The form of treponemal disease present in the Americas before European contact was probably nonvenereal (Baker and Armelagos 1988; Curtin 2005). Several cases of skeletons in the Bowers collection “show periostitis of long bone shafts an important diagnostic of American treponematosis. If it occurred in the Plateau, treponematosis was probably non-venereal, and concentrated among children” (Boyd and Gregory 2007:57). Although syphilis (venereal) was probably transmitted at trading posts throughout the Northwest and Plains cultural areas, it is not reported as a major health problem for Plateau peoples before reservations (Boyd and Gregory 2007:57; Boyd 1999).

Controversy also exists as to the extent of tuberculosis in the Americas before European contact. Scrofula is not recorded as occurring before European contact on the Plateau but some forms of spinal and pulmonary tuberculosis may have been present. Evidence of Pott’s disease and pulmonary tuberculosis were found in the skeletons in Bowers series (Boyd and Gregory 2007:57). In addition, early cases of tuberculosis were noted among the Nez Perce in the 1830 and 1840s (Boyd 1998). Asa Smith, a missionary among the Nez Perce wrote, “Pulmonary difficulties are much more common in this region than I had supposed. Out of three deaths which occurred here last summer, two of them were occasioned by pulmonary affliction” (Drury 1958:137).
### Table 4.2. Interhemispheric Exchange of Diseases

<table>
<thead>
<tr>
<th>Native American Diseases</th>
<th>Disease Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmonella and other food poisons</td>
<td>Smallpox</td>
</tr>
<tr>
<td>Fungal diseases</td>
<td>Malaria</td>
</tr>
<tr>
<td>Shigellosis</td>
<td>Viral influenza</td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td>Measles</td>
</tr>
<tr>
<td>Encephalitis</td>
<td>Yellow Fever</td>
</tr>
<tr>
<td>Diseases caused by intestinal parasites, tapeworms, roundworms, pinworms</td>
<td>Cholera</td>
</tr>
<tr>
<td>Hepatitis</td>
<td>Pertussis (Whooping cough)</td>
</tr>
<tr>
<td>Pinta</td>
<td>Diphtheria</td>
</tr>
<tr>
<td>Rheumatoid arthritis</td>
<td>Polio</td>
</tr>
<tr>
<td>Bartonellosis</td>
<td>Trachoma</td>
</tr>
<tr>
<td>Tuberculosis?</td>
<td>Hookworm</td>
</tr>
<tr>
<td>Viral pneumonia</td>
<td>Chickenpox</td>
</tr>
<tr>
<td>Nonvenereal syphilis</td>
<td>Typhoid Fever</td>
</tr>
</tbody>
</table>

Source: Boyd 1999:15
Starvation was always a threat but more likely to occur during winter. Direct evidence of starvation and famine do not exist in the osteological record of Plateau peoples but are present in oral histories. The Kootenai attributed famines to be the result of supernatural power because they were so rare (Brunton 1998). Anastasio (1955) points out that famines on the Plateau were rare but by late winter and early spring food rations ran low. Boyd (1985:327) agrees, “the seasonally and cyclical nature of wild food abundance dictated that there be periods when food supplies were not sufficient.” Boyd and Gregory (2007:49) further argue:

Famine and starvation are ubiquitous themes in Plateau oral history, and the lean season of later winter/early spring (March-April) is commonly noted in the Hudson’s Bay fort journals as a difficult time for Indian peoples. The myths and tales attribute these bad times to three causes: especially severe weather, failure of a staple food source, or failure to lay in enough supplies to last the winter.

According to Dirks (1980:24), previous experience with bouts of famine boosts subsequent resistance to starvation. Females withstand starvation longer than males but children are at disadvantage in times of famine due to their high protein needs for growth and development.

Nursing infants usually are spared disease in early stages of famine, but later on lactation is liable to decrease or cease entirely, leaving them no longer protected. Infant risk is increased in other ways. Undernutrition interferes with prenatal development, raising chances of mortality, and poorly nourished women typically endure prolonged birth labor, which increases the hazard for both mother and infant. [Dirks 1980:24]

Armelagos (1980:33) adds famines significantly effects fertility as well. “Nutritional deficiencies may increase the effects of postpartum amenorrhea, depress fertility, delay menarche, and decrease the period of fecundity.”

Nomadism may also have affected the fertility patterns of Plateau peoples. To obtain all the calories needed for survival, Plateau peoples often moved from place to place, hunting and gathering as they traveled their “annual round.” A nomadic lifestyle of Plateau peoples led to a
healthy lifestyle yet had devastating effects for certain segments of the population. Missionary Henry Spalding (1839:231) wrote of the Nez Perce in 1839:

This mode of living I consider destructive to life. Many births are premature from the hardships the women are exposed to from being constantly on the horse or under the burdensome packs…A great proportion of the children die within the first four days from violence done by them by hard traveling, heart of the sun beating upon their bare heads and exposedness to cold, or from want of nourishment.

Robert Boyd (1985) estimates that nomadism may have contributed to infant mortality as high as 50 percent.

The presence of rheumatoid arthritis in Native populations before European contact is another disease that is contentious among scholars. “Rheumatoid arthritis (RA) is characterized by inflammation of appendicular joints, especially the hands and feet” and “usually manifests itself symmetrically on both sides of the body” (Bridges 1992:68). While the etiology of RA is unknown, “a number of factors (including allergies, diet, hormonal influences, genetic predisposition, infections, stress, and autoimmune reactions) have been implicated” (Bridges 1992:68). Some scholars have suggested that RA might have originated in the Americans and then spread to Europe after contact. Bridges (1992:84) argues “The RA-like disease seen in pre-Columbian America may not have been true RA, but may instead have been caused or triggered by an infective agent. A variety of bacterial, viral, and even parasitic diseases have been known to cause rheumatoid symptoms.” In any case, Native peoples were familiar with the conditions of rheumatoid arthritis and some tribes are reported to have medical skills in curing this disease (Moody 1912).

**Demographic and Population Changes to 1860**

Demographic estimates of Plateau populations before European contact are difficult and problematic. Boyd (1998) using a conservative mortality rate of 40 percent from two consecutive
smallpox epidemics (epidemics occurring around 1777-1782 and 1800/1) argues before the arrival of Lewis and Clark, Plateau Natives numbered around 87,000. Using Dobyn’s (1966) depopulation ratio and the 1890 nadir population of 18,751, the pre-contact Aboriginal Plateau population more than doubles to 187,510 individuals (Boyd and Gregory 2007). While difficult to estimate, Aboriginal Plateau populations probably ranged somewhere between 87,000 and 187,510 individuals.

The first unofficial census of Plateau people were recorded by Lewis and Clark in 1805. Table 4.3 represents the estimated number of tribal populations by Lewis and Clark along with Boyd’s recalculated numbers. The differences between the two versions represent seasonal differences and movements of Plateau Natives, the first version a count of winter villages and the second version represents the later salmon season concentrations (Boyd 1998:470). Lewis and Clark’s estimates of Plateau peoples totaled 35,820 and Boyd’s recalculation with additional sources totaled 40,560. Boyd and Gregory (2007:41) further point out that while this “appears to be a comprehensive survey of Columbia Plateau peoples, it may not in fact be so. The explorers themselves acknowledge a possible omission of peoples inhabiting the interior of some tributaries (at least for the Lower Columbia)...”

The Hudson Bay Company records of 1827-1830 (Table 4.4) offer perhaps one of the best estimates for population numbers at this time but the census only refers to tribes that often visited trading posts. The census is also useful as it gives a description of the number of children also present in the tribes. It is difficult to ascertain the amount of population change from Lewis and Clark’s first estimate as the Hudson Bay Censuses while useful are not full censuses of the entire bands within the tribes. Sex ratios reveal that most tribes had a paucity of males except in the Okanagan, Sanpoil, and Coeur d’Alene. Although the Hudson Bay records are not completely
Table 4.3. Lewis and Clark Population Estimates (Select Groups)

<table>
<thead>
<tr>
<th>Tribe</th>
<th>Lewis and Clark 1805</th>
<th>Boyd’s Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nez Perce</td>
<td>6,338</td>
<td>4,627</td>
</tr>
<tr>
<td>Salish, Pend d’Oreille,</td>
<td>1,430</td>
<td>2,705</td>
</tr>
<tr>
<td>Kalispel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Okanagan</td>
<td>2,500</td>
<td>4,361</td>
</tr>
<tr>
<td>Columbia Salishans</td>
<td>1,200</td>
<td>3,200</td>
</tr>
<tr>
<td>Northwest Sahaptin</td>
<td>6,880</td>
<td>6,800</td>
</tr>
<tr>
<td>Middle Spokane</td>
<td>600</td>
<td>1,697</td>
</tr>
<tr>
<td>Cayuse</td>
<td>250</td>
<td>438</td>
</tr>
<tr>
<td>Coeur d’Alene and</td>
<td>2,000</td>
<td>1,067</td>
</tr>
<tr>
<td>Upper Spokane</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Boyd 1998:469-470
### Table 4.4. Hudson Bay 1827-1830 Censuses (Select Tribes)

<table>
<thead>
<tr>
<th>Tribe</th>
<th>Population Total</th>
<th>Adult Sex Ratios, per 100</th>
<th>Child Sex Ratios, per 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salish (Flathead)</td>
<td>663</td>
<td>83</td>
<td>97</td>
</tr>
<tr>
<td>Kootenai</td>
<td>630</td>
<td>85</td>
<td>103</td>
</tr>
<tr>
<td>Colville</td>
<td>479</td>
<td>88</td>
<td>75</td>
</tr>
<tr>
<td>Okanagan</td>
<td>647</td>
<td>112</td>
<td>93</td>
</tr>
<tr>
<td>Sanpoil</td>
<td>385</td>
<td>117</td>
<td>102</td>
</tr>
<tr>
<td>Spokane</td>
<td>704</td>
<td>92</td>
<td>85</td>
</tr>
<tr>
<td>Nez Perce</td>
<td>1450</td>
<td>89</td>
<td>98</td>
</tr>
<tr>
<td>Coeur d’Alene</td>
<td>404</td>
<td>140</td>
<td>80</td>
</tr>
<tr>
<td>Upper Pend d’Oreille</td>
<td>1993</td>
<td>88</td>
<td>98</td>
</tr>
</tbody>
</table>

*Source: Boyd and Gregory 2007:45*
accurate it is apparent the continual decrease of population loss or low population growth resulted from continual disease epidemics.

By 1860, Plateau populations hovered somewhere between 20,000 and 25,000 individuals, a net loss of almost 67,000 individuals between Boyd’s most conservative estimates from pre-contact Plateau populations. Unfortunately, disease, wars, and effects of the reservation would continually keep populations from rebounding in the 19th century. Plateau populations leveled out in the 20th century and reached 20,747 individuals in 1930 (Boyd 1998).

**Conclusion**

This chapter gave a general overview of the healing traditions of Plateau Natives. Traditional healing practices were complex and met the health concerns that Plateau peoples had. Many of the traditional medicine practices continued under the assimilation policies of the United States although Native peoples were persecuted and punished for their religious and cultural beliefs. The following chapter examines the Federal Government’s health policies and how the two medical systems played out on the Flathead Reservation during the early part of the 20th century.
Chapter 5

Politics and Healthcare on the Flathead Reservation to 1935

According to Pearson (2001:18) “the history of imperial medicine and American Indians is a story of politicians, and physicians, federal policies, the military, Christian missionaries, economics, diseases and American Indians.” Pearson also adds that the “history of imperial medicine in the United States is also a history of American Indians and their response to the practices of western medicine, the diseases of contact, and indigenous health care practices and beliefs.” The first part of this chapter offers a brief history of the administration aspect of the Bureau of Indian Affairs and medicine. The second half of the chapter explores the health conditions on the Flathead Reservation from 1870 through the 1930s.

Colonial Medicine

The Federal Government has provided health care to Native peoples “both as a treaty obligation and as a consequence of its role as trustee” since the 19th century (Kunitz 1996:1464). In 1819, the Civilization Act was enacted “for the purpose of providing against the further decline and final extinction of the Indian tribes,” to provide “funds for education and such other duties as may be enjoined to protect” and to “preserve the Indians adjoining the frontier settlements of the United States” (DeJong 2008:2). The “civilization fund” was administered by the Superintendent of Indian Trade until 1824 when the funds were distributed by the Bureau of Indian Affairs, under the discretion of the Secretary of War (Raup 1955:1).

The U.S. government also provided health care as a tool of diplomacy between tribal governments and itself. President Thomas Jefferson authorized smallpox vaccinations for the
Lewis and Clark expedition and it became standard practice to vaccinate all Native emissaries that visited Washington D.C. (Pearson 2001). Following the Lewis and Clark expedition, “other federal expeditions into the western United States carried smallpox vaccine as a diplomatic tool with which to impress American Indians” and give an impression to Native people that they could control smallpox (Pearson 2001:81).

In 1832, Congress appropriated $12,000 to fund and distribute smallpox vaccinations. Reports indicate that while some Native groups accepted smallpox vaccinations, the majority of Native peoples resisted and refused vaccination (DeJong 2008). DeJong (2008) reports for the meager appropriations, at least 10,000 Native peoples were vaccinated by 1833. However, early vaccination efforts did not prevent later smallpox epidemics that killed an estimated 17,200 Native peoples in the Northwest alone (Raup 1955:1).

The Bureau of Indian Affairs was transferred from the War Department to the Department of the Interior in 1849. Raup (1955:2) writes that while this transfer “stimulated the extension of physicians’ service” and greatly expanded the physician positions available to Native peoples that at any time “during the 19th century were there nearly enough doctors to meet overall needs.” In 1877, the Bureau of Indian Affairs medical services were placed under the Civilization Division, which assumed responsibility for examining monthly reports and distributing medical supplies to the agencies (DeJong 2008:7).

By 1900, the health of Native peoples was at a critical state even though this was not readily recognized by the Office of Indian Affairs. Infectious diseases, such as tuberculosis, smallpox, typhoid fever, and cholera, continued to afflict Native populations at increasing rates although these diseases were decreasing in the general population. The Office of Indian Affairs (OIA) began to build hospitals and by 1900, at least five hospital facilities were operational but
were rarely utilized by Native people due to cultural and medical beliefs (DeJong 2008). Besides differing cultural beliefs of health and medicine, Native peoples had good reason to avoid OIA hospital facilities and medical personnel. William J. McConnell, an Interior Department Indian Inspector, wrote to Interior Secretary Ethan Allen Hitchcock in 1899 that the United States had declared war on Spain because of its “abuses” imposed on the Cubans… “Yet”, McConnell pointed out “upon every one of our Indian Reservations in the Northwest there are conditions as bad or worse than any which are exposed in Cuba” (DeJong 2008:12). Citing the medical care that Native peoples received, McConnell noted that OIA doctors were usually “ill-trained, uninterested, and generally incompetent” (Prucha 1986:289).

The U.S. Federal Government began to conduct investigations of health conditions on reservations, such as the Indian Health Survey of 1903 and the Public Health Service Study of 1912 (DeJong 2008). The Public Health Service Study of 1912 study found that at least 10 percent of the Native peoples examined had tuberculosis, 22.7 percent suffered from trachoma, and that Native peoples had a 10.4 percent mortality rate, three times higher than whites (Hancock 2006:18). As a result, “Congress began to make separate appropriations ‘to relieve distress among the Indians and to provide for their care and for the prevention and treatment of tuberculosis, trachoma, smallpox, and other contagious and infectious diseases’” (Prucha 1986:290). The first appropriation for the fiscal year 1911 was $40,000. Congress subsequently increased the appropriation for Indian health each year.

Although such early reports should have moved the Indian Health Service to action to prevent the further spread of disease, it did not. Benson (1994) argues that government policies, such as the Dawes Act, motivated more action on the part of the Indian Health Service to pay attention to Native health. “The increasingly close contact between the two groups meant that
American Indians afflicted with infectious diseases represented a threat not just to members of their own community but to neighboring whites as well” (Benson 1994:13). Commissioner of Indian Affairs Francis Leupp noted in 1908 (Annual Reports 1908:24) “confronted by the urgent necessity of doing more than has ever been done before in the way of protecting the Indians against the ravages of the disease, not only for their own sakes, but because the infected Indian community becomes a peril to every white community near it.” Similarly, Commissioner Cato Sells wrote in 1914 that “the opening of many Indian reservations for settlement by white men has made the health problems more pronounced in the districts where the white settlers have continual contact with Indians” (Annual Report 1914:12).

With a bigger congressional appropriation, Commissioner Cato Sells “stressed educational measures to prevent disease” and pushed for “better sanitary conditions in Indian homes, better ventilation, and sufficient nourishing food” (Prucha 1984:291). Specifically focusing on the health care needs of Native peoples, Sells dramatically increased the number of hospital facilities and medical personnel positions. While only five hospitals existed in 1900, 87 were operational by 1918. Physician positions increased from 83 to 196 while nurse and matron personnel positions increased three times from 27 to 99 and from 21 to 87 (DeJong 2008:12).

Any improvements in the OIA health service were halted by the start of World War I (Prucha 1986; Putney 1980). Numerous physicians and nurses abandoned their positions in the OIA to enter military service seeking “one of the many lucrative positions which the wartime demand for medical personnel had opened up” (Benson 1994:23). At least 40 percent of all the physicians’ posts and nearly half of the nursing and matron positions were vacant after 1918 (Prucha 1986). Inflation caused another problem with Native health care during the war. As
Congress did not adjust its health budget to meet the demand of rising costs, “the OIA was forced to eliminate or reduce its purchases of medical equipment and supplies” (Benson 1994:24).

The administration of Indian policy continued to struggle in the 1920s after the war had ended. According to DeJong 2008:33, “the (presidential) election of 1920 brought a Republican-led downsizing of the Federal Government. Economy was the new buzzword, with Indian policy seeking to emancipate the Indians from government supervision and responsibility.”

The Snyder Act of 1921 authorized Congress to provide funds to Indian people for general support and civilization. “The Indian Service was now empowered to ‘direct, supervise, and expend such moneys as Congress may from time to time appropriate, for the benefit, care, and assistance of the Indians thought out the United States for the…relief of distress and conservation of health’” (Campbell 1987:14). In 1924, the Indian Bureau continued to seek to improve medical service with the creation of the Health Division. The Health Division specifically “attempted to increase the recruitment of physicians and nurses, build health facilities and place a greater emphasis on sanitation” (Campbell 1987:14).

