



Health care delivery models for incarcerated populations
by Susan Jean Wallace Raph

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Nursing
Montana State University

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Abstract:

The Regional Correctional Facility Act (53-30-501 through 53-30-511, MCA) was passed in 1997 by the Montana legislature in response to rising health care costs, an increasing prison population, and taxpayer demand for correctional cost-effectiveness. Subsequent to the legislation four regional contract prison facilities were built in Montana. The chosen model of health care delivery at each of the contract facilities was at the discretion of the contractor or county, and it was anticipated by the Montana Department of Corrections that this decentralized approach would provide for wide variances in the structure, process and outcome of inmate health care delivery. Limited information was available regarding the structure and provision of health care services within the correctional system. A non-experimental descriptive exploratory survey study was utilized to describe, compare and contrast the existing models of health care delivery at four regional contract prisons in Montana.

The study identified model similarities and differences. In the analysis of indicators reflecting the provision of health care, similarities were found in the age distribution and in the absence of identified transportation and security costs associated with providing out of facility health care services. Differences between the models were found in the demographic profiles, inmate health complaints as perceived by the health services directors, inmates' access to health care services, staffing patterns of the health service unit, triage protocols, medical records management, pharmacy services, and the approval routines for out of facility health care services. Analysis of the types primary care providers, educational preparation of health services directors, the range of services provided within each model, and the availability, accessibility and use of specialty health care services out of the facility revealed distinct differences among the health care delivery models. In the analysis of indicators used to identify cost efficiency, differences were noted in the comparison of selected radiology, laboratory, and pharmacy costs. The absence of monthly financial reports for the health service directors was consistent among the models.

Efforts to provide constitutionally mandated health care and to limit correctional health care costs illustrate the dichotomy facing the correctional health care system in the 21st century. Insight into the structure of health care delivery models suggests that the standards of correctional health care, established by the National Commission on Correctional Health Care, provide a sound foundation for quality health care provision. Despite the need for cost containment, quality should remain the primary focus of health care delivery models for incarcerated populations.

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ABSTRACT

The Regional Correctional Facility Act (53-30-501 through 53-30-511, MCA) was passed in 1997 by the Montana legislature in response to rising health care costs, an increasing prison population, and taxpayer demand for correctional cost-effectiveness. Subsequent to the legislation four regional contract prison facilities were built in Montana. The chosen model of health care delivery at each of the contract facilities was at the discretion of the contractor or county, and it was anticipated by the Montana Department of Corrections that this decentralized approach would provide for wide variances in the structure, process and outcome of inmate health care delivery. Limited information was available regarding the structure and provision of health care services within the correctional system. A non-experimental descriptive exploratory survey study was utilized to describe, compare and contrast the existing models of health care delivery at four regional contract prisons in Montana.

The study identified model similarities and differences. In the analysis of indicators reflecting the provision of health care, similarities were found in the age distribution and in the absence of identified transportation and security costs associated with providing out of facility health care services. Differences between the models were found in the demographic profiles, inmate health complaints as perceived by the health services directors, inmates' access to health care services, staffing patterns of the health service unit, triage protocols, medical records management, pharmacy services, and the approval routines for out of facility health care services. Analysis of the types primary care providers, educational preparation of health services directors, the range of services provided within each model, and the availability, accessibility and use of specialty health care services out of the facility revealed distinct differences among the health care delivery models. In the analysis of indicators used to identify cost efficiency, differences were noted in the comparison of selected radiology, laboratory, and pharmacy costs. The absence of monthly financial reports for the health service directors was consistent among the models.

Efforts to provide constitutionally mandated health care and to limit correctional health care costs illustrate the dichotomy facing the correctional health care system in the 21st century. Insight into the structure of health care delivery models suggests that the standards of correctional health care, established by the National Commission on Correctional Health Care, provide a sound foundation for quality health care provision. Despite the need for cost containment, quality should remain the primary focus of health care delivery models for incarcerated populations.

CHAPTER I

INTRODUCTION TO STUDY

The correctional setting is faced with many challenges in providing quality health care to incarcerated populations. Rising health care costs and increasing prison populations coupled with taxpayer demand for cost-effectiveness support the need for innovative models of health care that are capable of addressing these multidimensional factors.

The Purpose

The purpose of this study was to describe, compare, and contrast the models of health care delivery existing at regional contract prison facilities of the Montana Department of Corrections (MDOC).

Background and Significance of Study

The regional prison concept of the Montana Department of Corrections began as a result of escalating numbers of prisoners housed at Montana State Prison (MSP) in Deer Lodge, the only state owned and operated prison in Montana. This facility, with a functional capacity of 1300, was subject to litigation regarding overcrowded conditions in the early 1990's. Prior to 1998, the State of Montana housed 217 inmates in local county jails because of overcrowding conditions at MSP. As a cost saving measure, the Montana Legislature passed the Regional Correctional Facility Act (53-30-501 through 53-30-511, MCA) in 1997. This legislation authorized the regional housing of

minimum, medium, and close custody adult inmates. Through the end of 1998, Montana continued to require additional inmate housing space as the out of state total Montana inmate population reached 394, with an additional 144 still housed within local Montana county jails. (Beck & Mumola, 1999). In April 1999, Tennessee and Arizona continued to house 305 inmates for Montana (Seldan, 1999). As a result of the legislation and an ongoing demand for inmate housing, four regional contract prison facilities have opened in Montana since the 1997 legislation.

The first regional county owned facility opened in January 1998 at the Cascade County Adult Detention Center, followed closely by the Dawson County Adult Detention/Corrections Facility in Glendive, Montana in November 1998. A third regional prison opened in September of 1999 when Corrections Corporation of America received bid approval in June of 1998 from the Department of Corrections to build the state's first private, for-profit prison in Shelby, Montana. Missoula County opened the Missoula County Detention Center, the fourth regional prison, in November of 1999.

Each of the facilities provides health services to housed inmates as an integral part of the contract with the Montana Department of Corrections. According to the Professional Service Division Administrator, of the Montana Department of Corrections, the chosen model of health care delivery at each of the contract facilities was at the discretion of the contractor or county (Johnson, S. personal communication, December 20, 1999). General and specific guidelines for the provision of medical, dental, and mental health services are outlined by the Department of Corrections in the individual regional prison facility contract. Contracting facility officials were responsible for the translation of the contract language into a health care delivery system. It was

anticipated that this decentralized approach to health care service delivery to inmates would provide for wide variances in the structure, process and outcome of health care delivery.

The Montana Department of Corrections (MDOC) is responsible for the care of all inmates spread out over the nation's fourth largest state. Despite the geographic dispersion of the regional prisons, the MDOC must assure quality and equity in health care service delivery, and conscientious use of taxpayer money throughout the state's prison system.

Standards of correctional health care practice have been established by the National Commission on Correctional Health Care (NCCHC, 1997), and define the broad range of services necessary for incarcerated populations. Despite isolated locations around the state, each contract facility is required "to develop and implement an on-site health services delivery system to provide a constitutionally mandated level of health care" (MDOC, December 3, 1999, p.18). Service delivery must comport with Montana Department of Corrections policies and standards set forth by the National Commission on Correctional Health Care (NCCHC) and American Correctional Association (ACA). Decisions regarding the design of the system, or model of health care service delivery at Montana regional contract facilities were largely based upon availability and accessibility of professional health care resources, and were at the discretion of local officials of law enforcement, city and county government, or contracting agencies, all of whom may have varying knowledge of the needs of health care systems for incarcerated populations.

Incarcerated populations share some universal concerns with the general population with regard to health care service delivery. As with other agencies subject to the policies of managed care organizations, by contract, the MDOC routinely compares the cost of providing out of facility health services with the costs incurred by other contract facilities within the Montana correctional

system for parity and uniformity (MDOC, December 3, 1999, p.18). An overall comparison of the costs of providing health services at each regional contract prison facility has not been assessed by the MDOC.

The rising costs of health care in our nation and the increased prison population compound the issues of health care delivery within the prison setting. These variables have profound impact on the ability of regional contract correctional institutions to provide health care services to inmates in Montana.

Statement of Problem and Research Aims

Health care services are provided to regional prison inmates housed in contract facilities in Montana through a variety of health care delivery systems. There is limited information regarding the provision of health care services at each of the regional contract prison facilities in Montana.

The study sought to address two aims. The first aim was to describe, compare, and contrast the provision of health care to state inmates at each of the four regional contract prison facilities in Montana. Objectives were to describe, compare and contrast:

A. The demographic profile of the state inmate population at each of the four regional contract prison facilities as it relates to health service needs.

B. The implementation of selected policies of correctional health care provision at each of the four regional contract prison facilities.

C. The use of health care providers and staffing patterns at each of the four regional contract prison facilities.

D. The range of health care service provision at each of the four regional contract prison facilities.

E. The accessibility, availability, and use of outside BlueCross/BlueShield (BC/BS) preferred health care providers at each of the four regional contract prison facilities.