Two important investigations in the 1920s called attention to the increasing health disparities of Native peoples. Commissioned by Charles Burke to investigate the health conditions of Native peoples, Florence Patterson of the Red Cross spent nine months at 13 different agencies in four different states and observed at least 40,000 Native people. This study, one of the first since the report of Public Health Service Study of 1912, found a high amount of infectious diseases present among Native peoples. Patterson’s report also revealed a lack of record keeping of vital and morbidity statistics. She estimated that only 10 percent of deaths and births were actually recorded. Physician’s records were also an issue since doctors maintained their own records and took their records with them if they left their positions (Putney 1980). Patterson’s report also revealed “an
indifference if not outright hostility towards preventive medicine,” poor diet, heavy work
schedules, and over-crowding which led to increased amounts of tuberculosis among school-aged
children in boarding schools (Prucha 1986:292). Although the Commissioner of Indian Affairs
Charles Burke had initially suggested to the Red Cross that this report be presented to Congress to
secure increased appropriations, instead Burke asked the Red Cross not to publish it (Putney

Another survey informative of overall Native people’s health conditions was the Meriam
Report published in 1928. The Meriam Report commissioned by Secretary of Interior, Hubert
Work in 1926, again exposed the deprivation and poverty of Americans Indians in the 20th century
as earlier surveys had done. The Meriam Report was a seven month investigation of over 95
reservations, agencies, hospitals, schools, and non-reservation Native communities. Exposing the
undesirable conditions in which many Native peoples were forced to live in, the Meriam Report
claimed “every activity undertaken by the national government for the promotion of the health of
the Indians is below a reasonable standard of efficiency” and that “the health work of the Indian
Service falls markedly below the standards maintained by the Public Health Service, the Veterans
Bureau, the Army and the Navy” (Meriam et al. 1928:259).

Supporting this claim, the Meriam Report found high mortality among Native peoples of all
ages. The general mortality rate among Native peoples was estimated 25.9 per 1,000. The general
infant mortality rate was estimated 190 per 1,000, higher than whites and African American infant
mortality rates. The leading causes of death were measles, respiratory diseases, pneumonia, and
tuberculosis. Children did not bring tuberculosis and other diseases from their communities, rather
children brought diseases home from government sponsored and supposedly clean facilities.
Researchers found that often Native children were placed in unsanitary classrooms, dormitories or
government schools and fed a daily 11-cent ration which rarely included milk or fresh vegetables (Gibson 1980:536). The Meriam Report also cited widespread poverty and malnutrition in Native communities. By 1928, most Native people lived on an annual income of 100 to 200 dollars while the average annual income for the United States was $1,350 (Gibson 1980:536).

As informative as the Meriam Report was, Putney (1980:329) argues that it still “failed to broaden the Indian office’s concept of the ‘Indian health problem’ to expose underlying political, economic, and cultural origins” or present appropriate solutions. Prucha (1986:279) further stated:

The Meriam Report was not a radical innovative document seeking to overturn existing policy. It was seeking, in fact, what commissioners of Indian affairs had been asking for since the beginning of the century; more money at once so that the process of preparing the Indian wards to enter American society at self-supporting, independent citizens could be efficiently speeded up and the Indian problem of the federal government dissolved.

John Collier, longtime critic of the OIA became the next Commissioner of Indian Affairs, replacing Charles Burke in 1930. In 1934, The Indian Reorganization Act (or the Johnson-O’Malley Act) passed and officially ended the Allotment Act of 1887. With the New Deal came a renewal from the U.S. administration of helping Native peoples improve their health conditions. According to Kunitz (1983:148) not only had the bureaucracy expanded its size, but the U.S. Federal Government “assumed an increasingly administrative rather than merely advisory role” over the health needs and conditions of Native peoples.

Kunitz (1996:1464) argues that during the 1930s, the Bureau of Indian Affairs was “unusually protective of Indian rights, so much so, indeed, that a number of western legislators attempted to have the Bureau of Indian Affairs abolished and its responsibilities moved to other federal agencies or levels of government. But Collier was adamant that all responsibility should remain with the bureau.” In 1936, it was suggested that health care be moved to the US Public
Health Service but this didn’t occur until 1954 because Collier fought it. Since 1955, Native mortality and life expectancy has improved dramatically.

**Health Care on the Flathead Reservation**

Indian Agent Peter Ronan reported in 1879, fourteen years after the first physician arrived on the Flathead Reservation “that the resident physician has the confidence and respect of the Indians. Medicine men are not known in these tribes and the doctor’s prescriptions and advice are generally carefully followed by patients” (Annual Report 1879:95). Early medical statistics suggest that Native peoples often visited the agency physician for treatment or allowed the physician to visit them for treatment (Annual Reports 1879-1894). In 1879, the agency physician recorded treating at least 977 individuals, nearly 62 percent of the total population (Annual Report 1879). While the Bureau may have viewed the increasing number of Native peoples who sought the Agency physician as a success, the Office of Indian Affairs was plagued by a number of shortcomings regarding the healthcare of Native peoples that persisted throughout the time period of this study. Shortcomings included the shortage of medicine and increasing cost of medicine, the shortage of qualified recruitments of physicians to the Flathead Reservation, and the cultural mistrust that Native peoples often felt towards agency physicians.

By the 1920s, the medical service for the Flathead Reservation include one full time physician, a part-time contract physician, and a field matron. The hospital building located at the Flathead Agency was described as a “one story frame structure, in excellent repair and could accommodate about 10 patients” (Krulish 1926). However the hospital was not being operated as a hospital but as living quarters for employees of the Office of Indian Affairs.
The part-time contract physician was located in Hot Springs, Montana about 40 miles from the Agency and served a population of about 500 (Krulish 1926). The physician at Hot Springs did not travel around the reservation and only saw patients that came to his office. He also ran a full-time clinic in addition to his contract with the Office of Indian Affairs.

In addition to obtaining physicians to help with providing Native peoples health care, a full-time field matron was stationed at the Flathead Reservation by 1930. Field matrons, a program established by the Office of Indian Affairs in the 1890s was specifically designed to assimilate Native women into mainstream America. Field matron duties included “visiting Native women, encouraging them to keep a clean house, maintain personal hygiene, prepare wholesome meals, learn to sew, do laundry, and care for the sick, as well as promoting their literary, religious, and moral improvement” (Trennert 2000:32). Although field matrons were instructed to help physicians in their efforts to care for Native peoples, field matrons usually had no or little medical training.

Missionaries also provided health care on and off the reservation for Native peoples. For the Bitterroot Salish, the OIA relied on the priests at the St. Mary’s Mission (until the Salish was moved to the Flathead Reservation in 1891) to provide the health care for the Salish and then later at the St. Ignatius Mission on the Flathead Reservation. In addition to clergy training, several priests had extensive medical backgrounds. For example, Father Anthony Ravalli’s medical work at the St. Mary’s Mission is said to have been “legendary.” According to Bigart (et al. 2005:13) Father Ravalli “grew medical herbs and flowers near the mission in a small garden with foot bridges, a sundial, and a small pond. His pharmacy building next to the mission was a community source for both European and Indian medicine and a temporary hospital.” Ravalli is also said to have incorporated traditional Salish medicine into his own practice (Bigart et al. 2005).
The Sisters of Providence, another group of missionaries that provided health care on the Flathead Reservation, was a women’s religious organization founded by Emilie Gamelin in the 1840s from Montreal, Quebec. The French-Canadian organization dedicated itself to “educating the young and providing care for the sick and elderly” (Savitt and Willms 2003:28). By 1864, the Sisters of Providence had established a school at the St. Ignatius Mission at the request of the Jesuit priests. The Sisters of Providence were known for their nursing abilities. Although the Sisters of Providence originally went to the St. Ignatius Mission, more were called from Montreal and sent to Missoula. According to Savitt and Willms (2003:30):

In the late 1860s, western Montana was an isolated region dominated by mining, lumbering, and milling activities and the St. Ignatius Mission lay far from major trade and transportation routes. The nearest settlement of any size was Missoula, forty five miles south across a mountain pass. Missoula was itself a raw settlement and only beginning to organize public services, including medical care. One factor hindering this effort was a lack of nurses or others willing to minister to recuperating patients. Western Montana residents needed a hospital that could provide medical and convalescent care. The presence of the Sisters of Providence at St. Ignatius offered a possible solution to Missoula County’s problem.

By 1890, the Sisters of Providence had helped established the St. Patrick’s Hospital, which remains one of Missoula’s main hospitals.

The Sisters of Providence provided health care for Native peoples at their small hospital as well as in people’s homes. The Sisters recorded in their annual narratives in 1918 that “Indians only come to the hospital to receive treatments. When they are very sick they request us to attend them in their homes. They prefer to keep their poor straw-beds in their hovel than to come to the hospital. It is too foreign to them. We visit them as often as we can and strive to give them all the help possible” (Sisters of Providence 1975:206). In additional to health care, Sisters also provided Native peoples with meals while they were ill.
By 1914, the Sisters opened the St. Julian’s Hospital (later changed to the Holy Family Hospital) near the Catholic Mission. The hospital was described in the late 1920s “an up-to-date institution with a capacity of thirty beds which is located at St. Ignatius, fifteen miles away from the agency… [This hospital] is adequate in every way for the needs of the Flathead Indians” (Fricks 1927). The Office of Indian Affairs contracted out hospital care to the Sisters of Providence. While little is written about the contract between the Office of Indian Affairs and the Sisters of Providence, Savitt and Willms (2003) write that the Sisters were somewhat aggressive and persistent to obtain and keep these contracts.

Several problems existed within the political and social structure of health care. The geography and size of the reservation made it difficult for Native peoples to have adequate access to western medicine. Indian Agent Peter Ronan noted in the 1870s the difficulty of the physician to get the Kootenai village. The physician was expected to treat a population of 2,000 over 1,900 square miles of the reservation and to “drive miles over poor reservation roads in all sorts of weather” (Krulish 1926).

Another major issue with the health care on the Flathead Reservation was the lack of sufficient funds. Prior to the 1930s, the Flathead Reservation received only a few thousand dollars a year for hospital needs although medical expenses were between $7,000 and $8,000 (Narrative Report 1930). In 1930, the Indian Agent reported “we have not been able to secure an appropriation sufficient to take care of this service…Doubtless the cost will grow greater each year to year” as more Native peoples went to the hospital for their health care needs (Narrative Report 1930). Although the U.S. government did not provide enough funds to cover the costs of hospitalization, the Sisters continued to treat Native peoples without permission or even promise of payment (Narrative Report 1929).
The following letter to the Sisters of Providence illustrates this continual problem.

A contract was executed with your institution under certain terms and fact with which you are familiar including the provision that the total compensation for hospital service shall not exceed 7,500 which is the total amount available. Payments are to be quarterly under this contract and a payment 2259 was made in November and another in January bring the total paid 4925, which is just a few dollars less than two thirds of the total amount which may not be exceeded for the entire year and only one half of the year gone…Therefore, when the $7,500 allotted and provided for in the contract has been exhausted, neither the superintendent nor this Office will have authority to make or authorize further expenditures. [Scattergood 1931, underline original]

In addition, the Sisters of Providence and the Agency physician were to obtain prior permission from the superintendent before admitting any Native to the hospital. “The matter of prior authorization is made a specific item of the contract” between the OIA and the Sisters of Providence (Scattergood 1931). Frequently, the health needs were immediate and health care providers did not have time to adhere to this guideline which unfortunately resulted in the hospital not receiving payment for healthcare given or sometimes the patient died while waiting for permission to get health care.

While the hospital was described as “adequate” or “well-equipped,” the hospital could not treat complicated cases due to the lack of medical expertise and equipment. Often Native peoples entered the hospital to only be removed to the hospital in Missoula, nearly 50 miles away. In a letter to the Bureau, Superintendent Shotwell (1935) illustrated this:

This Indian (name withheld) is enrolled and allotted on this reservation. She suffered a fractured jaw and it was necessary to take her to Missoula, Montana where an x-ray was taken of the jaw in order that a proper set could be taken. This case also required hospitalization, together with x-rays, amounts to $79.15. This allottee has no funds from which payment of this service could be made. She has been on relief, being an old Indian, and the services were authorized by the agency physician as there was no equipment available in the Holy Family Hospital for taking the necessary x-rays and to the set the fracture properly, she was taken to Missoula.
Sometimes Native peoples were then taken from the hospital in Missoula to the hospital in Spokane, Washington, nearly 200 miles away and about 185 miles from the Flathead Reservation.

Native peoples, who had become ‘fee-patent’ Natives, as their allotments had been taken out of trust status, were not eligible for health care at the hospital unless they paid for it. The Sisters of Providence charged by the 1930s, two dollars a day for children and three dollars a day for adults. Dr. Emil Krulish, medical director, brought out a complex issue of health care at the hospital on the Flathead Reservation.

About 60% of these people are patent-in-fee Indians, and as I understand it, have all the rights of a citizen. This brings up an important problems and that is the treatment of trachoma cases. There is no law compelling these Indians to take treatment, the hospital will not accept them as charity patients, the Government will not pay for their hospital care, and the Indian claims he has no money. Under the Montana state law children with trachoma can be excluded from school; if the authorities enforce this regulation, it is welcomed by the parents who do not want their children to attend school. If they do not, the parents of white children attending the same school try to force the issue. What is the answer? [Krulish 1926]

Many Native peoples who were fee-patent Natives could not afford medical care. The OIA had perfect knowledge of this as the Bureau controlled almost every aspect of Native life, including their money (Survey of Conditions 1929).

**Reservation Health Patterns 1860-1935**

After the 1860s, large scale disease epidemics were largely contained due to vaccination and quarantine methods, but small epidemics of smallpox and a multitude of other infectious diseases occurred regularly throughout Plateau groups.

In September of 1882, a small smallpox epidemic inflicted the Bitterroot Salish. A Helena newspaper suggested priests contracted smallpox in Missoula while visiting the “pest house” (Bigart et al. 2005:14). To combat a potential disastrous situation, Father D’Aste vaccinated the
Salish and encouraged tribal peoples to go hunting away from the Stevensville area although Father D’Aste recorded three deaths from this epidemic (Bigart et al. 2005:14).

In 1885, the Kootenai people experienced a fatal disease in early spring. Indian Agent Peter Ronan was unsure of the disease but described it as a sickness that “first visits the patient by severe pains in the body and stomach, followed by an eruption resembling chicken-pox” (Annual Report 1885:128). Father Peter Bandini (a priest at the St. Ignatius Mission) identified this disease as typhus fever. Typhus fever is a “rickettsial disease with variable onset; often sudden and marked by headache, chills, prostration, fever and general pain” (Heymann 2008:671). Typhus fever is transmitted and spread by the body louse, Pediculus humanus corporis, which feeds on the blood of the infected person (Heymann 2008:672). Infections typically occur in populations living in unsanitary, crowded conditions and outbreaks are often associated with wars, famines, floods and cold water (Barnes 2005).

Bandini while visiting the Kootenai described the dismal state of the Kootenai as follows:

Upon my arrival at the camp, those who were not sick plus those who could just make it to drag themselves along all came up to me to shake my hand, to bid me a good day (kissuk-kiukiit), and to thank me for having compassion for them. They all looked thoughtful and sad, yet quite submissive. Such was the effect of the pain that oppressed each one of them in addition to the thought of all of their beloved who had died during the preceding days…[Bigart and Woodcock 1981a:165]

Neither Bandini nor Ronan gave a specific data on the mortality of this epidemic, but Ronan in his annual report stated it had “carried many of them to their grave” (Annual Report 1885:128). Case-fatality for typhus fever ranges between 10 percent and 40 percent without treatment and increases with age. Mortality is common for older individuals and can reach 60 percent in individuals 60 years and older (Iowa 2004).
The winters of 1890-1892 are reported to have been harsh (Anastasio 1955) which resulted with several tribes on the Plains and Columbia Plateau suffering high mortality from influenza epidemics (Lux 2001). In 1890, the Umatilla Reservation reported 153 influenza cases, Warm Springs reported 111 cases and Yakama 141 cases (Annual Report 1890). The influenza epidemic was more severe the next year but the mortality remained low for most Plateau reservations. In 1891, agency physicians treated 82 influenza cases at Colville, 185 at Umatilla, 23 cases among the Nez Perce, and 56 cases among the Klamath (Annual Report 1891:400). This influenza epidemic reached the Flathead Reservation in 1892. The period prevalence for influenza that year was 13.32 per 1,000 (see Table 5.3). However in 1887, a period prevalence for influenza was recorded at 114.08 per 1,000 (See Table 5.2).

Measles occurred regularly on reservations and particularly at boarding schools for Native children. Boyd (1998) records measles epidemics among the Yakama and Umatilla tribes in 1874, among the Colville, Lilooet, and Klamath peoples in 1887, and among the Coeur d’Alene in 1889 (see Table 5.1). Measles struck the Flathead Reservation in March and April of 1896. According to Agent Carter, the children who contracted measles at the mission were well cared for and recovered. Measles killed 15 children not attending the mission school (Annual Report 1896). According to Table 5.4, it seems that measles increased in frequency on the Flathead Reservation during the early 1900s.
Table 5.1: Diseases and Epidemics Recorded on the Plateau, 1870-1901

<table>
<thead>
<tr>
<th>Disease</th>
<th>Year</th>
<th>Tribes Affected</th>
<th>Estimates of Cases/Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smallpox</td>
<td>1870</td>
<td>Coeur d’Alene</td>
<td>No estimate</td>
</tr>
<tr>
<td>Measles</td>
<td>1874</td>
<td>Yakama, Umatilla</td>
<td>100, “a good many children”</td>
</tr>
<tr>
<td>Whooping Cough</td>
<td>1883</td>
<td>Nez Perce</td>
<td>No estimate</td>
</tr>
<tr>
<td>Typhus Fever</td>
<td>1885</td>
<td>Kootenai</td>
<td>No estimate</td>
</tr>
<tr>
<td>Measles</td>
<td>1887/1888</td>
<td>Colville Agency, Lillooet, Klamath</td>
<td>95+</td>
</tr>
<tr>
<td>Influenza</td>
<td>1885/1887</td>
<td>Salish</td>
<td>No estimate</td>
</tr>
<tr>
<td>Measles</td>
<td>1889</td>
<td>Coeur d’Alene</td>
<td>Few deaths</td>
</tr>
<tr>
<td>Influenza</td>
<td>1890</td>
<td>Umatilla, Klamath, Warm Springs</td>
<td></td>
</tr>
<tr>
<td>Influenza</td>
<td>1891</td>
<td>Coeur d’Alene</td>
<td></td>
</tr>
<tr>
<td>Measles</td>
<td>1896</td>
<td>Flathead Reservation</td>
<td>At least 15 children died</td>
</tr>
<tr>
<td>Smallpox</td>
<td>1899-1901</td>
<td>Flathead Reservation, Colville,</td>
<td>At least 56 deaths</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yakama</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Boyd 1998:472-478
A smallpox scare in the winter of 1899 and 1900 resulted in quarantines on most reservations in the United States including the Flathead Reservation (Boyd 1998:478). Few deaths resulted due to the quarantine. However, the following spring (1901), a serious epidemic of smallpox broke out on the Flathead Reservation. Agent Smead reported at least 240 cases of smallpox with at least 30 deaths (Annual Report 1901). Agent Smead blamed mortality on resistance to the physician and efforts in quarantining. Smead (1901:260) reported that Natives “strongly opposed to being placed in quarantine” and gave the agent trouble in “getting them into the detention camps.” Father Augustine Dimier further explained:

The danger of the infection spreading is quite great so the government has sent a few huge tents which have been put up in a location separated from the tribe. Everyone who has smallpox is taken there. The necessary help and medicine is not lacking; there are assisting nurses and visits by the doctor. No one is allowed to enter except the Priest. [Bigart and Woodcock 1981b:275]

Smallpox also occurred in the winter of 1902 but did not result in any deaths (Annual Report 1902).