The second aim of the study was to describe, compare and contrast selected cost indicators at each of the four regional contract prison facilities. Objectives were to describe, compare and contrast:

A. The cost of providing out of facility health care services at each of the four regional contract prison facilities for follow up of a positive tuberculosis screening test.

B. Transportation and security/safety costs associated with use of out of facility health care services at each of the four regional contract prison facilities.

C. Selected routine laboratory and pharmacy costs at each of the four regional contract prison facilities.

D. The relationship of the overall budget to health care delivery expenses at each of the four regional contract prison facilities.

Conceptual Framework

Quality is at the root of many health care issues, and has been defined by the U.S. Office of Technology Assessment as "the degree to which the process of care increases the probability of outcomes desired by the patient, and reduces the probability of undesired outcomes, given the state of medical knowledge" (as cited in DesHarnes & McLaughlin, 1999). Theorist, Avedis

Donabedian, noted that quality is the extent to which the care provided is expected to achieve the most favorable balance of risk and benefits, and generally reflects the values and goals of the individual, the current medical system, and society at large. (Donabedian, 1980, DesHarnais & McLaughlin, 1999). The search for indicators of quality is an example of the evolution of health care management over the last several decades. As third party payers and government agencies attempt to define optimum care, agencies and health care providers are left to discover the factors that influence the quality of delivered health services.

Donabedian (1980) asserted that individual expectations, valuations, and cost are considerations of the quality of care, and proposed three distinct perspectives of quality. The absolutist, individualist, and social perspectives of quality of care are provided as models of quality assessment. The absolutist perspective is hallmarked by the notion that health professionals have the responsibility of defining health, contributing to health status, and determining how that contribution is to be measured. Factors such as cost and patient expectations and valuations are regarded as obstacles or facilitators to implementation. This definition is conditional on the nature of the health problem, the state of science, technology, and the art of medicine and allied disciplines. Donabedian pointed out that this perspective is paternalistic and fails to recognize the role of the patient or cost of health care to any degree.

The individualist perspective is highlighted by the patient's wishes, expectations, valuations, and means regarding quality of care. In this view the patient is considered the best judge of his own welfare and as a result directs the physician. Much variation in quality of care can occur as a result of the type and stage of illness, response to treatment, and demographic and social characteristics influencing the course of the illness. Some would argue that as a result, the

standard of quality must be established on a case by case basis. Cost is a necessary and legitimate consideration in decision making, and Donabedian (1980) acknowledged that this perspective is morally plagued by the patient's ability to pay, which influences the standard of quality.

Donabedian (1980) identified the social perspective of quality of care as morally neutral. It includes the same factors as the individualized definition, but the theorist noted that the quantity of health care could be different from patient to patient. The focus is shifted to an aggregate net benefit for an identified population, as well as to the social distribution of that benefit within the population. Monetary costs are shifted to the collective, as some forms of care are more highly valued at the social level than others because the benefits are witnessed by more people. The theorist noted that this perspective places ethical dilemmas on the health care provider, as society may place different values on the health and welfare of different segments of the population. These values may rest on what is socially expedient rather than what is socially just. The social perspective points to the practice of placing limits on the care of some in the interest of fairness to all rather than the interests of the economically privileged or politically influential. The correctional health care setting readily illustrates the social perspective. The cost of health care for incarcerated populations is shifted to the general population in the form of taxpayer support which demands control over the health care provider to stop somewhere short of the maximum health attainable benefit. A distinction of the social perspective specifies that quality of care is differentially distributed among individuals or segments of the population and that this is a criterion for evaluating performance of a program or system. Furthermore, equity, which is the assessment of who pays for as compared with who benefits from care, is an important element in the evaluation

of certain programs. One could argue that a healthy prison population, reflective of the provision of preventive health care and health promotion activities, will provide a net benefit to the general population in the form of reduced cost and the return of healthier individuals to society. Others could argue that a healthy prison population will live longer and thus require more incarceration costs.

These varying perceptions of quality assessment reflect the changes in the level and scope of concern that can alter one's perspective of health and the responsibility for health care allocation. Donabedian (1980) noted that both individual and social definitions of quality are necessary to accommodate the varying responses to different levels of responsibility and concern. The conflict between these two definitions could be resolved if the direct and indirect costs of care were borne by society, and the responsibility for the welfare of an entire group of people were shifted to the health care practitioner. In this scenario, all persons would have equal access to care and would contribute to the costs of care in a manner that is equitably related to their ability to pay. While the theorist did not specify the correctional setting in his original work, the underlying foundation provides application for the incarcerated patient and the changing perspectives of society.

Prominent determinants of quality of care include accessibility, coordination, and continuity. Donabedian (1980) defined accessibility as the ease with which care is initiated and maintained, and is dependent upon characteristics of the health care provider and the patient's ability to overcome financial, spatial, social, and psychological obstacles. Accessibility is considered an adaptive response, as efforts to increase accessibility are directed at meeting the needs of both the provider and the patient. Donabedian noted, however, that greater accessibility

may result in greater quality but could also lead to redundant, harmful, or unnecessary and costly care. This variance on the effect of accessibility on quality care would be dependent upon the social valuation of the distribution of health benefits.

Coordination, the second determinant of quality of care was defined by Donabedian (1980) as the process by which elements and relationships of medical care fit together in an overall design. When coupled with the third determinant of continuity, a lack of interruption in needed care, these determinants lead to a better understanding of patient problems, values and expectations, patient participation and satisfaction, and reduction in duplication and resultant costs. Conversely, these determinants can also lead to a lack of attention to new developments, persistence of past omissions and errors, and perpetuation of a poor client-provider relationship.

According to Donabedian, (1980, 1988) inferences drawn about the quality of health care should be based upon the assessment of three conceptual elements: structure, process, and outcome. Structure is defined as the attributes of the setting in which care is delivered and includes the relatively stable characteristics of the provider, material and human resources available, and the physical and organizational structure. It is an indirect measure of quality and is dependent upon the nature of its influence on care. Structure increases or decreases the probability of good performance, and is important in the planning, design, and implementation of systems. It is considered a blunt tool for assessing quality as it indicates only general tendencies, and is hindered by limited knowledge about its relationship with process. Often the relative stability of structure makes it unsuitable for continuous monitoring, and it is better to assess this concept intermittently. The theorist noted that although less important than process or outcome, good

structure is the most important means of protecting and promoting the quality of care and is essential when information about process and outcome is available but incomplete.

The concept of process encompasses the acts of giving and receiving care, or the extent to which professionals perform according to accepted standards (DesHarnais, S. I. & McLaughlin, 1999). Donabedian (1980) proposed process as the most direct approach to quality assessment. Seen as the normative behavior or tradition of the medical setting, the elements of the process of care do not signify quality until their relationships to desirable changes in health status have been established. The theorist proposed that a basic symmetry bonds process to outcome as a result of fundamental causal linkage, and separation of the two concepts in assessing quality is difficult. A drawback of using process to assess quality is a weakness of the scientific basis for much of accepted medical practice. He noted that there is a tendency to error on the side of doing well, thereby fostering overly elaborate and costly care.

Outcome is illustrated through the effects of care, such as improved patient knowledge, behavior, satisfaction and a change in a patient's current and future health status that can be attributed to antecedent health care. While outcome quality assessment is the focus and priority of much of today's health care research, Donabedian (1980) pointed out that the fundamental relationship among structure, process and outcome is essential. It can be difficult to specify the outcomes of optimal care, as to their magnitude, timing, and duration. It is also difficult to distinguish whether the outcome is attributable to the medical care, and to attach specific responsibility for the effect. The theorist noted "that good structure increases the likelihood of good process, and good process increases the likelihood of a good outcome" (p.1745), however such

relationships between concepts must be established before any component of structure, process or outcome is used to assess quality.

Knowledge of the effects of structure on outcome or process comes from organizational science. The associations of structure with process or outcomes are generally considered to be limited and weak, according to Donabedian (1988). One can conclude that characteristics of structure may be conducive to good care, but the ability to infer quality of care is not supported. The theory relies upon the balanced assessment of all three concepts. This allows for the strengths of one concept to balance the weaknesses of another. The theorist admits the ability to assess quality care is dependent upon the need for more precise measurements of the quantity and quality of life, as well as the unique intricacies of interpersonal relationships and their effect on patient's health and welfare.

Definitions

The following definitions are presented for use in this study and intended to assist the reader.

Advanced Practice Registered Nurse (APRN)

In the State of Montana, APRNs are registered nurses who have received a master's degree in nursing and have applied for advanced practice status through the Montana Board of Nursing. APRNs provide specialized advanced level nursing in a specified field, under their own license and according to a defined scope of practice (MCA 37-8-202(5) and 37-8-409). An APRN has national certification relating to a specified area of clinical practice. Categories include Nurse Practitioner, Nurse Midwife, Nurse Anesthetist, and Clinical Specialist. According to MCA 8-32-

301, a nurse practitioner practice is defined as "the management of primary health care of individuals, families and communities." Additional criteria are met for prescriptive authority. (Montana State Board of Nursing, February 1998). APRNs consult with physicians, but maintain an independent practice.