Following the smallpox epidemic, a diphtheria epidemic occurred among the Kootenai in March of 1901. Diphtheria is an acute bacteria disease involving the mucous membrane of the upper respiratory tract (Heymann 2008:195). Diphtheria is transmitted by direct contact with a carrier and by contact with articles soiled with discharges from lesions from an infected person. Case fatality is 5 to 10 percent even with treatment. Although this disease was not mentioned in the Annual Reports, the agency physician reported treating 12 individuals with five individuals all under the age of 5 that died (OIA Quarterly Sanitary Reports n.d.). Father Augustine Dimier also visited the Kootenai during this epidemic. “Their medicine man had prepared a medicine which, according to some Indian woman, was very good. This medicine let off a very pleasant smell which was taken by breathing it in through the mouth. This whole procedure only temporarily revived the
sick person. The medicine was a resin that they had extracted from trees” (Bigart and Woodcock 1981b:275). Father Dimier did not mention how many individuals that the medicine man had treated, but that five of the medicine man’s patients had also died.

The following Tables (5.2-5.4) summarize the epidemiological experience for the Salish, Pend d’Oreille, and Kootenai peoples from 1883 to 1894 and 1898 to 1907. The data was compiled from Quarterly Sanitary Reports and medical statistics summarized in the Annual Report to the Commissioner of Indian Affairs. Blank spaces in the table indicate that disease was not reported for that year.

Smallpox was a continual concern for public health officials on the reservation. The first mention of smallpox after the 1900 smallpox epidemic occurred in February 1912 although a smallpox epidemic occurred in 1908. The Indian Agent did not mention how many smallpox cases occurred, but according to the Quarterly Sanitary Reports, the physician reported treating 125 individuals (OIA Quarterly Sanitary Reports n.d.). This was the only death attributed to smallpox between 1910 and 1935. The Sisters of Providence wrote in 1912 “we have a great number afflicted with small-pox. As a precaution the Fathers asked all to be vaccinated. We and the children submitted to the necessity. Luckily in consequence none succumbed to the terrible disease” (Sisters of Providence 1975:183). In May, a whooping cough epidemic occurred among
Table 5.2: Period Prevalence per 1,000 for selected diseases among the Salish, Kootenai, and Pend d’Oreille, 1883-1889

<table>
<thead>
<tr>
<th>Disease</th>
<th>1883</th>
<th>1884</th>
<th>1885</th>
<th>1886</th>
<th>1887</th>
<th>1888</th>
<th>1889</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuberculosis</td>
<td>5.90</td>
<td>16.14</td>
<td>17.62</td>
<td>4.82</td>
<td>23.31</td>
<td>16.35</td>
<td>21.98</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>10.63</td>
<td>9.91</td>
<td></td>
<td></td>
<td>114.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza</td>
<td>20.08</td>
<td>11.53</td>
<td>18.72</td>
<td>20.83</td>
<td>15.36</td>
<td>16.35</td>
<td></td>
</tr>
<tr>
<td>Rheumatism</td>
<td>13.58</td>
<td>12.11</td>
<td>8.81</td>
<td>14.38</td>
<td>12.88</td>
<td>16.35</td>
<td></td>
</tr>
<tr>
<td>Gonorrhea and Syphilis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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Source: Annual Report of the Bureau of Indian Affairs, 1883-1889.
Table 5.3: Period Prevalence per 1,000 for Selected Diseases among the Salish, Pend d’Oreille, and Kootenai, 1890-1894, 1898-1899

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<td>8.88</td>
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Source: Annual Report of the Bureau of Indian Affairs, 1883-1894, OIA Quarterly Sanitary Reports 1898-1899
Table 5.4: Period Prevalence per 1,000 for Selected Diseases among the Salish, Pend d’Oreille, and Kootenai, 1900-1907

<table>
<thead>
<tr>
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<td>17.79</td>
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Source: OIA Quarterly Sanitary Reports 1900-1907
the children at the mission school. In 1915, a smallpox epidemic occurred among the children attending the St. Ignatius Mission School. Fourteen cases were counted and no deaths occurred.

Tuberculosis became one of the main health concerns of the Office of Indian Affairs by the 20th century (Putney 1980). Dubos and Dubos (1965:191) note that within three decades of forced removals to reservations, Native peoples contracted tuberculosis in epidemic proportions. Tuberculosis is an infectious respiratory disease caused by the bacteria *Mycobacterium tuberculosis* and is characterized by a dry cough, accompanied with phlegm, pus, and eventually blood (Trafzer 1997:95). Inflicted individuals suffer fever, fatigue, and loss of appetite. Tuberculosis also become one of the most prevalent diseases on the Flathead Reservation and one of the leading causes of death for the late 19th and early 20th century.

Medicinal Statistics from the *Annual Report to the Commissioner of Indian Affairs* suggest that the tuberculosis period prevalence was 60 per 1,000 as early as 1879 (Annual Report 1879). Agent Peter Ronan wrote, “scrofula prevails to a considerable extent among the Indians of this reservation, and it gradually undermines the constitution of those affected, hastening their passage to the grave” (Annual Report 1881:116). According to the St. Mary Mission death records, tuberculosis was the highest recorded cause of death between 1867 and 1890, responsible for at least one half of all recorded cause of death (Bigart et al. 2005).

Incidence and prevalence data for tuberculosis is poor for the Flathead Reservation in the 1920s and 1930s as physicians rarely conducted surveys beyond 20 to 30 individuals in the population. As Kunitz (1983:69-70) points out, data from early Bureau of Indian Affairs surveys are not good indications as “the number of individuals examined and of active cases diagnosed are given without information on sampling procedures” which makes this data almost worthless.
Physicians on the Flathead Reservation also felt that taking tuberculosis surveys were also pointless. Dr. Mullarky, an agency physician on the Flathead Reservation wrote:

No survey has been made on this reservation for tuberculosis; if I had the time and ability to list all the Indians on this reservation who are infected, permit me to inquire, where would they cared for? Surveys are illuminating, but until some plan is enacted that will improve the cubage food and present mode of living among the Indians on this reservations, and facilities provided for the care of the ones who become infected, the tubercular rate will continue high. [Narrative Reports 1927]

While the BIA physician data is generally lacking in terms of the actual tuberculosis prevalence on the Flathead Reservation the study conducted by the Public Health Service in 1912 revealed that 19 percent of all the Native peoples examined on the Flathead Reservation had contracted tuberculosis (Putney 1980).

In 1918, one of the worst recorded 20th century epidemics occurred. With the ongoing World War I and increased mobility, influenza soon spread around the world. The 1918 influenza epidemic is estimated to have killed 40 to 100 million individuals worldwide (Johnson and Mueller 2002). At least 548,452 of those deaths occurred in the United States but several states did not have vital events registration which “means that any estimate of the pandemic’s mortality is little more than an educated guess” (Noymer 2010:140). This particular strain of influenza caused high mortality but not necessary from influenza. Herring and Sattenspiel (2007:193) note that that “some people died very quickly, but most of the sick recovered from the viral infection within about one week. Unfortunately, some 20 percent developed severe secondary pneumonias that were much more likely to be fatal, with death sometimes occurring within 24 hours of the appearance of pneumonia symptoms.” Noymer (2010) has pointed out also that individuals already suffering from other diseases, such as tuberculosis, were more likely to die during this epidemic. Putney (1980:209) notes that more Native peoples died in the influenza epidemic in 1918/1919
than all the Indian-white battles from 1789 to 1898. Mortality for Native peoples was four times higher than whites as while only .6 percent of all Americans fell to mortality from this epidemic, 2 percent of Native peoples succumbed (DeJong 2008).

On the Flathead Reservation, at least ten deaths occurred in 1918 due to this epidemic, three in 1919 and 12 in 1920, a total of 25 deaths. The Indian Agent attributed the low mortality of 1918 epidemic to the fact that many people “were largely scattered into the mountains on hunting trips when the epidemic reached this section and they remained absent until late in the Fall. This kept them from gathering into assemblances where disease might be spread” (Narrative Reports 1919). However, several deaths were recorded as “unknown” on death certificates during these years so it is possible more deaths could be from influenza. The Sisters of Providence recorded in 1918, that in addition to influenza, “illness in the form of pneumonia afflicted the children during January. This illness is always grave for the Indians-at times even fatal! All but a few were afflicted…After that, smallpox took over. This epidemic did not cease until the close of June classes” (Sisters Journal 1975:220). Fortunately, this smallpox epidemic was the minor strain and no deaths occurred.

Another influenza epidemic occurred in 1920. The agency physician Dr. O. E. Patterson, reported:

Health conditions in general have been satisfactory. During February and March, 1920, there was an epidemic of influenza which attacked many individuals in certain localities on the reservation. Those communities which escaped the disease in the winter of 1919 seemed to suffer most at this latest epidemic. There was only one death under the observation of the Agency physician among the whites, but several among the Indians, death in most cases being complicated with pneumonia, or occurring among those already weakened by tuberculosis or old age. [Narrative Reports 1920]

For 1920, 12 deaths were attributed to influenza or 18 percent of the total deaths for that year. A total of 13 deaths were attributed to tuberculosis and another 13 deaths from pneumonia. The
agency physician left the reservation to join the war efforts and another one was not sent to replace him until 1920 (Narrative Reports 1918-1920). It is likely that during this period, some Native peoples utilized the health services of other physicians on the reservation.

Influenza was a common illness on the Flathead Reservation through the 1920s and 1930s. Epidemics of influenza occurred in 1927, 1929, and 1935 (Narrative Reports 1921-1935). The highest recorded number of influenza cases occurred in 1935 with 163 cases but with only one death attributed to this epidemic.

Gonorrhea and syphilis became serious problems for Native peoples on the Flathead Reservation in the 20th century. Inflicted individuals often did not seek medical attention for these diseases and if they did sought medicine it was in the context “for a friend” (Narrative Report 1920). In addition, according to the Indian Agent the extent of venereal disease was unknown because “such cases are usually treated by physicians in private practice and are not reported to us. We believe from such cases as have come to the attention of our physician that such diseases are quite prevalent” (Narrative Report 1928). By 1930, there were at least 45 cases of venereal diseases in the population and by 1935 this number rose to 106. It is unknown if venereal diseases increased in the population or if the prevalence increased because the OIA began to collect data on those specific diseases, or if more Native peoples sought the OIA medical assistance rather than medical care from other providers in the area.

As venereal diseases increased among the Native population, deaths also increased. From 1911 to 1935, five deaths were attributed to syphilis all occurring between 1932 and 1935 as the main cause of death although syphilis is listed as a secondary cause of death on many death certificates.
A report by the Office of Indian Affairs in 1912 stated that infants suffered high mortality rates that “prevailed to an extent exceeded only in some of the most [unsanitary] of our white rural districts and in the worst slums of our cities” (Annual Report 1912:17). Commissioner Cato Sells added, “it is our duty to protect the Indian’s health and to save him from premature death. Before we educate him, before we conserve his property, we should save his life. If he is to be perpetuated, we must care for the children. We must stop the tendency of the Indian to diminish in number, and restore a condition that will ensure his increase” (Annual Report 1916:4). Substandard housing, dirt floors, a lack of clean running water, and poor nutrition only further exacerbated the problems of infant health (Jorgenson 1971).

In 1916, the Office of Indian Affairs established the Save the Babies program. The OIA established “young mother leagues” and distributed pamphlets to “educate” women on how to better care for their infants (Benson 1994:12). Well-baby exhibits were held at annual agricultural fairs where officials weighed and measured infants. Native women with the tallest and heaviest infants would receive official certificates of recognition (Benson 1994:12).

The OIA also encouraged women to give births in hospitals rather than at home. In an inspection report written in 1916 it was noted:

Indians are not giving much attention to the hospital facilities available for their use. Several maternity cases have been cared for in the past six months and several to more of these cases are on the waiting list. It will require time and much patience to overcome the superstitions and other hindrances in the way or getting patients to come to the hospital.

Everything is being down along this line that can be done with the available facilities. All are active in giving this matter constant attention. Expectant mothers are constantly being urged to accept hospital conveniences. Some progress has been made in this respect and in time it is hoped to get more to come here. The majority of the homes are such as to warrant that the expected mother comes to the hospital during her confinement. [Michael 1916]
Trachoma was another major health concern of the Bureau of Indian Affairs in the early part of the 20th century (Benson 1994; DeJong 2008; Putney 1980). Trachoma is an eye infection caused by the bacteria *Chlamydia trachomatis*. Trachoma has an incubation period of a week in which an infected individual experiences sensitivity to light, pain, tearing, and swollen eyelids. If not treated promptly, “tiny reddish clumps of blood vessels form in the conjunctiva, the clear layer of tissue lining the inside of the eyelids and the surface of the white of the eye. As time progresses, granular follicles, filled with debris and discharge also develop in the conjunctiva and on the tarsus, a cartilage like plate of tissue that lies between the conjunctiva and the eye muscle, which gives the eye its shape” (Benson 1994:55). Although trachoma is not fatal, if left untreated causes extensive scaring and blindness. Trachoma spreads easily through hand to eye contact and through sharing toiletry items such as towels or handkerchiefs.

The first mention of trachoma among the Salish, Pend d’Oreille, and Kootenai was in the 1880s. Indian Agent, Peter Ronan (Annual Report 1881:116) wrote “disease of the eye is another affliction very common among the Indians, particularly among those of the Kootenais tribe.” Ronan attributed trachoma to the “frequent exposure of smoke in their lodges” (Annual Report 1881:116).

A report by William Ketcham in 1915 mentioned that many Kootenai people were blind from trachoma. “I visited a number of old Indians in their homes at St. Ignatius…and visited a camp of old Kutenai Indians at Polson. Some of them almost blind from trachoma, others suffering probably from tuberculosis and were living under conditions of abject poverty” (Ketchem 1915:30).

Statistics relating to trachoma in the 20th century on the Flathead Reservation are fragmented and unclear. Based on the available evidence from Narrative Reports (1910-1935)
trachoma seems to have peaked in incidence and prevalence by 1914. In that year, Dr. W.H. Harrison operated on 220 individuals and treated 21 cases (Narrative Report 1914). A survey by Dr. Emil Krulish in 1926, estimated the prevalence of trachoma at 15 percent and another report by Dr. Townsend, estimated a trachoma prevalence of 20 percent in the 1930s (Krulish 1926; Narrative Reports 1930).

Conclusion

The health of the Native peoples on the Flathead Reservation changed in the 19th century. For centuries, Native peoples relied upon their own medical system for their health. After the government established the reservation, the Federal Government provided a physician as stipulated by the treaty. The Bureau of Indian Affairs instituted a medical system that not only contradicted but imposed itself on the existing health care of Native peoples. According to Campbell (1987:75), “western medicine was conceptualized by the Bureau of Indian Affairs as an integral component of cultural change and oppression, embedded in the Bureau’s general policy of assimilation and economic self-sufficiency.” Thus, the primary objective of the imposed medicine system was neither to control nor prevent illness, but to eradicate those cultural practices that were contrary to Native peoples’ progression towards civilization (Campbell 1987:75).

Even after the U.S. government built hospitals and provided health care, infectious diseases continued to affect Native peoples. Tuberculosis in particular was a highly prevalent disease early after the reservation was created. Although it was the Federal Government’s goal to assimilate Native peoples, the Office of Indians Affairs administration often lacked the monies to fully fund the medical needs on the Flathead Reservation. The next chapter discusses the demographic and mortality changes on the Flathead Reservation.
Chapter 6

Demographic and Mortality Patterns on the Flathead Reservation

The chapter investigates the demographic and mortality patterns on the Flathead Reservation. The first half of the chapter analyzes population changes and mortality and fertility statistics from 1879 to 1935. The second half of the chapter examines the leading causes of death on the Flathead Reservation from 1900 to 1935.

Demographic data between 1865 and 1910 were analyzed from the Annual Reports of the Commissioner of Indian Affairs (Annual Reports) written by Indian Agents and sent to the Bureau of Indian Affairs. Later demographic data was analyzed from records kept by the priests at the St. Ignatius Mission, Superintendent’s Annual Narrative and Statistical Reports from the Field Jurisdiction of the Bureau of Indian Affairs (Narrative Reports), and Montana state death certificates collected from the various counties on or surrounding the Flathead Reservation. Fertility information, while limited in this study, was analyzed from census records kept by the Bureau of Indian Affairs.

To gain a clear understanding of the demographic changes for tribal members adjusting to the reservation and then to the outcomes of the Allotment Act, the data is presented from 1879 to 1903 (see Table 6.2 and Figures 6.1, 6.2) and from 1904 to 1935 (see Figure 6.3, 6.5 and Tables 6.3, 6.4). The year 1879 was the first year that the Bureau of Indian Affairs began to collect vital records and in 1904, the Federal Government began the allotment process. My analyses ends with 1935 as the Salish, Pend d’Oreille, and Kootenai accepted the conditions of the Indian Reorganization Act of 1934, which officially ended the policies of the General Allotment Act of 1887. Some demographic data is presented to the 1940s for decade to decade comparisons. Table
6.1 indicates the population change of the tribal peoples on the Flathead Reservation from 1880 to 1936.