BlueCross/BlueShield Preferred Providers

Bluecross/BlueShield (BC/BS) preferred providers are defined as health care providers under contract with BC/BS Insurance Company to provide health care services to plan participants at a lower than customary charge in an attempt to provide cost savings to MDOC and BC/BS. As a result, the health care provider may benefit from an increased patient volume. The use of out of facility BC/BS preferred providers is part of the overall managed care and cost containment effort of the MDOC (DOC policy 4.5.12, September 1, 1998).

Infirmity Care

Infirmity care is defined as "an area within the confinement facility accommodating two or more inmates for a period of 24 hours or more, expressly set up and operated for the purpose of providing skilled nursing care for persons who are not in need of hospitalization" (Anno, 1997, p. 123).

Inmate Day

Inmate day is defined as each day, or part of a day, including the first but not the last day in which an inmate is housed at the facility. (MDOC, December 3, 1999).

Jail

A jail facility is locally operated by city or county governments to receive adjudicated and non-adjudicated individuals. Jails may temporarily detain juveniles pending transfer to juvenile authorities, and both pre and post trial adult detainees. Individuals may be held for the military, protective custody, contempt, and for the courts as witnesses. Mentally ill persons are housed pending their movement to appropriate mental health facilities (Harlow, 1998).

Model of Health Care Delivery

Model of health care delivery is defined as the structure of the health care services unit within the regional contract facility. This includes material and human resources, administrative and organizational structures in place within the facility, and the credentials of the individuals providing health care. (Adapted from Donabedian, 1988).

Out of Facility Health Care Services

Out of facility health care services are defined as those services deemed necessary by the health care provider, but which are not available within the facility's health care unit. These services may or may not have MDOC approval.

Per Diem

Per diem is defined as the cost per inmate per day the Department of Corrections and contractor have mutually agreed upon to provide inmate supervision. (MDOC; December 3, 1999).

Physician's Assistant (PA)

PA is defined as a physician extender with a bachelor of science degree or certificate and generally 108 weeks of education, who is eligible to practice medicine under a physician's license and supervision. Services are limited to those outlined in a statutory utilization plan. (Buppert, 1999).

Primary Care

"...the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community." (National Academy of Sciences' Institute of Medicine, 1996, as cited in Buppert, 1999, p. 8).

Regional contract prison facility

A regional contract prison facility is defined as "a fully equipped and furnished regional prison, operated by the contractor, for the incarceration of inmates assigned by the Montana Department of Corrections. Facility includes all housing units, administrative offices, classrooms, hearing room, health services unit, and all other structures of whatever kind including roads, fences, infrastructure and utility systems" (MDOC, December 3, 1999, p. 2).

Assumptions

1. Successful models of prison health care existing in a tightly structured environment have adapted and evolved in response to the unique demands of the prison environment.

2. There are unmeasurable factors that affect the success of health care delivery models in the prison setting. These include the unknown agendas of prisoners seeking health care, and the implementation of health care interventions, treatment, and screening by correctional staff untrained in the health professions.

3. There are fundamental differences in the goals and philosophies of correctional administration and health care administration. The degree of difference will have varying impact on the success of the health care delivery model.

4. The Montana Department of Corrections and the State of Montana have a vested interest in providing constitutionally mandated quality health care services to their inmates.

5. The information necessary to conduct this study has been recorded and is accessible to the graduate student.

CHAPTER II

LITERATURE REVIEW

In order to offer a more complete understanding of the models of health care delivery for incarcerated populations, the literature was explored in four dimensions relative to the metaparadigm of professional nursing. These dimensions are health, nursing, person, and environment. The health care issues of the correctional setting, the use of various health care providers in the correctional setting, characteristics of prison inmates, and the prison environment were reviewed for the unique attributes they possess and their impact on inmate health care delivery. The history and evolution of correctional health care were investigated, along with a recent movement toward the use of private, for-profit contractors for prison services.

History and Evolution of Correctional Health Environment

The harsh differences in the philosophies of health care and imprisonment strike as sharply today as in the late 1700's. While the medical issues of the early days of penal institutions have evolved with the advances of medical science, the fundamental philosophical differences in the mission and priorities of inmate health care remain divisive between health care providers and prison officials. Since the early days of John Howard and John Fothergill, concern about the health of confined individuals has focused upon an evolution of perceptions over acceptable conditions (King, 1998). These Victorian men sought to establish basic hygiene and regular

medical attention within the prison system as a method of improving social evils and their consequences on a community's health. This sanitation movement was prefaced by the fact that such a transformation would not compromise the pain and humiliation prison officials demanded, and for which prisons were intended (King 1998). The physician, who was employed by the prison, was vested with the authority to influence the conditions of imprisonment. Prisoners were examined upon entrance for fitness to accomplish assigned labor. Inmates would seek the refuge of the prison hospital because the food was abundant and the treatment less harsh. While the hygienic condition of today's prisons has dramatically improved, the conflicting demands to assure security and institutional policy, yet foster a patient-provider relationship, sustain the fundamental dilemma for correctional health care providers. The conflicts associated with employment of health care providers by prison administration offers insight into the models of health care delivery in the 21st century.

In the early 1800's the demand for statistical information regarding prison mortality and morbidity triggered another movement to improve the conditions for incarcerated populations. A range of French prison mortality rates of 24.5 per 1,000 to 251.9 per 1,000 were discovered upon investigation by Louis Rene Villerme (King, 1998). Variables, such as the differences in the health status of inmates, length of incarceration, prison location, and the "conduct of affairs" were cited by Villerme (King, 1998, p. 6). There was a marked decrease in mortality over the next decade when improvements in food, bedding, clothing, and administrative practices were employed in the prisons. The author noted that today we continue to have inconsistent reporting criteria for health related data. Variations in cardiovascular disease, infectious disease, and accidental trauma and

violence highlight the need for improved information systems to collect and analyze health care and outcome data (King, 1998).

In 1929, Frank L. Rector released his report entitled "Health and Medical Service in America Prisons and Reformatories." As cited in King (1998), this document emphasized the need for adequate resources for the treatment of inmates since many will return to the community. The need to standardize health and hospital practices was highlighted as a solution to the obligations of the state to care for the needs of the individual deprived of the opportunity to care for himself. Rector noted that it is the essence of humanity and the law of civilized communities to care for the sick and injured with "the best the community can furnish" (King, 1998, p. 7). Recommendations from the report included the role of rehabilitation in the prison setting. Punitive treatment and characteristics such as overcrowding were found to have deleterious effects not only on the inmates but also the outside community. The study further recommended that the medical director have full authority over the hospital and all health activities within the prison. This report was considered visionary and was not implemented into practice until the 1970's.

In 1975, the National Institute of Law Enforcement and Criminal Justice issued "Prescriptive Package: Health Care in Correctional Institutions." According to King (1998), this document offered the premise that correctional medicine ought to be delivered and developed within the context of the health and financing mainstream. Institutions were increasingly faced with the need for varied and complex health care services for incarcerated populations or to arrange for these services outside the walls of the prison. This document also noted the synergistic effects of class action litigation on the resultant improvement of health care resources for incarcerated populations. The report's recommendations included the use of physician's assistants, the need to

strengthen the authority of prison health administrators, and the need to establish working relationships with outside health agencies. The report reviewed a fundamental movement at the time to transfer administrative health care responsibility to outside health care agencies. In 1971, New York City moved all correctional health care from the department of corrections to health services administration. Later in 1973, a contract with Montefiore Hospital and Medical Center allowed for provision of correctional health care to inmates on Rikers Island. This change highlighted important implications for patient-provider relationships and correctional authorities. King pointed out that health care providers who no longer report directly to the administrative structure of the prison remain directly accountable to the administrative structure of the employing health care agency. This new relationship influences the provider's professional autonomy and judgement. King suggested that the separation of correctional medicine from the objectives and philosophy of incarceration and the resultant balance of punishment, incapacitation, and rehabilitation may have an effect on the evolution of correctional medicine.

In 1975, efforts to develop standards for correctional health care were initiated. The Law Enforcement Assistance Administration (LEAA) provided a grant to the American Medical Association to upgrade correctional health care. According to Anno (1991), pilot projects were aimed at developing model health care delivery systems, establishing correctional health care standards by which accreditation could be achieved, and establishing a mechanism by which correctional health care information could be disseminated. These efforts lead to the eventual development of the National Commission on Correctional Health Care (NCCHC).