**Population and Demographic Changes**

Hutchins offers perhaps the most accurate baseline population census of the Flathead Reservation and Bitterroot Salish in 1865, nearly ten years after the formation of the reservation. In January of 1865, Hutchins counted a total number of 1,283 individuals (273 Kootenai, 293 Salish, and 751 Pend d’Oreille) but noted at least 60 families were absent on their annual bison hunt (Annual Report 1865). Six months later, Hutchins made another population census, counting a total a total of 1,732 individuals, 273 Kootenai, 551 Salish and 908 Pend d’Oreille, a difference of 449 individuals from the first census and 122 additional families.

In 1870, the tribal population decreased to 1,450 individuals, a decrease of 16 percent in population change from the tribal census in 1865, but by 1871 had increased to 1,900 individuals. The low population of 1870 may again be an undercount of families gone on their annual buffalo hunt given the population rebound the following year. Smallpox epidemics were reported in parts of Montana and in Idaho, but were not reported by the Indian Agent at the Flathead Reservation so it is uncertain as to the cause of the difference in population (Annual Report 1870). From years 1872-1878, tribal populations slowly decreased each year but reached 1,609 individuals in 1879. Overall, the 1870s presented the tribal population with slow growth.

Besides infectious diseases, conflicts between rival tribal groups hindered tribal growth and particularly affect the male population. Stevens wrote that on “several occasions the Blackfeet came close to exterminating the Flathead” and that many lodges were without men (Merriam 1958:348). Hutchins noted the danger for tribal people of venturing onto the Plains for their annual buffalo hunts:
The buffalo ranges being within the Blackfeet and Crow countries, who are enemies of this people, their hunts are always accompanied with the loss of many horses stolen by the Blackfeet and Crows, and every year some of their young men are killed by these hostiles. In return, these tribes make their hunting excursions occasions for pillaging horses and killing outlying parties of the enemy. [Annual Report 1865:246-247]

In the 1880s, base vital statistics concerning births and deaths were recorded for most years by Indian Agents and physicians. Accuracy of tribal populations were not entirely perfect as shown by Hutchins censuses and reiterated by Indian Agent Peter Ronan in 1881(Annual Report 1881:116). “When the total population of the reserve is represented in the census as 1,057, it must be remembered that at no season of the year can more than three-quarters thereof be found, a large number being camped in various secluded spots fishing or hunting.” Tribal populations fluctuated throughout the year and vital statistics depended on missionaries, Indian Agents, or Native peoples themselves reporting births and deaths to the physician. Births and deaths occurring away from the agency were most likely missed in early vital statistics.

The early 1880s presented a period of steady population growth for the Salish, Pend d’Oreille, and Kootenai although a smallpox epidemic inflicted them in 1881/1882 (Annual Report 1881). From the 1880s estimates, the tribal population had almost doubled to 2,280 by 1886, but a series of disease epidemics of measles in 1887 and 1888 reduced the population to 1,856 by the year 1889, a decrease of 25 percent from 1886 to 1889 (see Table 6.1). During the 1880s and 1890s, a band Kootenai from Idaho, and bands of Lower Kalispel and Spokane from Washington were also enumerated with the Salish, Pend d’Oreille, and Kootenai increasing the overall reservation population.

In 1890, the population numbered at 1,519, over 300 fewer individuals than the previous year, representing another serious decline in population. The winter of 1889 was noted as severe (Anastasio 1972) and the summer brought drought which seriously hindered crops. The population
statistics in the 1890s, similar to the other decades, exhibited early population growth from 1890 to 1895 but suffered population decline by the end of the decade. For four years, between 1896 and 1899, the population was particularly stagnant, only growing by five individuals. In 1899/1900, the Flathead Reservation experienced a smallpox epidemic which reduced the population 9.43 percent. In 1901/1902, another smallpox epidemic hit the Flathead Reservation again furthering reducing the population by another one percent from 1900. Part of the population reduction in the early 1900s also came with the removal of the Kalispel, Spokane, and Kootenai bands to different reservations in Washington and Idaho.

After the last major smallpox epidemics of 1900/1901, the tribal population on the Flathead Reservation grew substantially during in the early 20th century. Between 1902 and 1909, the population grew by 41 percent as crude birth rates reached 49 in 1903 and 54 in 1904. In addition, the tribal population grew because of several adoptions of individuals into tribal membership and intermarriage with non-Natives. Individuals with mixed decent became interested in tribal membership because of the General Allotment Act which would provide them with land. As individuals continually were added to tribal censuses, it skewed later crude death rates and birth rates as the population grew by unnatural means. The data is further skewed because many individuals that were later enumerated on tribal censuses did not live on the Flathead Reservation, which somewhat distorts the health patterns of tribal peoples living on the Flathead Reservation. Individual’s residences were not recorded until the 1930s but in 1932, 32 percent of the enumerated tribal population did not live on the Flathead Reservation or in surrounding communities such as Missoula or Kalispell.

Between 1910 and 1920, the population grew by 12 percent. As crude deaths and crude
Table 6.1: Percent of Salish, Pend d’Oreille, and Kootenai Population Change 1880-1936

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<td>1934-1936</td>
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*BIA Agents did not take a census in 1908.

Note: Only includes Salish, Pend d’Oreille and Kootenai (Standing Arrow band) 1880-1898 populations although a band of Lower Kalispel, Spokane, and Kootenai were also enumerated on the Flathead Reservation in the 1880s and 1890s.
birth rates were relatively low during this decade, diseases such as tuberculosis and venereal diseases, might have had some effect on keeping fertility levels low (Edge 1952; McFalls and McFalls 1984). In addition, as more individuals were enumerated on tribal censuses increasing the baseline population, it subsequently lowered crude birth and death rates.

In 1922, the population decreased by 0.07 percent due to the flu epidemic (see Table 6.1). There was not a BIA physician available on the Flathead Reservation in 1918 or 1919 and death statistics were not kept for these years. The Salish, Pend d’Oreille, and Kootenai peoples did not suffer severely from influenza as many families were hunting and away from town. Another influenza epidemic occurred in 1920 (Narrative Report 1919, Narrative Report 1920). In 1930, the population decreased 1 percent from 1929 from epidemics of measles, smallpox, and influenza that hit the reservation (Narrative Reports 1930).

The tribal population fluctuated in the 1930s as individuals shuffled from one tribe to another, changing tribal membership. As individuals continued to intermarry they could be ethnically related to several tribes but could only choose one tribal group to be affiliated with. Shifting of tribal memberships was only recorded in the 1930s so it is difficult to tell how long that process was going on and how long it affected the enumerated population. After 1935, only individuals (of Salish, Pend d’Oreille, and Kootenai descent) born on the Flathead Reservation were eligible for tribal membership, regardless of their blood quantum but this was later changed.

Between 1865 and 1903, the population of the Salish, Pend d’Oreille, and Kootenai experienced population growth spurts, but mortality from disease epidemics prevented the population from experiencing any significant population growth. However, between 1904 to 1935 the population doubled from the 1900 census, partly from the absence of serious infectious diseases epidemics, but more so from adoptions and the enumeration of individuals into the
censuses, expanding the baseline line population than fertility trends.

**Fertility Rates**

Although early Bureau of Indian Affairs demographic information is somewhat unreliable, it can offer a glimpse into the demographic patterns of Native peoples before tribal populations were largely constrained to the reservation. In 1879, the first year that vital statistics were taken, the birth rate of the Salish, Pend d’Oreille, and Kootenai was recorded at 29 (per 1,000). Between 1880 and 1903, birth rates are relatively high as shown by Table 6.2 and Figure 6.1. The highest crude birth rates were recorded in 1882, 1885, and 1886 with rates reaching 142, 105 and 127 probably in response to disease epidemics. Seldom were crude death rates higher than fertility rates, occurring only in the years 1888, 1889, 1900, and 1902.

In early 20th century, the number of births increased from the previous 14 years (1890-1904) but did not reach what it had been in the 1880s. From 1904 to 1935, a total of 2,068 births were recorded, averaging about 67 births a year (although births were not recorded in all years). The highest crude birth rate occurred in 1904 with a rate of 54. Crude birth rates also decreased in the early 20th century, usually hovering around 30 per 1,000 although crude birth rates were recorded as low as 17 or 18 for a few years (years 1913, 1918, and 1923).
Table 6.2: Crude Death Rates and Crude Birth Rates per 1,000 for the Salish, Pend d’Oreille, and Kootenai Peoples, 1879-1903

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Figure 6.1: Crude Death Rates and Crude Birth Rates Comparison 1879-1903
Figure 6.2  Number of Births and Deaths Recorded on the Flathead Reservation, 1879-1903.

Source: The Bureau of Indian Affairs Annual Reports 1879 to 1903.
Note: No births or deaths were recorded for 1891.
Figure 6.3 Number of Births and Deaths Recorded on the Flathead Reservation, 1904-1935.

Note: No deaths or births were recorded for 1908.
Source: Bureau of Indian Affairs and birth and death records kept by the St. Ignatius Mission.
Table 6.3: Crude Birth Rates per 1,000
1904-1935

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Note: n/a= unavailable
Sources: St. Ignatius Birth and death records; Bureau of Indian Affairs; U.S. Department of Commerce 1949:46; Anderson and Wilson 1965:2
In comparison to the average statistics collected for the United States and for Montana, crude birth rates are quite comparable, while usually being slightly higher than national averages.

In 1932 and 1933 crude birth rates for the Flathead Reservation are exceptionally small, lower than the rate for Montana or for the United States. This might represent a significant lower of fertility for these years but more likely the absence of recording keeping by the Bureau of Indian Affairs.

**Child-Woman Ratios**

Child-woman ratios are another way to measure the fertility patterns of populations in the absence of detailed birth records (Rowland 2003). A child woman ratio indicates the number of children that survive to the age of 5, to the number of women of childbearing ages between 15 and 49 per 1,000. The following figure (Figure 6.4) compares the child-woman ratios for Natives living on the Flathead Reservation and the Bitterroot Salish (Charlo’s Band) that had not been removed to the reservation yet. In 1886, the child-woman ratio for the Bitterroot Salish was 728 compared to 434 of the Flathead Reservation and 500 for the United States. The child-woman ratios indicate that more younger children survived with the Bitterroot Salish than for women living on the Flathead Reservation although as the Bitterroot Salish moved to the Flathead Reservation their child-woman ratios eventually decreased as well.

In 1890, a year before the Bitterroot Salish would be moved to the Flathead Reservation their child-woman ratio was 540 lower that in had been in 1886 but still higher than the Flathead Reservation as the child-woman ratio measured 285. In 1897, although the Bitterroot Salish was now
Figure 6.4: Child-Woman Ratios per 1,000, 1886-1900

Source: Annual Reports 1886-1900
residing on the Flathead Reservation, Indian Agents still enumerated them separately in the census until 1900. The child-woman ratio of the Bitterroot Salish in 1897 still continued to decline from the ratio of 1886 but the child-woman ratio of the Flathead Reservation in general increased to 319. By the year 1900, the child-woman ratio was 309 and by 1910 the child-woman ratio again increased to 476 indicating higher fertility rates and lower mortality of children under the age of five.

**Mortality Patterns**

As evident from the slow overall population growth between 1879 and 1903, the population was kept from growing largely from mortality from diseases and from a lesser extent tribal warfare. Between the years 1879 and 1903, physicians reported around 2,500 births to 2,200 deaths, a net gain of 300 births for Natives living on the Flathead Reservation. (Some of these births and deaths included members of the Kalispel, Spokane, and Idaho Kootenai that were moved to the Flathead Reservation in the late 19th century). Between the years 1879 to 1890, an average of 111 deaths per year occurred, while from 1891-1903, an average of 77 deaths per year occurred. Vital records were not kept for the year 1891, perhaps due to the increased effort of the Federal Government to remove Charlo’s band to the Flathead Reservation.

Detailed mortality records are not available for Native peoples during this time in terms of gender and age but calculations for crude death rates were possible. Indian Agents noted several times that children especially suffered high mortality. Peter Ronan in 1890 (Annual Report 1890:127) stated “the mortality among the Indians rages principally among the younger children, because of want of proper care, of proper food, of proper clothing, and on account of exposure.”

High crude deaths rates were recorded in the years 1886, 1888, 1901 and 1902 with rates of 119, 116, 78, and 70 respectively. The high crude death rates of 1886 reflect the typhoid fever and typhus epidemics of 1885 and 1901 and 1902 reflect mortality from the smallpox epidemics of the
previous years.

*Mortality 1904 to 1935*

For the span of 31 years of 1904 to 1935, a total of at least 1,842 deaths occurred, an average of 58 deaths per year. Births again outnumbered deaths for the first part of the 20th century by 191. While births outnumbered deaths, the population grew by an additional nearly 1,000 individuals according to enumeration on tribal censuses. This is also probably an underestimate as the recording keeping on the Flathead Reservation was poor until the 1920s and in some years, vital records were not recorded (such as the year 1908).

In the 20th century, mortality was drastically reduced from what it had been in the late 19th century by an average of 40 deaths per year. Statistical records from the Narrative Reports of the 1920s and 1930s, reveal that greater attention was given to vaccination and quarantine for infectious diseases which probably cut down epidemics though small epidemics of smallpox, measles, and influenza continue to affect the Flathead Reservation in the late 1920s and early 1930s.

While mortality rates decreased in the 20th century, ages 30 and younger accounted for 54 percent of all deaths from 1910 to 1935. For individuals aged 30 and younger, children in the 0-4 age group made up 62 percent of deaths. Overall, children four and younger made up 33 percent of all deaths. Individuals aged 20 to 24 had the next largest age group of deaths.

Crude death rates decreased in the 20th century reaching as low as 16 and 18 in the 1920s and 13 in the year 1935. Crude deaths were 49 in 1904 and 41 in 1910 but afterwards dropped to the 20’s. Record keeping on the Flathead Reservation was poor and Indian Agents were often criticized from the Office of Indian Affairs for their incomplete and missing vital statistics.
Table 6.4: Crude Death Rates per 1,000
1904-1935

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<td>25</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>1923</td>
<td>17</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>1924</td>
<td>18</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>1925</td>
<td>20</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>1926</td>
<td>20</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>1927</td>
<td>22</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>1928</td>
<td>19</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>1929</td>
<td>24</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>1930</td>
<td>25</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>1931</td>
<td>20</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>1932</td>
<td>16</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>1933</td>
<td>15</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>1934</td>
<td>22</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>1935</td>
<td>16</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

Note: n/a= unavailable
Sources: St. Ignatius Birth and death records; Bureau of Indian Affairs; US Department of Commerce 1949:46; Anderson and Wilson 1965:2
Figure 6.5: Crude Death Rates and Crude Birth Rates Comparison, 1904-1935

Source: Annual Reports, BIA Death Records 1924-1935, Death Certificates
information (Coe 1929, 1930; Shotwell 1940). In addition, as individuals were enumerated into tribal censuses this increased the baseline population by unnatural means which also subsequently lowered crude death rates.

**Infant Mortality**

While overall crude death rates for the Flathead Reservation decreased significantly for the early part of the 20th century, infant mortality for the most part remained considerably high. Infant mortality is a “key indicator of demographic development and health conditions” (Rowland 2003:199) and more accurate than crude death rates as it is not dependent on the entire population but on the number of live births for a particular year. As shown from the Table (6.6), infant mortality was quite high in the early part of the 20th century. The highest recorded infant mortality rate was recorded in 1910 with a rate of 463 (per 1,000). In comparison, that same year, Montana had an infant mortality rate of 116 per 1,000.

Another high infant mortality rate was recorded in the year 1932 as a rate of 416. In comparison, Montana recorded an infant mortality rate of 57 and the United States infant mortality rate was 65. Infant mortality rates as a whole for the Flathead Reservation between 1910 and 1940 were erratic and do not indicate an increase or a decline for that period. The average rate for infant mortality was 185. The lowest mortality rate was recorded in 1933 with a rate of 77 per 1,000 with only three infant deaths were recorded. This was not a marked improvement in health care as the next year infant mortality rose again to 175.

From 1900 to 1935, priests and the Indian Agents recorded the deaths of 380 infants (under the age of 1 year old) and 16 still births. Male infants died at a higher percentage than females of a ratio of 55 percent to 45 percent. At least 45 percent of all known deaths were due to infectious diseases.
Table 6.5: Number of Native Deaths on the Flathead Reservation by Age Group, 1900-1935

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of Deaths</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>622</td>
<td>33</td>
</tr>
<tr>
<td>5-9</td>
<td>91</td>
<td>5</td>
</tr>
<tr>
<td>10-14</td>
<td>82</td>
<td>4</td>
</tr>
<tr>
<td>15-19</td>
<td>86</td>
<td>5</td>
</tr>
<tr>
<td>20-24</td>
<td>92</td>
<td>5</td>
</tr>
<tr>
<td>25-29</td>
<td>68</td>
<td>4</td>
</tr>
<tr>
<td>30-34</td>
<td>60</td>
<td>3</td>
</tr>
<tr>
<td>35-39</td>
<td>61</td>
<td>3</td>
</tr>
<tr>
<td>40-44</td>
<td>62</td>
<td>3</td>
</tr>
<tr>
<td>45-49</td>
<td>50</td>
<td>3</td>
</tr>
<tr>
<td>50-54</td>
<td>68</td>
<td>4</td>
</tr>
<tr>
<td>55-59</td>
<td>52</td>
<td>3</td>
</tr>
<tr>
<td>60-64</td>
<td>80</td>
<td>4</td>
</tr>
<tr>
<td>65-69</td>
<td>79</td>
<td>4</td>
</tr>
<tr>
<td>70-74</td>
<td>79</td>
<td>4</td>
</tr>
<tr>
<td>75-79</td>
<td>79</td>
<td>4</td>
</tr>
<tr>
<td>80+</td>
<td>140</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>1851</td>
<td>99</td>
</tr>
</tbody>
</table>

**Missing the ages of 369 individuals
Sources: Records kept by the Bureau of Indian Affairs, St. Ignatius Death Records, and death certificates.
Infant mortality has two components that “reflect somewhat different biological and social conditions” which taken together “indicate the quality of life and medical care available to various segments of any population” (Campbell 1989b:106). Neonatal infant deaths are deaths that occurred between birth and 27 days and are more likely due to “congenital conditions, maternal health and nutrition during pregnancy, and the general circumstances surrounding the infant's birth” (Moffat and Herring 1999:1827). Neonatal deaths made up nearly 41 percent on average for infants on the Flathead Reservation from 1900 to 1939.

Postneonatal deaths on the other hand (deaths between 28 and 365 days), reflect “the extent to which infectious diseases, the quality of nutrition, and general sanitary-social conditions confront the infant (Moffat and Herring 1999:1827). Nearly 60 percent of all infant deaths on the Flathead Reservation were postneonatal (see Table 6.6).
Table 6.6: Average Infant Mortality Rate Comparison
Rates per 1,000, 1910-1939

<table>
<thead>
<tr>
<th>Years</th>
<th>Flathead Reservation</th>
<th>U.S.</th>
<th>Montana</th>
</tr>
</thead>
<tbody>
<tr>
<td>1910-1914</td>
<td>224</td>
<td>n/a</td>
<td>90</td>
</tr>
<tr>
<td>1915-1919</td>
<td>156</td>
<td>96</td>
<td>84</td>
</tr>
<tr>
<td>1920-1924</td>
<td>185</td>
<td>76</td>
<td>69</td>
</tr>
<tr>
<td>1925-1929</td>
<td>170</td>
<td>69</td>
<td>67</td>
</tr>
<tr>
<td>1930-1934</td>
<td>226</td>
<td>59</td>
<td>55</td>
</tr>
<tr>
<td>1935-1939</td>
<td>196</td>
<td>56</td>
<td>50</td>
</tr>
</tbody>
</table>

Note: n/a = unavailable
Sources: St. Ignatius Birth and death records; Bureau of Indian Affairs; U.S. Department of Commerce 1949:46; Anderson and Wilson 1965:2
Table 6.7: Neonatal and Postnatal Deaths of Infants on Flathead Reservation, 1900-1939

<table>
<thead>
<tr>
<th>Decade</th>
<th>N. of neonatal deaths</th>
<th>N. of postnatal deaths</th>
<th>Total deaths</th>
<th>Neonatal %</th>
<th>Postnatal %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900-1909</td>
<td>31</td>
<td>55</td>
<td>86</td>
<td>36</td>
<td>63</td>
</tr>
<tr>
<td>1910-1919</td>
<td>47</td>
<td>57</td>
<td>104</td>
<td>45.1</td>
<td>54.8</td>
</tr>
<tr>
<td>1920-1929</td>
<td>50</td>
<td>67</td>
<td>117</td>
<td>42.7</td>
<td>57.2</td>
</tr>
<tr>
<td>1930-1939</td>
<td>46</td>
<td>50</td>
<td>96</td>
<td>47.9</td>
<td>52.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>174</strong></td>
<td><strong>229</strong></td>
<td><strong>403</strong></td>
<td><strong>40.6</strong></td>
<td><strong>59.4</strong></td>
</tr>
</tbody>
</table>

Sources: St. Ignatius Birth and Death Records, Bureau of Indian Affairs, Death Certificates
Leading causes of death 1900-1935

The following is a brief analysis of the foremost causes of death on the Flathead Reservation from 1900 to 1935. Between 1900 and 1924, death records for the Flathead Reservation and for Indian populations in general are poor and scattered. After 1924, the death records improved as Indian Agents began recording deaths and causes on special forms with tribal censuses. However for the Flathead Reservation, I found several deaths recorded on the county level but not on tribal censuses. In addition, both tribal records and death certificates often did not have a cause of death associated which makes the death record incomplete. Of the known causes of death, tuberculosis, pneumonia, accidents, heart disease and defects, diseases related to gastrointestinal disorders, influenza, cancer, senility, premature birth, and homicide constituted the leading causes of death.

Tuberculosis

By the 20th century, tuberculosis became a major health problem for Native peoples, both as a specific cause of death and an underlying condition that reduced resistance to other infectious diseases (Waldrum et al. 2006:69). On the Flathead Reservation, tuberculosis from 1900 to 1935 was the leading cause of death. A total of 291 people died from tuberculosis or 23 percent of the total known deaths (Table 6.8). Tuberculosis probably killed many more Native peoples whose death was listed as unknown or left blank on death certificates (over 700 deaths are unknown). Tuberculosis largely affected individuals of younger ages as the majority of tuberculosis deaths occurred in individuals under the age of 30.

Tuberculosis accounted for the fifth leading cause of death among infants under the age of one. At least 14 infants died from tuberculosis, nine males and five females. Several different
Table 6.8:  
Leading Causes of Death, 1900-1935

<table>
<thead>
<tr>
<th>Cause</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuberculosis</td>
<td>291</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>238</td>
</tr>
<tr>
<td>Accidents</td>
<td>101</td>
</tr>
<tr>
<td>Heart</td>
<td>99</td>
</tr>
<tr>
<td>Gastro</td>
<td>58</td>
</tr>
<tr>
<td>Influenza</td>
<td>56</td>
</tr>
<tr>
<td>Cancer</td>
<td>40</td>
</tr>
<tr>
<td>Senility</td>
<td>36</td>
</tr>
<tr>
<td>Premature</td>
<td>31</td>
</tr>
<tr>
<td>Homicide</td>
<td>28</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>978</strong></td>
</tr>
</tbody>
</table>

Sources: Death Certificates, BIA Death Records 1924-1935
Table 6.9: Leading Cause of Death for Males, 1900-1935

<table>
<thead>
<tr>
<th>Cause</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonia</td>
<td>129</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>118</td>
</tr>
<tr>
<td>Accidents</td>
<td>76</td>
</tr>
<tr>
<td>Heart</td>
<td>64</td>
</tr>
<tr>
<td>Influenza</td>
<td>27</td>
</tr>
<tr>
<td>Homicide</td>
<td>22</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>22</td>
</tr>
<tr>
<td>Cancer</td>
<td>18</td>
</tr>
<tr>
<td>Premature</td>
<td>14</td>
</tr>
<tr>
<td>Senility</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>502</strong></td>
</tr>
</tbody>
</table>

Sources: Death Certificates, BIA Death Records 1924-1935
Table 6.10: Leading Cause of Death for Females, 1900-1935

<table>
<thead>
<tr>
<th>Leading Cause</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuberculosis</td>
<td>145</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>109</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>36</td>
</tr>
<tr>
<td>Heart</td>
<td>35</td>
</tr>
<tr>
<td>Influenza</td>
<td>29</td>
</tr>
<tr>
<td>Accidents</td>
<td>25</td>
</tr>
<tr>
<td>Senility</td>
<td>25</td>
</tr>
<tr>
<td>Cancer</td>
<td>22</td>
</tr>
<tr>
<td>Premature</td>
<td>17</td>
</tr>
<tr>
<td>Childbirth</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>459</strong></td>
</tr>
</tbody>
</table>

Sources: Death Certificates, BIA Death Records 1924-1935
types of tuberculosis were listed on death certificates. Infants with tuberculosis experienced a dry cough that produced phlegm filled with blood and pus. They often lost weight and developed lumps in their bodies from swollen lymph nodes (Trafzer 2001:86). While tuberculosis was the fifth leading cause of deaths for infants, it was the second leading cause of death for children ages 1 to 5 years old.

The majority of deaths from tuberculosis were female. Female deaths slightly outnumbered male deaths by 27 individuals. A small percentage (12 percent) of tuberculosis deaths were not attributed to gender or to age as these were recorded in Annual Reports without gender or age. Trafzer’s (1997) study of Yakama health patterns 1888 to 1964 also found the majority of tuberculosis deaths female. A number of explanations exist for this. It is possible that a greater number of females contracted tuberculosis thus explaining a higher number of deaths but as surveys are inconsistent and unreliable it is impossible to know if females contracted tuberculosis at a higher rate than males (Narrative Reports 1910-1935). It is also possible that males with tuberculosis died from other causes such as accidents, homicide, suicides, or other diseases before succumbing to tuberculosis.

As Native populations quickly succumbed to tuberculosis in the late 19th and early 20th centuries, the medical profession often assumed genetics, unfavorable climates, and sedentary living played major roles in Native high mortality. Physicians such as Felix S. Martin of the Colorado River agency and Dr. Mary H. McKee of Keams Canyon wrote in 1899 that tuberculosis was caused by hereditary taint and that Native peoples “inborn predisposition to disease accounted for high morbidity rates” (Putney 1980:24). Agent Peter Ronan on the Flathead Reservation wrote:

There seems to be no peculiar cause for the affection, but those of a character fitted to lessen the energies of the system, and to impoverish the blood. The Indians’ mode of life may, to a certain extent, account for it. Habitual exposure to cold, insufficiency of nutritious food, with sometimes excesses in eating, want of cleanliness &c., may have favored the development of tubercles, but in the great majority of fatal cases of tuberculosis disease among
them, the original and essential cause would probably be found to be an inherited peculiarity of their organization. [Annual Report 1881:116]

As evidenced from Table 6.12, the cause specific death rates of tuberculosis on the Flathead Reservation were consistently higher than the state of Montana or the United States general population during this time, with the exception of 1910 which the Flathead tuberculosis rates were lower than the United States general population. Tuberculosis death rates are lower than other Plateau groups and Montana Natives as well (Boyd 1998; Crouch 1932). This is likely due to an under reporting of tuberculosis deaths and a general increase of the population each year (not due to births but tribal enrollment) that somewhat distorts death rates. Deaths from tuberculosis spiked in the year 1929 and again in 1931 ending in a cause specific death rate of more than 400 (per 100,000), twice the rates of 1928 and 1930, possibly due to the measles and influenza epidemics which occurred during this time (Narrative Reports 1925-1930).

Individuals found with a tuberculosis infection were sometimes sent away to tuberculosis sanitariums. However as tuberculosis was common, sanitariums filled up quickly with patients. Natives from the Flathead Reservation were often sent to sanitarium at Fort Lapwai, Idaho (Coe 1932). Native people resisted going to and sending their children to sanitariums with good reason. Individuals were separated from their families for long periods of time and the Fort Lapwai Sanatorium was a considerable distance to travel from the Flathead Reservation. James writes (2011:160) “unless a patient’s family lived in Lapwai, travel to or from the institution to visit was difficult. Only hilly and muddy wagon trails served as roads on the reservation.” In addition, while the death rate at the sanitarium was only estimated at 5 percent, Madonna Swan,
Table 6.11: Number of Tuberculosis Deaths by Age Group and Gender

<table>
<thead>
<tr>
<th>Age</th>
<th>Female</th>
<th>Row %</th>
<th>Male</th>
<th>Row %</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>5</td>
<td>38</td>
<td>8</td>
<td>62</td>
<td>13</td>
</tr>
<tr>
<td>1-10</td>
<td>26</td>
<td>53</td>
<td>23</td>
<td>47</td>
<td>49</td>
</tr>
<tr>
<td>11-19</td>
<td>32</td>
<td>65</td>
<td>17</td>
<td>35</td>
<td>49</td>
</tr>
<tr>
<td>20-29</td>
<td>31</td>
<td>64</td>
<td>17</td>
<td>35</td>
<td>48</td>
</tr>
<tr>
<td>30-39</td>
<td>8</td>
<td>44</td>
<td>10</td>
<td>56</td>
<td>18</td>
</tr>
<tr>
<td>40-49</td>
<td>11</td>
<td>41</td>
<td>16</td>
<td>59</td>
<td>27</td>
</tr>
<tr>
<td>50-59</td>
<td>8</td>
<td>44</td>
<td>10</td>
<td>56</td>
<td>18</td>
</tr>
<tr>
<td>&gt;60</td>
<td>24</td>
<td>60</td>
<td>16</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>145</strong></td>
<td><strong>55</strong></td>
<td><strong>117</strong></td>
<td><strong>45</strong></td>
<td><strong>262</strong></td>
</tr>
</tbody>
</table>

*missing the ages of 29 individuals*
Table 6.12: Tuberculosis Cause-Specific Death Rates, per 100,000

<table>
<thead>
<tr>
<th>Year</th>
<th>Flathead Reservation</th>
<th>Montana</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900</td>
<td>450 (1907)</td>
<td>--</td>
<td>194</td>
</tr>
<tr>
<td>1910</td>
<td>132</td>
<td>90</td>
<td>154</td>
</tr>
<tr>
<td>1915</td>
<td>738</td>
<td>113</td>
<td>140</td>
</tr>
<tr>
<td>1920</td>
<td>510</td>
<td>76</td>
<td>113</td>
</tr>
<tr>
<td>1925</td>
<td>294</td>
<td>73</td>
<td>85</td>
</tr>
<tr>
<td>1930</td>
<td>312</td>
<td>63</td>
<td>71</td>
</tr>
<tr>
<td>1935</td>
<td>233</td>
<td>47</td>
<td>55</td>
</tr>
<tr>
<td>1940</td>
<td>211</td>
<td>46</td>
<td>46</td>
</tr>
</tbody>
</table>

a woman from the Cheyenne River Reservation who had spent several years in sanitariums both for whites and Native peoples wrote “the white sanitarium was where people went to be cured of tuberculosis, the Indian sanitarium was where people went to die” (James 2011:142). Even in the 1950s although conditions and medicine had improved considerably from the beginning of the 20th century, tribal members went to considerable length to avoid being detected with a tuberculosis infection (Malouf 1952).

**Pneumonia**

According to death records, pneumonia was the second leading killer of Natives living on the Flathead Reservation. A total of 238 deaths (22 percent) recorded between 1900 and 1935 are attributed to pneumonia although more deaths are likely. Males succumbed to pneumonia more than females, (57 percent males to 43 percent females). Pneumonia was often recorded with the presence of other diseases such as tuberculosis, heart disease, influenza, measles, whooping cough, cancer, and alcohol.

Pneumonia is usually caused by the bacteria *Streptococcus pneumoniaeal* although it can be caused by a virus. Clinically, pneumonia is characterized by a high fever, chills, chest pain, and a cough that may contain phlegm with blood (Heymann 2008). While pneumonia is an inflammation of the lungs, other organs and other parts of the body can also become inflamed (Trazfer 1999:84). Vomiting, convulsions, and fever may be initial manifestations in infants and children. Case fatality ranges between 5 and 35 percent but depends largely on the immune status and age of the infected person as infants, the elderly, and immune suppressed individuals all have an increased susceptibility to pneumonia. In addition, susceptibility to pneumonia is increased by indoor air pollution due to wood burning stoves, crowding, and poor nutrition (Young 1994). Pneumonia is transmitted by direct contact and by droplet spread, often peaking in the winter months following
epidemics of influenza. In general, two forms of pneumonia, namely bronchopneumonia and lobar pneumonia exist. Lobar pneumonia is characterized by an inflammation of a lobe of a lung. In contrast, bronchopneumonia is “the inflammation begins in the bronchioles and bronchi-airways and spreads to tissues in one or both lungs” (Trafzer 1997:97). Bronchopneumonia was recorded more often in death records on the Flathead Reservation than lobar pneumonia.

The majority of pneumonia deaths (65 percent) on the Flathead Reservation occurred in the winter and early spring. The highest number of pneumonia deaths occurred in the year 1934 with 23 deaths followed by 1930 with 20 deaths. The cause specific death rates for the Flathead Reservation were 775 and 694 per 100,000 for those years. In comparison, crude death rates for Montana in 1934 and 1930 were 76 and 79 per 100,000 respectively.

Of the known causes of death for infants, pneumonia was the leading cause of death (29 percent, n=63). Of the deaths due to pneumonia, males (n= 40 males or 63 percent) made up the largest portions of deaths (females n=23 females or 37 percent). Some infants along with pneumonia also suffered tuberculosis, scarlet fever, and malnutrition creating a synergistic effect of disease and death. Pneumonia was also the leading cause of death for children aged 1 to 5. Trafzer and McCoy (2009) argue if autopsies would have been performed for infants suspected to have from pneumonia, the cause of the death would have most likely been changed to tuberculosis. According to Trafzer and McCoy (2009:31):

Deaths recorded by pneumonia among infants and children may well have been tuberculosis, disguised as pneumonia because of the lack of training by the recording person, including Indian Agents and staff working for the Office of Indian Affairs. These individuals provided clinical descriptions of death based on information provided by family members, and recording agents provided the descriptions based on symptomatic descriptions, not
autopsies which would have offered medical explanation of deaths. …but medical professional specializing in respiration diseases suggest that because tuberculosis was so prevalent on the reservation, infants and small children likely died of tuberculosis, not pneumonia.

**Accidents**

Accidents constituted the third leading cause of death on the reservation (8 percent) with total of 101 deaths. Accidental deaths resulted from poisoning, falls, trains, burns, fires, drowning, and from automobiles. Many deaths certificates and Bureau of Indian Affairs records listed only “accident” but some were descriptive including “fell from horse,” “fell off wagon,” “jail fire,” and “house fire.” Car accidents constituted the majority of the accidents listed (n=19) followed by drowning (n=17) and accidental deaths involving guns (n=13). Deaths resulting from accidents were an important cause of death for individuals of all ages. The youngest individual to have “accident” listed as a cause of death was 26 days, the oldest was 85. The average age of all deaths from accidents was 33. However, males formed nearly 77 percent of all deaths while females form the other 23 percent.

Accidents have been found to be a significant cause of death among other Native peoples as well. Trafzer (1997; 2009) found among the Yakama, accidents constituted the fourth (excluding car) and sixth cause (only car accidents) of death between 1888 and 1964. In a study of accidental deaths among the Navajo between the years 1957-1962, 15 percent of all deaths were attributed to accidents during that period (Omran and Loughlin 1972). Omran and Loughlin (1972:18) state that as Native peoples are in a transition, they “exhibit many insecurities and inabilities to copy with their changing way of life. This has resulted in a great deal of stress, violence, alcoholism, undisciplined children and social maladjustment. It is generally assumed that the relatively high rate of accidents associated with alcohol and violence is symptomatic of deeper seated social disorders.” According to T. Kue Young (1994), since the end of World War II, injuries from
accidents are one of the leading causes of death among Native peoples. Accidents are presently the third leading cause of death on the Flathead Reservation (American Indian Health Profile 2008).

**Heart Disease**

Deaths from heart disease and heart defects formed the fourth leading cause of death (n=99 or 7 percent) on the reservation between 1911 and 1935. Heart issues included congenital heart disease, heart failure, and heart attacks. The first recorded death from heart disease occurred in 1911 with deaths from heart issues occurring each year after. Deaths from this condition affected more males than females. Male mortality equaled about 67 percent of the total deaths while female mortality equaled 33 percent. While some deaths occurred among the younger population, the majority of the deaths occurred in individuals aged 50 years (67 percent) and older.