The growing trend of privatization in corrections has become a political issue across the nation. A survey of private adult prison facilities across the nation revealed a dramatic increase

from 3,000 prisoners in 1987 to more than 85,000 in 1996. Many of these are federal prisoners (National Institute of Justice, 1999). A Government Accounting Office (GAO, 1996) review of the operational costs and/or quality of services, found that five studies had been completed since 1991 of facilities in California, Tennessee, Washington, Texas, and New Mexico. The GAO review was not able to draw any conclusions about cost savings or quality of service, as the four studies that assessed operational costs indicated little difference or mixed results, and the two studies that addressed quality reported either equivocal findings or no differences between private and public facilities. Further, the studies provided limited generalizability to various correctional settings, since states differ widely in correctional philosophy, economic factors, and inmate populations. The study noted that the comparative performance of private versus public correctional facilities is dynamic. Changes over time alter the comparative performance. The first year of a new prison could reflect expenses for training inexperienced staff as well as hiring replacements. Private firms may choose to bill for its services at rates below costs to obtain or extend a contract. However, in order to remain viable the contractor's cost-recovery practices would have to change. Similarly, public prisons could become more cost efficient in response to competition from the private sector. The study highlighted the limitations of privatization cost analysis. There are hidden costs in privatization, and a good cost analysis is necessary to determine the cost of a traditional prison system and private contracting. It is of interest that a Tennessee study of one private prison and two state-run prisons excluded the costs of medical and mental health services (GAO, 1996). The National Institute of Justice (1999) has awarded a research grant to conduct an evaluation of the Taft Correctional Institution, a federally owned and privately operated prison in Taft, California, to advance the understanding of prison privatization. The central dimensions to be addressed in this

research are cost and performance. Citing previous problems noted in the GAO comparative report, the Taft study hopes to address the problems associated with comparing private and public prison facilities. The study is expected to identify what, why, and to what effect public and private prisons do differently (National Institute of Justice, 1999). Interim results of this study have not been released to date.

Arguments for the use of private prison contracting have focused on a variety of factors. Advocates cite an enhancement of justice by making prison supply more responsive to changes in demand. It is believed that contracting allows prisons to be financed, sited, and constructed more quickly and cheaply than government prisons, and raises the standards for government as well as for private vendors (Logan, 1990). Alternative views have noted that contracting for imprisonment involves an improper delegation to private hands of coercive power and authority. Contracting may place profit ahead of the public interest, inmate interests, or the purposes of imprisonment. This may lead to conflicts of interests that can interfere with due process for inmates (Logan, 1990). Opponents claim that contracting is more expensive because it adds a profit margin to all other costs, and may reduce quality through the pressure to cut corners economically (Logan, 1990). These perspectives parallel the political viewpoints within state and national governments and fuel the ongoing debate over privatization.

Correctional Health Care

The prison environment is very different from traditional health care settings. Incarcerated populations experience isolation, aggression, violence, and manipulative behavior on a daily basis.

The sounds of the prison setting are loud with clanging metal doors, shouting, and cursing occurring at a constant roar. The scene is stressful and hardly conducive to healing (Galindez, 1990). The health of the prison population is generally considered to be poor. This assumption is based upon the interrelationship between poverty, crime, and poor health (NCCHC, 1997). Correctional facilities traditionally house medically under-served individuals (Johnsen, 1998), who experience a higher rate of disease and disability than the general population. Infectious diseases such as upper and lower respiratory conditions, influenza, gonorrhea, tuberculosis, hepatitis, and human immunodeficiency virus (HIV) generally occur at higher rates in prison populations (Droes, 1994; Leh, 1999). Additionally, noninfectious conditions related to the use and abuse of drugs, such as alcohol, heroin, methadone, and barbiturates are common. Seizure disorders and acute and chronic mental illness have higher prevalence rates in the incarcerated population than in the general population (Droes, 1994). As the prison population ages, the incidence of chronic health conditions continues to escalate. It is common for prisons to treat inmates for cirrhosis of the liver, cardiac pathology, gastritis, and pancreatitis; most related to previous use of alcohol (Droes, 1994). A 1975 study of inmate health revealed a 12% incidence of positive tuberculin skin tests, a 6% incidence of syphilis, and a 60% incidence of drug and/or alcohol withdrawal upon admission to the prison (Galen, 1979 as cited in Felton, Parson & Satterfield, 1987).

In a recent keynote address (2000) to the 23rd National Conference on Correctional Health Care, Captain Newton E. Kendig, II, M.D., medical director for the Federal Bureau of Prisons, summarized the state of correctional health care at the end of the millennium. The director highlighted the success of correctional health care in the fights against HIV, TB, and sexually transmitted diseases (STD) through coordinated efforts to increase screening and detection, and

directly observed preventive therapy and health promotion. Current priorities for health care focus on the increasing incidence of Hepatitis C, the latent health effects of tobacco abuse, and the need for consistent identification and treatment of prisoners with mental illness. He cited a Bureau of Justice report that nearly 300,000 mentally ill offenders were held in state and federal prisons in mid 1998 (Kendig, 2000).