By 1910, heart disease became the leading cause of death for the United States general population and by 1930, heart disease was the leading cause of death for the state of Montana (Anderson and Wilson 1965). It is apparent that while most infectious diseases on the Flathead Reservation were decreasing in the 1930s, chronic diseases such as heart disease were increasing. Trafzer and McCoy argue that heart disease among Native people increased due to the stress of removal to reservations and changes in diet. While a change in diet was an important cause of heart disease, Native relationships with their food was also important epidemiological cause of change in health. “The bodies of Indian people had evolved biologically in such a way as to need and use roots, berries, venison, salmon, and other natural foods. This development occurred over time, but the net result of the loss of Native foods and resources placed their bodies in jeopardy” (Trafzer and McCoy 2009:91).
Gastrointestinal Diseases

Gastrointestinal disorders ranked fifth as major cause of death on the Flathead Reservation as about 5 percent of tribal individuals succumbed. The majority of deaths of gastrointestinal related deaths were of children aged one and younger. More females died than males from gastrointestinal disorders.

Dehydration and diarrhea are often side effects of gastrointestinal disorders. Symptoms of those with gastrointestinal diseases include a general discomfort in the stomach, intestines and other organs of the digestive tract. According to Young (1994:72) gastrointestinal disorders are “generally transmitted from person to person through the oral-fecal route. Outbreaks often can be traced to a common source of food, water, or fomites. Environmental factors that favor the transmission of diarrheal diseases including overcrowding, inadequate sanitation, and a contaminated water supply.” Gastrointestinal disorders may be accompanied by diarrhea, nausea, vomiting, fever, and abdominal pain. “Usually people suffering from gastrointestinal disorders will become thirsty, but they are often unable to keep fluids in their stomachs because of vomiting. The malady is complicated by diarrhea which contributes to the person’s state of dehydration” (Trafzer 1997:101). Dehydration in children is particularly devastating.

Gastrointestinal disorders were also an important cause of death for the United States general population until the 1930s when diarrhea and enteritis diseases were replaced by diabetes as the tenth leading cause of death.

Influenza

Influenza or la grippe- as it was sometimes called, killed at least 56 individuals on the Flathead Reservation from 1900 to 1935 and was the sixth leading cause of death among Native peoples. Female deaths (60 percent) slightly outnumbered male deaths (40 percent). Infants under
the age of one, made up 26 percent of deaths attributed to influenza. Influenza was implicated in the deaths of several individuals especially those who were already suffering from another disease such as tuberculosis or pneumonia. Influenza was common to reservations and to the general population of the United States in the early 20th century. Along with tuberculosis and pneumonia, influenza was also one of the third leading cause of death among the general population of the United States.

Influenza (n=16) killed 6 percent of infants. One infant died of influenza in 1918 but five more died in 1920 which is when the Indian Agent reported the “Spanish” influenza hit the reservation the hardest (Narrative Report 1920). Infant deaths from influenza aged from one month to ten months old. The year 1921 held a high infant mortality rate but many of the deaths recorded that year were listed as unknown but it is possible that influenza was also an important cause of death for that year as well. For children over the age of 1 to 5 years old, influenza was the fifth leading cause of death.

Cancer

Deaths from cancer caused the seventh leading cause of death (n=40 or 3 percent). Epidemiologically, “cancer is not a single disease but a group of disease with different etiologies, clinical and pathological features” and affects different organs of the body and tissues (Young 1994:95). It is a disease characterized by “malignant cells multiplying and spreading uncontrollably” (Trafzer 1997:104). Tobacco, dietary factors, infectious agents, occupation,
Table 6.13: Leading Causes of Death for Children 5 and Under, 1900-1935

<table>
<thead>
<tr>
<th>Under 1 year of age</th>
<th>Ages 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pneumonia (63)</td>
<td>1. Pneumonia (35)</td>
</tr>
<tr>
<td>2. Premature (31)</td>
<td>2. Tuberculosis (31)</td>
</tr>
<tr>
<td>4. Influenza (16)</td>
<td>4. Accidents (12)</td>
</tr>
<tr>
<td>5. Tuberculosis (13)</td>
<td>5. Influenza (8)</td>
</tr>
</tbody>
</table>

Source: BIA records 1924-1935, death certificates
alcohol are all noted risk factors for cancer (Young 1994:105). Cancer is not always deadly but treatments for cancer in the early part of the 20th century were not well developed (Trafzer 1997).

Individuals died from all types of cancer including cancer from breast, gall, uterus, stomach, pelvis, and nose with stomach cancer listed as the majority cause of cancer deaths (n=30). Although a death resulting from cancer occurred as early as 1908, most of the cancer deaths from occurred in the late 1920s and 1930s. Female deaths outnumbered male deaths but only by four. Although Plateau peoples used tobacco ceremoniously and the Kootenai cultivated tobacco (Turney-High 1930), lung cancer was not listed as a type of cancer that individuals died from. Trafzer (1997) suggests cancer as a result from tobacco use became more significant for Plateau Natives after World War II because cigarettes use among Native peoples became more common. While historically, Native peoples were at low risk for cancer (Young 1994) it is now the second leading cause of death of Native peoples in general (Center for Disease Control (CDC) 2013) and the leading cause of death on the Flathead Reservation (American Indian Health Profile 2008).

**Senility**

Individual dying from old age or senility formed the eighth leading cause of death on the Flathead Reservation. At least 36 individuals had old age or senility listed as a cause of death although it is quite probable that many more individuals died from the effects of old age on the Flathead Reservation in the early part of the century. Senility is described as “changes in mental ability caused by old age” (Trafzer 1997:107). Trafzer (1997:107) further states that individuals “who had died of this cause had likely lost control of their intellectual abilities and some may have suffered from dementia due to Alzheimer’s disease.”
**Premature Death**

Infants listed as premature (n=31 or 13 percent) made up the ninth overall leading cause of death for the Flathead Reservation and the third leading cause of death for infants. The medical field considers a premature baby born before 37 weeks of gestation. Spontaneous abortions, an incompetent cervix, or a premature rupture of a membrane may cause a premature birth (Goldenberg and Rouse 1998). A mother’s health is also crucial factor to premature births. Malnutrition, kidney disease, hypertension, heart disease and diabetes may all affect a woman’s ability to carry a baby to full term (Trafzer 1997:105). Slightly more female (n=17) infants died than from a premature birth than males (n=14).

According to a study in 2003, infants born prematurely or have a low birth weight are more likely to suffer more health problems as adults than infants born full term. Moser (et al. 2003:687) note that “birth weight is related to adult outcomes: lower weight infants have on average shorter adult stature, increased blood pressure, increased risk of non-insulin dependent diabetes, and, in later life, higher rates of fatal heart disease, stroke, and obstructive lung disease.”

An additional 16 infants between 1920 and 1935 were listed as stillborn (Montana Death Certificates). A still birth “is an intrauterine death of a fetus when the baby is born dead after the twenty-eighty week of pregnancy” (Trafzer 1997:105). Usually stillborn deaths were not recorded by the Bureau of Indian Affairs but in 1931 four stillborn deaths were recorded accounting for 36 percent of the total stillborn deaths.
Homicides

Little research exists on homicide and suicides rates on reservations for the early 20th century although homicides accounted for the tenth leading cause of death on the Flathead Reservation. This is probably because data is not readily available and available data is questionable. I used descriptions from newspapers and death certificates which would not necessarily be official declarations from the law as official homicides.

A total of 28 deaths from 1900 to 1935 were attributed to homicide although this number is likely higher. Most homicides were committed by Native men against other Native men. A few homicides included Native women killed by their husbands and then the husbands committing suicide. It is interesting to note that most homicides were usually not random criminal acts but were committed by close friends or relatives of victims.

A study conducted in St. Louis of the structural and cultural determinates of homicides shows that homicides are common in “segregated areas of concentrated poverty, as a consequence of economic deprivation, the absence of a police presence, distrust of the police when they are present, and a culture of honor that requires retaliation for disrespectful behavior” (Kunitz 2007:102).

Although the Flathead Reservation population was small compared to state of Montana, homicide rates were quite high. In 1917, the homicide rate was 124 (per 100,000) and 1929 the homicide rate was 103 (per 100,000). In comparison, Montana homicide death rates were 18 and 10 (per 100,000) (Anderson and Wilson 1965).

An additional 15 deaths were attributed to suicide. Four women and eight men committed suicide. Individuals committed suicide by swallowing poison, hanging, and gunshot.
Of the “social pathologies” (accidents, suicides, homicides) related deaths, accidents contributed the highest amount of mortality. Although homicides and suicides did not contribute to a large portion of deaths, they are as Kunitz (1983:109) notes important indicators of social processes. Kunitz (1983:180) also argues “Acting-out behavior which is reflected in accidents of all sorts is not randomly distributed among Indian tribes, but, is related to traditional patterns of social organization and social control.” The average age of individuals who committed suicide was 32, murdered was 30, and killed by accidents was 33.

Conclusion

This chapter investigated the demographic patterns on the Flathead Reservation in the late 19th century and early part of the 20th century. Towards the end of the 19th century and into the early 20th century, the disease ecologies, demographic, and epidemiological patterns that had characterized earlier health patterns of Native peoples were in the process of a transformation (Waldrum et al. 2006:68). The transition to a more permanent reservation marked a transition in health for Native peoples although Natives living on the Flathead Reservation were no longer subject to epidemics that produced large mortality within a short period of time. Instead, smaller epidemics of infectious diseases occurred frequently although usually with less mortality.

Infectious diseases, such as tuberculosis and pneumonia, became common in prevalence and a cause of death among individuals of all ages. Chronic diseases, such as heart disease and cancer, also began to emerge as a cause of death particularly in the 1920s and 1930s, resulting from lifestyle changes and a lack of access to traditional foods. Accidents, suicides, and homicides (or at least the reporting) also increased during this time period. Although the health conditions remained less than ideal on the Flathead Reservation, the population grew substantially. This was due however to an increase of intermarriage patterns and changes in the Federal Government’s policies.
regarding tribal membership rather than an absence of infectious diseases or a natural increase of the population.

Overall, males and females shared the most common causes of death of tuberculosis, pneumonia, and heart disease. There were some differences in the causes of deaths between males and females. Females died more from tuberculosis than males and more males died from pneumonia than females. Accidents, the third leading cause of death, claimed 75 percent of male deaths, while only 25 percent of accidental deaths occurred for females. Deaths from homicide were also a majority of male deaths. Some causes of death were gender specific as death resulting from childbirth only affected females and was the tenth leading cause of death among females.

The younger population, specifically infants aged 1 and under, formed the majority of deaths by age group, followed by individuals over 60 years old, and individuals aged 15 to 24. From known death records, infants died from five leading causes of death, pneumonia, tuberculosis, influenza, gastrointestinal, and from prematurity. Children aged 1 to 5 died from pneumonia, influenza, tuberculosis, gastrointestinal disorders, and accidents. The following chapter contains the discussion and conclusions for this study.
Chapter 7
Discussion and Conclusions

Tribal peoples on the Flathead Reservation experienced dramatic health changes during the late 19th and early 20th centuries. As shown in chapter 3, the Federal Government (through the Bureau of Indian Affairs) forced Native peoples to enter a cash economy based on agriculture and stock-raising. While initially resisting changes to their traditional economy, many Native people adopted and thrived in a new economy. Although they incorporated agriculture and cattle into their economy, they actively tried to retain aspects of traditional hunting and gathering activities and shared the land communally, respecting the land use of others without the concept of private property. With the implementation of the General Allotment Act, Indian agents reserved the best agricultural land for white settlers, giving Native peoples land often unsuitable for continuing their economic livelihood. Excess land left over from allotment was bought from the tribal government at pennies on the acre and then sold at higher prices to white settlers by the Federal Government. Under the policies of the General Allotment Act, Native people lost their land at alarming rates and by 1934, only a small portion of the population continued to live on their original allotments.

Coupled with land loss, and for many employment loss, Native people suffered serious health defects as evidenced by chapters 5 and 6. The Flathead Reservation became a breeding ground for infectious diseases that continually afflicted Native peoples throughout the early part of the 20th century. Diseases, such as tuberculosis and pneumonia, plagued the reservation afflicting all ages and were the leading causes of death from 1900 to 1935. Chronic diseases, such as heart disease and cancer, began to emerge as a cause of death, particularly in the 1920s and 1930s, resulting from lifestyle changes and a lack of access to traditional foods. Accidents,
suicides, and homicides (or at least the reporting) also increased during this time period. Infants were predominantly susceptible to unfavorable health conditions as mortality rates were high and premature deaths constituted a leading cause of death on the Flathead Reservation. Lack of health reporting details by Indian Agents to the Bureau of Indian Affairs seriously hinders a proper assessment of the health conditions as more than 700 deaths did not have a cause of death during the time period of this study. It is obvious that Indian Agents and the Federal Government were more interested in the economic development of the Flathead Reservation (Cahoon 2005; Trosper 1974) for non-Natives than preserving the culture and lives of Native people.

While health conditions were not ideal, the population on the Flathead Reservation grew substantially in the 20th century. A decrease in mortality and population growth does not necessarily mean that a population is “healthy” (Izquierdo 2004). As Turshen (1984:49) points out, population growth does not “imply improvement in health, let alone say anything about the impact of health services.” While a decrease of destructive infectious diseases hastened population growth, the population also grew by changing tribal membership requirements and intermarriage with non-Natives. These aspects also impede an accurate demographic profile of the Flathead Reservation.

The reservation system as organized by the Federal Government sought to destroy all aspects of Native life including what people ate (Biolsi 1992). Traditionally, the Salish, Pend d’Oreille, and Kootenai peoples had existed on an annual subsistence cycle of hunting, fishing, and gathering. As Native peoples access to traditional gathering and hunting grounds diminished, they gradually lost access to food, which had a high fiber content, and “rich in essential vitamins and minerals well preserved by indigenous drying techniques… foods that
provided all essential nutrients, including ample calories” (Hunn 1990:283). Nutritional shifts forced Native peoples to rely more on processed food which they purchased from grocery stores or received from the Federal Government as commodities (Trafzer 1997:198). Processed foods “are high in short-chain carbohydrates and animal fats but low in long-chain carbohydrates and fiber” (Hunn 1990:283). Shifts in nutrition made individuals and especially children particularly susceptible to protein malnutrition. Malnutrition has a negative impact on health and according to Moffat and Herring (1999:1828), impairs the “immune system function rendering individuals not only more susceptible to infectious disease, but more likely to suffer prolonged, severe bouts of the disease, which ultimately can result in death.”

Weidman (2012:603) mentions that besides changes in diet and food, the Federal Government repressed ceremonial and traditional dances, furthering limiting physical activity and community gatherings. Physical activity is essential, with a balanced diet, to maintain health. “Moderate to high levels of physical activity help to maintain energy balance and therefore contribute to the prevention of obesity. Physical activity reduces the risk of heart disease, stroke, Type II diabetes, osteoporosis, colon cancer, and high blood pressure, among other chronic, degenerative health problems” (Milburn 2004:415-416).

In addition to changing the food that people ate, the BIA forced Native peoples to change the conditions in which they lived. Traditionally, Native people lived in teepees made out of animal hides or tule mats. These houses were moved often and thus ensured clean and sanitary housing conditions. However, BIA official forced Native people to give up traditional housing for more “civilized” houses. These houses were usually small and lacked proper ventilation. The “lack of space, ventilations, and sunlight and poor sanitation can lead to the appearance and maintenance of pathogenic organisms” (Roberts and Buikstra 2003:59). As Native peoples lost
their allotments and subsequently their livelihood due to the policies of the Allotment Act, families lived together. Small houses might contain two or three families living together. Living in crowded conditions meant that people contracted diseases such as tuberculosis more frequently because they “were in contact with each other for longer and more continuous times” (Roberts and Buikstra 2003:60). Indian Agents noted often the poor and unsanitary conditions of Native housing in the 20th century (Narrative Reports 1910-1924). Anthropologist Claude Schaeffer (1936) also pointed out that substituting buffalo hides for poor quality wool blankets affected Native peoples' health.

O’Neil points (1988:34) out health services provided by the Federal Government to Native peoples was a powerful colonial force designed to act as an agent of social control for the dominant society. In accordance with policy and treaty agreements, the Federal Government attempted to provide health care to tribal peoples on the Flathead Reservation, thereby controlling Native peoples’ access and choice for health care. Changes in politics and administration, lack of funds, and inadequate policies meant that there was usually a shortage of trained medical personnel who lacked the resources or means to treat people that were ill. This greatly affected people’s health and men, women and children living on the Flathead Reservation suffered and died as a result. Unlike other Montana reservations, the Flathead Reservation had a large white population which attracted physicians (Narrative Report 1910). Native people had other options for health care from physicians who most likely had more education and better access to improved medicine but data does not exist to test whether or not Native peoples went to non-BIA doctors more or had more positive experiences.

Having other options than medical care provided by the BIA does not negate the fact that Native people were still forced to seek care from western biomedicine providers. Sociologist
Paul Starr, writes “that a healing profession gains power and prestige when it acquires social and cultural authority and converts that authority into economic and political control over the medical domain” (Joralemon 2006:73). Those who sought to continue to use culturally appropriate medicine though traditional healers faced punishment either through social sanction or physical punishment because they resisted the authority of the physician (Wiedman 2012). Traditional healers were often incarcerated and sometimes far from the Flathead Reservation to lessen their influence within the community (Schaeffer 1936). Protection for Native religion by the Federal Government did not exist until 1978 with the passing of the American Indian Freedom of Religion Act.

Tuberculosis was the leading cause of death on the reservation with pneumonia following a close second. Cause specific death rates ranged between 750 and 211 (per 100,000) in the time under study. While both males and females suffered from tuberculosis, more females died from tuberculosis than males. Presently, more males experience death from tuberculosis than females (Zaman 2010). Dye (2006:938) suggests a significant epidemiological difference exists between genders “both in exposure to infection and in susceptibility to development of active disease.” Explanations as to why females on the Flathead Reservation suffered more from tuberculosis include work habits and health care responsibilities. Females were more likely confined to homes where tuberculosis spread in unsanitary and unventilated conditions. Women were also more likely to care for family members or friends with tuberculosis thus contracting the disease in the process. It is possible that males and females had a similar prevalence but males died from other causes such as accidents before they could die from tuberculosis.

While tuberculosis is caused by the bacillus “some health professionals disagree as to whether the bacillus is also a sufficient cause” (James 2011:143). Evidence suggests that
tuberculosis can be caused by multiple factors such as poverty and disfranchisement… “Political and social upheaval may also be proximate causes” (James 2011:143). For example, the fall of the Soviet Union led to an increase of tuberculosis cases (James 2011:143). According to Shiloval and Dye (2001:1069), transmission and susceptibility to tuberculosis increased in the Soviet Union “because social and economic conditions have had a broader, negative impact on Russian health. High labor turnover and unemployment, declining social cohesion and equality, stress, and war at Russia's geographical margins have been thoroughly documented.”

Tuberculosis deaths began to decrease among Flathead Natives in the 1930s and decreased more into the 1940s and 1950s, reaching similar levels to the general population of the U.S. Declines in tuberculosis death rates cannot be attributed to antibiotic therapy or to BCG vaccination as they were not in use until the 1940s and 1950s. Medical historians have cited sanitariums, pasteurization of milk, and the reduction of overcrowding as reasons for tuberculosis decline in the general populations (Putney 1980:136). Putney points out “the Indian Office never was able to isolate enough tuberculosis Indians to account for any decline in mortality rates; the need of ailing Indians for sanitarium care had always greatly exceeded sanitarium capacity” (Putney 1980:136). Putney also points out that as milk drinking was not common among Native peoples nor was pasteurization pushed by the Office of Indian Affairs, milk cannot explain the reduction of tuberculosis infections and death. Overcrowding did not decrease among Native peoples nor did they build bigger dwellings to accommodate larger family sizes.

Putney (1980) cites an improvement in nutrition status and a return to farming as contributing to the decrease of tuberculosis in Native populations. Commissioner Sells encouraged Native peoples to farm, as it not only made good Americans, it helped them to be
healthy as well. “Believing proper nutrition to be on the principle armaments of preventive medicine, I have sought to encourage and promote Indian industry in general and Indian farming in particular: I have tried to make agriculture and thrift pillars of a health arch of which the keystone shall be sanitary education” (Putney 1980:138-139). In 1911, a total of 24,489 Native farmers cultivated 383,000 acres of land but by 1916, at least 35,000 Native farmers cultivated 678,000 acres of land (Putney 1980:139). “The decline of tuberculosis was probably caused by the improved nutrition of those thousands of Indians who turned to agricultural pursuits prior to World War I” (Putney 1980:140). This on the Flathead Reservation would not explain a decrease of tuberculosis as Native people lost more land and stopped farming prior to World War I.

Kunitz (1983:75) suggests that the decline of tuberculosis deaths was linked to the decline in influenza and pneumonia deaths, which began nationwide in the 1930s. “Death rates from tuberculosis were excessively high during the influenza pandemic in 1919. Indeed, most patients with chronic disease continued to have an increased probability of dying during an influenza epidemic. Therefore, if influenza and pneumonia were increasing treatable, mortality would have declined as those patients suffering from the disease would have had a greater chance of surviving episodes of superimposed infections” (Kunitz 1983:76). Andrew Noymer argues the tuberculosis death rates were lowered by the 1930s due to the 1918/1919 flu pandemic. “The pandemic killed many tuberculous peoples, affecting the tuberculosis death rate in later years by diminishing the size of the pool of tuberculous persons and interrupting transmission” (Noymer 2010:149-150). Decline in infectious diseases rates were then not due to Native people’s participation in western medicine or to any action taken by the Bureau of Indian Affairs to reduce tuberculosis infections in Native populations.
While deaths from infectious diseases such as tuberculosis and pneumonia decreased by the 1940s and 1950s, other causes of deaths have increased. Boyd and Gregory (2007) report historically that cancer was relatively rare among Plateau peoples. In the first part of the 20th century, cancer was the seventh overall leading cause of death for the reservation, seventh for men, and the eighth leading cause of death for women, only killing 40 people during the span of the study. Presently, cancer is the leading cause of death on the Flathead Reservation and the third leading cause of death for Native peoples in general (American Profile 2008; CDC 2014). According to Burhansstipanov et al. (1999:221) “within Native American communities, health programs continue to focus on alcoholism and diabetes, although cancer is responsible for more deaths than either of these conditions.”

Although cancer is the foremost cause of death, the diagnosis rate for cancer for Native Americans on the reservation is lower than the state of Montana. Burhansstipanov et al. (1999) state, “in comparison to other ethnic groups, American Indians and Alaska Natives seldom utilize early cancer detection screening programs. They also are rarely recruited to participate in clinical trials or state-of-the-art treatment programs. When recruited, they typically are not retained throughout the duration of the study, but withdraw and cannot be evaluated.” Reasons for low participation in screening include “poverty and psychosocial, sociocultural, and policy barriers” (Burhansstipanov et al. 1999:233).

Heart disease was another chronic disease that became increasingly common on the Flathead Reservation in the early 20th century. By the 1930s, heart disease was the fourth leading cause of death for males and females. Although heart disease was the fourth leading cause of death for both genders, males died more frequently from heart disease than females in the 20th century. This pattern has continued to present times as usually males have a higher
prevalence of heart disease than females. However, Native women who also have diabetes usually have higher rates of coronary heart disease (Yellow Horse Brave Heart 1999). The first recorded death from heart disease occurred in 1910 and continued to occur each year. Heart disease continues as one of the leading causes of death for Native peoples in general and for the general population of the United States. Heart disease is currently the second leading cause of death on the Flathead Reservation with a death rate of 297 per 100,000 (American Indian Health Profile 2008). This death rate is higher than for the state of Montana with a rate of 207 per 100,000 and the general population of the United States rate of 191 (per 100,000) (CDC 2014).

Historically, accidents were the third leading cause of death on the reservation, third leading cause of death for men, and the sixth leading cause of death for women. In 2008, accidents remain the third leading cause on the Flathead Reservation and for Native peoples in general (American Indian Health Profile 2008). Deaths from accidents resulting from motor vehicles have also increased as cars have become the norm on the reservation. The death rate on the Flathead Reservation for deaths involving the use of cars is 40 per 100,000, nearly twice the death rate for the state of Montana (Community Needs Assessment 2012). The increase accessibility to alcohol and the frequent use of alcohol while driving has contributed to high death rate for automobile accidents as well as health issues.

While alcohol was present on the Flathead Reservation in the early part of the 20th century, alcohol use was low. Although it was not heavily enforced, it was illegal for whites to sell Native people alcohol or even for Natives to possess alcohol on the reservation. Alcohol was implicated in only a few accidental deaths and only five individuals are noted as specifically dying from alcohol abuse between 1900 and 1935. Since the 1930s, alcohol use and abuse has increased considerably on the Flathead Reservation and especially for young people. Maria
Yellow Horse Brave Heart (1998) also points out that substance abuse and depression are high among boarding school survivors.

Presently, diabetes mellitus type II is one of the most pervasive and widespread disease among Native peoples. As a debilitating disease, diabetes often causes blindness, cataracts, amputations, renal disease, and heart problems. Generally, Native populations experience higher incidences of diabetes than whites and are three times more likely to suffer mortality from diabetes (Thornton 2002). Prevalence rates among Natives aged 18 and older have reached 13.6% compared to a 7.4% for the overall U.S. population (Thompson et al. 2008). Diabetes is also becoming more prevalent among young Native populations. As pointed out by Cavanaugh (et al. 2008:1030), “If the onset of disease continues to occur in younger populations, middle-aged Native Americans with diabetes will have more years of disease burden and a higher probability of developing serious or end-stage vascular complications by the ages of 35 or 40 years.”

Campbell (1989a:9) has called diabetes mellitus type II “a new disease” among Native peoples as it was rarely diagnosed in tribal populations before the 1940s. West’s (1974) study of Native peoples in Oklahoma from 1832 to 1939, did not find any cases of diabetes prior to 1940, although diabetes had reached epidemic portions by the 1960s. Trafzer’s study similarly noted the rarity of diabetes deaths between 1888 and 1964 on the Yakama Reservation. At least five individuals died from diabetes on the Flathead Reservation from 1910 to 1940. The earliest death occurred in 1912 and the others in the 1920s. It is possible that other deaths occurred as a result from diabetes or the result from diabetes but were not recorded as such as the Bureau of Indian Affairs primarily focused on tuberculosis, trachoma and venereal diseases as health concerns during the first half of the 20th century. Diabetes on the Flathead Reservation
increased in the 1940s and in 1942 alone, six individuals died from diabetes, more recorded than the previous 40 years.

Researchers have attempted to explain why diabetes has become so prevalent among Native peoples. Genetics, diet, and behavior have been offered as explanations (Ferreira and Lang 2006; Hunn 1990). Nancy Scheper Hughes (2006:xviii) writes, “to date the prevailing medical model of diabetes etiology focuses on the ‘faulty genes’ of Indigenous peoples combined with their faulty diets, and other unhealthy behaviors, victim-blaming hypotheses that only serve to trap the sick person inside a cage of disease that is seemingly of their own making.” Rarely do scholars and researchers analyze the political or economic factors facing Native peoples.

While a present diabetes study does not exist for the Flathead Reservation, research on Montana Natives as a whole suggests that Native peoples die at three times higher than non-Indians, Native women are twice as likely as white women to suffer from gestational diabetes, and Native peoples develop diabetes 2.5 times higher than non-Natives (Hall et al. 2007). In 2005, although Native peoples make up less than 7 percent of Montana’s population, they contribute 25 percent of all the prevalence cases of diabetes. The prevalence of diabetes among Native peoples in Montana is also increasing. The prevalence of diabetes increased from 12.2 percent in 1999 to 18.7 percent in 2005. In a recent report on women’s health in Montana, Native women have a 16 percent rate of diabetes compared to 8 percent of other Montana women and 7 percent to women nationally (Kuipers and Winkler 2012). In 2008, at least 650 cases of diabetes were reported on the Flathead Reservation attesting to the rising prevalence of diabetes in the population (American Indian Health Profile 2008).
In the first forty years of the 20th century, 15 deaths were attributed to suicide (although this number might have been higher) and was not considered a significant cause of death. Since this time, the presence of suicide related deaths has increased dramatically. Between 2001 and 2010, the suicide rate for Native peoples on the Flathead Reservation averaged 29.2 per 100,000, more than twice the suicide rate for the United States but only slightly higher than the state of Montana at 20.5 per 100,000 (Community Needs Assessment 2012). Usually associated with suicide is depression. O’Nell’s (1996) investigation of depression on the Flathead Reservation in the early 1990s revealed that 80 to 90 percent of all tribal members suffer from some degree of depression.

Maternal and infant mortality rates have decreased drastically from the early 1920s and 1930s. Childbirth constituted the 10th leading cause of death for women for the beginning of the 20th century and deaths related to premature births was the 9th leading cause for the tribal people in general on the Flathead Reservation. Overall, infants aged 1 and younger formed the largest age mortality group. Modern technology and improved medicine has lowered the maternal death rate to 11.1 per 100,000, a 67 percent decrease from the 1970s (Community Needs Assessment 2012). Today, infant mortality rates in general for Native peoples are estimated to be 8.5 per 1,000, slightly higher than the United States general population infant mortality rate of 6.4 per 1,000 (Office of Minority Health 2013). While the leading causes of infants in the 19th and 20th centuries were largely from infectious diseases, Native infants die today from issues related to congenital malformations, sudden infant death syndrome (SIDS), low-birth weight and accidents (unintentional injuries) (Office of Minority Health 2013).

Homicide rates have also decreased drastically from the beginning of the 20th century but have not disappeared. Currently, the homicide rate for Native peoples in general is 11.8 per
100,000, twice the rate of the United States general population. Violence remains common to reservations and especially towards Native women. Specific data does not exist for Montana Native women or for the Flathead Reservation but a recent report estimates that, 34 percent “of American Indian and Alaska Native women will be raped in their lifetimes, and 39 percent of American Indian and Alaska Native women will be subjected to domestic violence in their lifetimes” (Kuipers and Winkler 2012:31). According to Walters and Simoni (2002:522):

Native women are disproportionately affected by violence at a rate almost 50% higher than that reported for African American males. In addition, the violent crime rate among Native women (98 per 1000) is higher than that among women of any other ethnic group.... It has been shown that Native women are at increased risk of experiencing physical and sexual assault as well as child abuse and neglect.

In spite of the conditions that the Salish, Pend d’Oreille, and Kootenai lived in the late 19th and early part of the 20th centuries, they have continued to exist and tribal culture remains strong. Although many things have changed on the reservation, people continue to remember the poor health conditions and how things changed with the opening of the reservation. Tribal elders recall knowing family many challenges. However, the historic and contemporary commitment to tribal sovereignty provides hope and confidence in a sound future” (Cajune 2009:28).
Appendix A
Epidemiology of Infectious Diseases

Chickenpox

A chickenpox infection “begins suddenly with a slight fever, mild discomfort, and a generalized skin eruptions of small, red bumps that turn into small blisters like, liquid-filled vesicles. The lesions appear in successive crops all over the body, starting with the torso. Highly susceptible individuals develop lesions on the scalp, palms of the hands, soles of the feet, inside the mouth, and sometimes even on the mucous covering the eyes.” (Barnes 2005:198). The rash lasts between seven and ten days and heals between two and four weeks (Heymann 2008:110). The chickenpox infection spreads by direct and indirect contact. Susceptibility to chickenpox is universal among those not previously infected or vaccinated but infections are more severe in adults than children (Heymann 2008:112). “Newborn infants have the highest risk for developing an infection, which can be deadly in 30 percent of those exposed” (Barnes 2005:198).

Cholera

Cholera is an acute bacterial enteric disease with a sudden onset. Individuals with cholera experience an abrupt onset of diarrhea “at first watery and brown but quickly changing to pale fluid stools containing only a little mucus and cell debris-the so called rice water stools” (Bannister 2003 et al. 440). Fever is not present. Infants and children suffer the most from severe diarrhea and thus become dehydrated within hours. Severe dehydration and shock in untreated individuals experience death within a few hours (Hilborne and Golomb 2001:44). The consumption of unsafe water, poor hygiene, poor sanitation and crowed living conditions have
all been linked to cholera epidemics (Heymann 2008). Cholera is transmitted by the ingestion of water or food that has been contaminated with human feces and through the handling of feces of infected individuals. Incubation period is anywhere between a few hours to five days.

**Diarrhea**

Diarrhea can be a symptom of infection by several different bacterial, viral, and parasitic agents such as cholera, salmonellosis, Escherichia coli, and measles. Transmission of infectious diarrhea is by fecal-oral contamination of food, water, contact with infected animals, fecal-feeding flies, and contaminated fomites (Campbell 1987:107).

**Diphtheria**

In March 1901, a diphtheria epidemic ravaged the Kootenai. Diphtheria is an acute bacteria disease involving the mucous membrane of the upper respiratory tract (Heymann 2008:195). Diphtheria is transmitted by direct contact with a carrier and by contact with articles soiled with discharges from lesions from an infected person. The incubation period is between two and five days. Case fatality is 5 to 10 percent even with treatment. Although infection is rare, diphtheria remains common in areas of poor hygiene and sanitation.

The most common form of diphtheria is pharyngeal diphtheria although cutaneous diphtheria is more infectious. Individuals with pharyngeal diphtheria experience fever, sore throat, and a “marked oedema of the cervical lymph nodes, which may produce a bull-neck appearance” (Bannister et al. 2003: 128).
**Dysentery**

Dysentery manifests itself in two acute forms, a protozoan parasite called *Entamoeba histolytica* and bacillary dysentery (Campbell 1987:108). Bacillary dysentery or shigellosis is caused by four different bacterial sero-groups with numerous subtypes, the most dangerous of which is *Shigella dysenteriae* (Linton 2010:607). Both forms exhibit similar epidemiology. Dysentery attacks the small intestines and colon, producing swelling, ulcerations, and micro-lesions (Linton 2010:607). Dysentery is transmitted by contaminated food, milk, or water and by the fecal-oral route by individuals who have the infection. Secondary cases in households are common. The incubation period for bacillary dysentery ranges from one day to a week. Incubation periods for amoeba dysentery range from three weeks to three months. Individuals with dysentery “experience small-volume frequent stools consisting of blood, mucus, and pus, with abdominal cramps and tenesmus. Most patients recover over the period of up to a week, although with severe disease, they can suffer colonic perforation that can prove fatal” (Hilborne and Goblum 2001:36). The disease can last anywhere from several days to three weeks. Individuals can experience as many as twenty bowel movements daily giving rise to severe dehydration quickly (Linton 2010:607). Outbreaks of both types of dysentery occur under conditions of crowding and poor sanitation and hygiene (Bannister et al. 2003: 174). Malnutrition also serves to exacerbate this infection. Peak incidence is of children five years and younger.

**Gonorrhea**

Caused by the bacterium *Neisseria gonorrhoeae*, Gonorrhea spreads through sexual contact. Gonorrhea can also spread by an infected pregnant mother to her baby during childbirth.
(Michaud 2007:9). For women, the most serious complication from an untreated gonorrhea infection is the development of pelvic inflammatory disease (PID). PID can be very painful and can cause damage to the fallopian tubes (Newton 2010:9).

Scholars disagree over the extent that treponemal diseases existed among Native peoples before European contact (Newman 1976; Merbs 1992, Powell and Cook 2005). The form of treponemal disease present in the Americas before European contact was probably nonvenereal (Baker and Armelagos 1988; Curtin 2005). Skeletons of Plateau peoples “show periostitis of long bone shafts an important diagnostic of American treponematosis” (Boyd and Gregory 2007:57). Boyd and Gregory (2007:57) argue that “If it occurred in the Plateau, treponematosis was probably non-venereal, and concentrated among children.” Although syphilis (venereal) was probably transmitted at trading posts throughout the Northwest and Plains cultural areas, it is not reported as a major health problem for Plateau peoples before reservations (Boyd and Gregory 2007:57; Boyd 1999).

Syphilis, caused by the agent *Treponema palladium*, enters the body through a break in the dermal or mucosal tissues. After a short incubation period of about three weeks, a painless lesion called a chancre appears at the site of inoculation, usually on the genitalia. Swelling of the local lymph nodes usually also occurs (Powell and Cook 2005:20).

**Influenza**

According to Steinhoff (2006:577) influenza has a unique epidemiology in that it is an annual epidemic occurring in all regions of the world with an attack rate of 10 to 30 percent and it is a classical emerging infection causing global pandemics when new antigenic variants emerge. Influenza is an acute viral disease of the respiratory tract transmitted by droplet and
direct and indirect contact (Heymann 2008:315). Average incubation period is 24 to 72 hours after exposure which an infected individual may experience chills, fever, headache, malaise, backache, sneezing, and coughing (Bannister et al. 2003). An influenza infection is usually self-limiting only lasting a few days, however, complications can arise with elderly individuals and those who have a compromised immune system (Steinhoff 2006). Individuals may develop viral or bacterial pneumonia which can be fatal. Common complications with children and infants are croup and otitis media.

**Malaria**

Malaria is a complex disease and is transmitted by an anopheline mosquito, a parasite and a secondary host (Boyd 1999: 289). According to Hunn (1990: 31) the anopheline mosquito thrived “along the Columbia east to near The Dallas and required only the introduction of the disease agent in the blood of an infected passenger of one of the numerous trading vessels arriving from the Mexican coast, where malaria had arrived with the African slaves brought to work colonial plantations in the sixteenth century.”

**Measles**

Measles is one of the most infectious diseases. Characterized by prodromal fever, bronchitis and Koplik spots, both adults and infants are highly susceptible to measles. Children under three are particularly susceptible and measles remains a major cause of childhood mortality in developing countries. In the absence of vaccination or prior exposure (as exposure to measles causes lifelong immunity) the attack rate in a susceptible population is 95 percent or higher (Bannister et al. 2003).
Transmission occurs by direct person to person, droplet spread and less commonly by touching articles, such as clothing, freshly soiled from nose and throat secretions from an infected person (Heymann 2008:404). Due to the infectiousness of measles the virus can remain in the air after the infected person has left thus allowing transmission of the disease without direct contact. Measles is very contagious during the prodromal period and during the first 2 days of the appearance of the rash. The average incubation period is 10 days but ranges from 8 to 14 days from the exposure of the onset of fever and 14 days from the onset of rash (Bannister et al. 2003:226). Measles epidemics occurring in smaller areas are severe and widely spaced (Heymann 2008:403). The disease has marked seasonally patterns with peak incidence in spring and early summer. Fatality rates are usually low between 5 percent and 20 percent but higher in immunosuppressed communities. Malnourished children experience the disease more severe.

Following incubation, illness begins with a fever followed by cough. Diarrhea is common in children. Usually on the third of forth day, a rash begins in the mouth and at the hairline and moves down the body. The Koplik spots fade as the skin rash evolves and fade generally with 10 days (Bannister et al. 2003). Clinically, measles is so characteristic it is easily recognized. Although clinically measles is similar to rubella, the rash of rubella does not spread from the head downward.

**Meningitis**

Meningitis is both caused by a virus and bacteria, however, the bacterial form is much more severe. Meningitis an infectious disease characterized by high fever, severe headache, stiff neck, vomiting, photophobia, confusion, sleepiness, brain damage, and hearing loss (Heymann 2008). Similar to pneumonia, meningitis can be caused by bacteria or a virus as well as injury or cancer (CDC 2009). Meningitis caused by bacteria is usually more severe than viral meningitis.
and may stem from bacteria such as Neisseria meningitides, Streptococcus pneumonia, Haemophilus influenzae serotype b (Hib) and Group B streptococcus (GBS). Viral meningitis may be caused from Enteroviruses, measles, influenza, mumps, herpesviruses, and arboviruses (viruses spread by mosquitoes and other insects).

**Mumps**

Mumps is an acute viral infection. Transmission occurs by droplet spread and by the direct contact with the saliva of an infected person. The incubation period is two or three weeks. Individuals with mumps experience headache, loss of appetite, fever, and painful swelling of the glands (Barnes 2005). Mumps is particularly prevalent among children ages 5 to 9. Infection of mumps confers lifetime immunity. Mortality from mumps is rare in present times but mortality from mumps in the 19th and 20th century was common. Mumps can also cause meningitis in children which is a cause of mortality and morbidity of children. Mumps usually peaks in winter and early spring.

**Pellagra**

“Pellagra is a metabolic disorder, caused by niacin deficiency, that produces skin and mucous membranes lesions, diarrhea, and mental changes referred to as the three d’s; dermatitis, diarrhea, and dementia” (Bollet 2004:153). Pellagra was rare in the United States in general and a case was not diagnosed in the United States until 1902. A few children are reported to have died from pellagra on the Flathead Reservation in the early 20th century although this disease was relatively rare as a cause of death.
**Pneumonia**

Pneumonia is caused by the bacteria *streptococcus pneumonia*. Clinically, pneumonia is characterized by sudden onset, high fever, rigors, pleuritic chest pain, dyspnea, tachypnea and a productive cough (Heymann 2008:473). Vomiting, convulsions, and fever may be initial manifestations in infants and children. Case fatality ranges between 5 and 35 percent but depends largely on the immune status and age of the infected person. Pneumonia is transmitted by direct contact and by droplet spread. Pneumonia often peaks in the winter months particularly following epidemics of influenza. Infants, elderly, and immune suppressed individuals all have an increased susceptibility to pneumonia. In addition “susceptibility to infection is also increased by processes affecting the integrity of the lower respiratory tract, including influenza, pulmonary edema, aspiration following alcoholic intoxication, chronic lung cancer, and exposure to irritants” such as cigarettes (Heymann 2008:473).

**Polio**

Polio is a contagious and resilient disease. Most polio infections do not inflict permanent damage and convey lifelong immunity to that type of poliovirus (Heymann 2008). “However, in less than 2 percent of the cases, the virus invades the nervous system, where it damages or destroys the anterior horn cells of the spinal cord. These spinal cord cells are part of the motor neuron system, and their damage or destruction produces the paralysis associated with polio” (Wilson 2008:1).

The incubation period ranges between four and 35 days but symptoms of the disease can first appear between seven and fourteen days after infection (Seytre 2005:4). Polio is primarily spread by person to person through the fecal-oral route (Heymann 2008:486). The period of
communicability has not specifically been defined but the disease is transmissionable as long as
the virus is excreted, remaining in stools from three to six weeks (Seytre 2005). Polio is
universally susceptible but common in areas where poor sanitation and unclean water exists. It
often peaks in late summer and autumn.

Rheumatism

Rheumatism is a common disease among Native peoples in general before European
contact. “Rheumatoid arthritis is a chronic disease of synovial joint and connective tissues and
most often affects the small joints in the wrist, hands, and feet. It is commonly believed to have a
genetic component in vulnerable persona and is thought to arise from an auto immune reaction to
infection. With aging, there is a chronic systemic inflammation affecting multiple joints
bilaterally, causing in many cases erosion of cartilage, bone, ligaments and tendons” (Boyd and
Gregory 2007:54). Some scholars have suggested that rheumatoid arthritis might have originated
in the Americans and then spread to Europe after contact (Boyd and Gregory 2007). Native
peoples definitely had experience with this disease and some tribes are reported to have medical
skills in curing this disease.

Rocky Mountain Spotted Fever

Rocky Mountain Spotted Fever is a disease called by Rickettsia rickettsia carried by
ticks. Symptoms usually appear 2 to 14 days after the tick bite. Symptoms include chills,
confusion, fever, headache, and muscle pain. About 1/3 of all infected individuals get a rash a
few days after the onset of fever. The rash initially begins on the wrists and angles, but
eventually spreads to all the body. Other symptoms include diarrhea, hallucinations, loss of
appetite and vomiting. Treatment includes first removing the tick from the infect person and then
antibiotics. Case-fatality for infected individuals without treatment ranges from 20 to 80 percent.

An absence or delayed appearance of the rash as well as a failure to recognize this disease in individuals who have darker skin increases the probability of fatality (Heymann 2008:521).

**Scabies**

Scabies is a parasitic infestation of the skin caused by the mite *Sarcoptes scabiei* whose “penetration is visible as papules, vesicles, or tiny linear burrows containing the mites and their eggs” (Heymann 2008: 540). Scabies is transmitted by skin contact, sexual transmission, and non-sexual spread within families (Chosidow 2000). The more parasites on an individual the more likelihood of transmission. Lesions are common on the finger webs, wrists and elbows, abdomen, nipples, and buttocks (Chosidow 2000:819). In individuals who have not previously exposed to scabies, the incubation period is between two and six weeks before the onset of itching. In individuals who have already been exposed to scabies will develop symptoms one to four days after re-exposure (Heymann 2008:541).

Itching is intense especially at night. Past epidemics of scabies have been attributed to poverty, poor sanitation and crowding because of war, mass movement of people and economic crises (Heymann 2008:541). Recent epidemics have shown that scabies does not regard socioeconomic or person hygiene levels (Heymann 2008).

**Scarlet Fever**

Scarlet fever is a form of streptococcal disease characterized by a fever, sore throat, exudative tonsillitis or pharyngitis, a “strawberry” tongue, and a rash most often on neck, chest, inner thighs, and groin area (Campbell 1987). High fever, nausea, and vomiting accompany
severe infections. Scarlet fever has an incubation period of one to three days the communicability of untreated individuals may carry the disease for months (Campbell 1987). Case fatality has been known to be as high as 3 percent (Heymann 2008). Most scarlet fever infections occur in children over three and rarely in infants and adults (Barnes 2005:373). Scarlet fever can range from a disease with mild symptoms with a faint rash lasting a day to a severe disability disease with hemorrhage skin rash ending in death or a prolong infection that eventually spreads through the bloodstream to the other parts of the body (Barnes 2005:373).

**Smallpox**

One of the most devastating diseases that affected Native peoples was smallpox. Smallpox devastated thousands of Native peoples following European contact. Though vaccine efforts smallpox decreased significantly by the 20th century, instances of smallpox outbreaks still occasionally occurred on reservations. These outbreaks were typically small and usually did not end in mortality as they had a century before but yet remained a public health concern. Smallpox was a viral disease characterized by a rash, high fever, malaise, headache, severe backache, and abdominal pain and vomiting. Transmission occurred by droplet spread or by skin inoculation. Incubation commonly was 10 to 14 days and 2 to 4 days to the onset of rash. Susceptibility among the unvaccinated is universal.

Two forms of smallpox existed that of variola major and variola minor. Variola minor the lessor of the smallpox had a case fatality rate of 1 percent or less. Variola major had a case fatality rate in unvaccinated individuals of an average of 30 percent. Smallpox was particularly devastating for pregnant women. According to Dixon (1962:326), “mortality of those who are pregnant is appreciably higher than in those who are not. In some instances this may be partly
due to the occurrence of abortion, but the frequency of fulminating and malignant types appears to be greater in those of the same age who are pregnant. It would seem that the mortality of variola major in the unvaccinated pregnant woman is in the region of 50 percent.” Plateau Indians exposure to smallpox might have occurred as early as the 1500s.

**Syphilis**

Discussion among scholars as to the nature of the origin of syphilis (Dobyns, 1983; Baker and Armelagos 1988) contend that venereal syphilis was present in Europe prior to 1492, but could not be distinguished from leprosy. “The syphilis epidemic of the late 15th to early 16th centuries, according to this idea, was not caused by the introduction of a new disease, but by an old disease which had just been identified” (Merbs 1992:22). Powell and Cook, however, argue that some form of treponemal disease was present in the Americans before 1492. While evidence of syphilis was not found in adult skeletons, evidence of congenital syphilis among children was found sites at Gabriola Island and Duke Point (Curtin 2005).

Venereal syphilis is the most dangerous of the four treponemal syndromes “because its ravages are not restricted to the skin, mucosal tissues, and the skeletal system” (Powell and Cook 2005:20). Treponemal pathogens enter the body through a break in the dermal or mucosal tissues. After a short incubation period of about three weeks, a painless lesion called a chancre appears at the site of inoculation, usually on the genitalia. Swelling of the local lymph nodes usually also occurs (Powell and Cook 2005:20).

An infected pregnant woman can pass syphilis to her unborn child. Congenital infections also cause miscarriages, premature births, still births, and neonatal deaths. Babies that contracted
congenital syphilis usually develop a rash over the body, including the palms of the hands, and soles of the feet (Barnes 2005:212). Unfortunately, half of the babies with syphilis die.

**Trachoma**

Trachoma is an eye infection caused by the bacteria Chlamydia trachomatis. Trachoma has an incubation period of about a week in which an infected individual experiences sensitivity to light, pain, tearing, and swollen eyelids. If not treated promptly “tiny reddish clumps of blood vessels form in the conjunctiva, the clear layer of tissue lining the inside of the eyelids and the surface of the white of the eye. As time progresses, granular follicles, filled with debris and discharge also develop in the conjunctiva and on the tarsus, a cartilage like plate of tissue that lies between the conjunctiva and the eye muscle, which gives the eye its shape” (Benson 1994:55). Although trachoma is not fatal, if left untreated causes extensive scaring and blindness. Trachoma spreads easily through hand to eye contact, and through sharing toiletry items such as towels or handkerchiefs. Other factors that increased infection rates include a dry environment, overcrowded housing conditions, and poverty. Children are prone to trachoma with a possible 100 percent infection rate by the second or third year in life, peaking at ages between two and five (Alexander and Harrison 1977:165).

**Tuberculosis**

Intense controversy exists as to the extent of tuberculosis among Native peoples before European contact (Doybins 1993; Thornton 1987). Among Plateau peoples, scrofula is not recorded as occurring before European contact but some forms of spinal and pulmonary tuberculosis may have been present (Boyd and Gregory 2007:57). The earliest cases of
Tuberculosis among Plateau peoples were observed among the Nez Perce in 1829 by Samuel Black and by the Reverend Asa Smith in 1840. Smith recorded, “Pulmonary difficulties are much more common in this region than I had supposed. Out of three deaths which occurred here last summer, two of them were occasioned by pulmonary affliction” (Drury 1958:137; Boyd and Gregory 2007:57).

Tuberculosis is an infectious respiratory disease caused by the bacteria Mycobacterium tuberculosis. Once the mycobacterium enters the body through the airways of the lungs, it is eventually absorbed in the bloodstream. From then, "local macrophage-type cells engulf the invaders and carry them to adjacent lymph nodes in the lungs, where the battle between the microbes and the host immune cells begin" (Barnes 2005:161).

Contact with tubercle bacilli does not mean an automatic development of an infection or disease (Johnston 1995:29). The pathogen can remain dormant within a host for weeks, months and years. Environmental and social conditions, such as unsanitary and crowded living conditions, work conditions, and malnutrition, all increase individuals susceptibility to disease development of tuberculosis. Individual’s ages and sex are also important factors in determining whether one develops tuberculosis following infection. Children and infants between birth and age five, young adults between the ages of 15 and 30, and individuals over the age of 60 are more likely to die from tuberculosis than other age groups (Johnston 1995:29-30). By the 20th century, tuberculosis had become a major health problem both as a specific cause of death and an underlying condition that reduced resistance to other infectious diseases (Waldram al et. 2006: 69).
Typhoid Fever

Typhoid fever is a life threatening illness caused by the bacterium *Salmonella typhi*. Typhoid fever is acquired by the consumption of contaminated food and water from individuals who carry the infection in their blood and digestive tract (Hilborne and Golomb 2001:31). Typhoid fever may also spread by flies that infect food. The incubation period ranges from one to three weeks but is dependent on the amount of the organism digested and the immune status of the individual. The clinical features of typhoid fever include a high fever (up to 104 degrees), headache, malaise, anorexia, nonproductive cough, rose spots on the trunk, and constipation or diarrhea (Heymann 2008:665). Individuals may also experience confusion “from taciturnity or bad dreams to frank delirium or apparent psychosis” (Bannister et al. 2003:437). A small percentage of individuals who recover (three to five percent) become carriers and continue to infect others without knowing it. Susceptibility to typhoid fever is general but during outbreaks females are more prone to typhoid fever than males (Heymann 2008:665).

Individuals with typhoid fever experience a wide spectrum of illness from a brief infection to a severe one. Individuals with a severe infection may experience hepatitis, meningitis, and pneumonia as complications. Up to 20 percent of untreated individuals die from typhoid fever or complications (Hilborne and Golomb 2001:32). In August of 1909 an outbreak of typhoid fever broke out on the reservation. According to the Indian Agent most typhoid fever cases were limited to the white settlers in Polson and no deaths occurred among the Salish and Kootenai. However according to the death certificates there was at least one death.

The Merriam report was surprised not to have found a higher number of typhoid fever cases on reservations. “Physicians very commonly reported that they had had no cases of typhoid fever on their present reservations or previous assignments for years. This fact was a distinct
surprise because the Indians generally depend upon a very questionable water supply. Possibly the Indians may have derived some immunity by frequent ingestion of contaminated water” (Merriam 1928:217).

**Typhus Fever**

Typhus fever is a “rickettsial disease with variable onset; often sudden and marked by headache, chills, prostration, fever and general pain” (Heymann 2008:671). “The hallmark of the disease is the appearance of a raised red rash that comes up between the fourth and sixth day after symptoms appear. The rash begins on the trunk, covering the whole body except for the face, palms of hands, and soles of the feet…The skin lesions darken as the illness progresses” (Barnes 2005:256).

Fever lasts for two weeks. The incubation period for typhus fever ranges but 12 days is common. Case-fatality ranges between 10 to 40 percent without treatment and increases with age. Mortality rarely occurs for infected individuals younger than 10 years but reaches 60 percent in individuals 60 years and older. Typhus fever is not transmitted from person to person but by the body louse, Pediculus humanus corporis, which feeds on the blood of the infected person (Heymann 2008:672). Typhus fever is often misdiagnosed as typhoid fever. Infections typically occur in populations living in unsanitary, crowded conditions and outbreaks are often associated with wars, famines, floods and cold water (Barnes 2005). Survivors acquire life-time immunity. A typhus fever epidemic afflicted the Kootenai people at Dayton, Montana in the early spring of 1885.
Whooping Cough

Whooping cough (or pertussis) is an acute bacterial infection of the respiratory tract caused by *Bordetella pertussis* (Heymann 2008:455). Whooping cough is transmitted in droplet form. After an incubation period of 14 to 20 days, whooping cough begins as a slight fever followed by a cough. “Eventually, copious amounts of mucous appear as the immune system kicks into high gear in attempt to rid the air passageway of infection, creating an irritating sticky mass that triggers a sudden intense coughing spell particularly at night” (Barnes 2005:196). Coughing becomes so intense that the individual does not have time inhale air. “When the victim finally gets a break in the coughing to suck in air, the whooping sound associated with the cough can be heard as air rapidly flows over the vocal cords” (Barnes 2005:196). Although susceptibility to whooping cough is universal, the highest incidence of whooping cough occurs among infants and young children (Heymann 2008). Case fatality is between 1 percent and 4 percent. Females tend to have higher incidence, morbidity, and morality than males. Pneumonia is the most common cause of death. Individuals who recover usually have lasting immunity. Whooping cough killed at least 13 individuals between 1911 and 1935 and was listed as a contributory cause of death in at least six more deaths. Whooping cough epidemics often accompanied epidemics of influenza and pneumonia. All recorded deaths of whooping cough occurred in children five years and younger.
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