Captain Kendig (2000) emphasized the need to determine the level of care provided to inmates. The Federal Bureau of Prisons is currently reviewing various methods of primary care delivery for inmates. A model that assigns inmates to health care teams appears to limit unscheduled clinic time to true emergencies and urgent health care. In this model, teams routinely schedule chronically ill inmates for evaluation, provide triage for inmate complaints, and schedule follow-up appointments. The scrutiny for providing too many or too few services for inmates is consistent with the public's relationship with established health plans that differ widely in the range of services provided to the subscriber. In an effort to define essential care for inmates, the Federal Bureau of Prisons has identified several core values that reflect the philosophy of practice. These values include: treating all inmates equally; respecting inmate autonomy in treatment decisions; recognizing the importance of treatment on function in activities of daily living, cost effectiveness, protecting public health, and ensuring public safety. The goal of the Bureau is to provide inmates the highest quality of care, within the defined scope of services, without compromising the core values. (Kendig, 2000).

In addition to the overall health of the prison population, the prison setting and conditions within the institution provide opportunity for the development of health problems. The problems associated with large numbers of people living in close quarters combined with underlying mental

illness or violent personalities increases the incidence of trauma within the prison setting. Felton, Parson & Satterfield (1987) noted that the most frequently occurring health problems stem from poor hygiene and unhealthy life style behaviors. Prior to the health promotion movement, general public health concerns of sanitation, vector control, air quality, water supply and sewage disposal, housekeeping, and laundry were often not a priority in prisons. A landmark Supreme Court decision addressed correctional health care issues in the 1970's, and found that failure to provide adequate health care to individuals confined in correctional institutions is a violation of an individual's constitutional rights under the Eighth and Fourteenth Amendments (Dubler, 1979, as cited in Felton, Parsons & Satterfield, 1987). Three basic rights emerged from the decision of *Estelle v. Gamble*, 429 U.S. 98, 97 S.Ct. 285 (1976): the right to access to care; the right to care that is ordered; and the right to a professional medical judgement (Anno, 1991). As a result, this decision mandated adequate and reasonable health care in the prison setting, and set the stage for prison inmates to be the only population in the United States to possess a right to health care in this country. Accordingly, organizations such as the American Public Health Association (APHA), the American Medical Association (AMA), the American Nurses Association (ANA) and the National Commission on Correctional Health Care (NCCHC) began to establish standards for prison health care services (Felton, Parson & Satterfield, 1987; Safyer, Alcabes & Chisolm, 1988).

The costs of correctional health care have risen faster than other correctional costs. This can be attributed to the rising costs of health care in society at large, the increasing number of prisoners, the threat of litigation and pressure from federal courts to improve services, an aging prison population, and a higher prevalence of infectious diseases among correctional populations (McDonald, 1995 as cited in Young, 1998). Nationally, according to the Bureau of Justice, the

expenditures for state correctional activities rose from \$9.6 billion in 1985 to \$20.9 billion in 1996 (Stephan, 1999). In the Bureau of Justice report, the average inmate costs approximately \$20,100 per year, and Montana is consistent with this amount at \$20,782 per inmate per year. Variances in state prison costs are associated with cost of living, prevailing wage rates, geography, inmate to staff ratios, and the average number of inmates per facility. Stephan (1999) noted that high inmate to total staff ratios were most common in states reporting low average costs per inmate, and a similar pattern was observed between inmate to security staff ratios and average costs per inmate. The overall pattern between average number of inmates per facility and costs per inmate suggests that a small amount of cost savings resulted from the operation of larger capacity prisons (Stephan, 1999). These results are consistent with the economic theory of economies of scale.

According to the Bureau of Justice report of prison expenditures, Montana spent 9.6% of the overall correctional state budget on medical care, at a cost of \$4,030,000 or \$5.48 per inmate per day in 1996. This amount of medical cost is consistent with statistics from the northwest region of state prisons at 10% of state budgets, and slightly below the national average of 12%. The states with the lowest daily medical costs were Oklahoma, \$2.25; North Dakota, \$2.76; South Carolina, \$2.80; and Alabama, \$2.84 (Stephan, 1999). In fiscal year 1998-99, a legislative audit determined that the Montana Department of Corrections spent an estimated \$8.2 million for inmate health services, or \$10.45 per inmate per day. This cost includes medical, dental, vision, and mental health services to adult and juvenile offenders incarcerated in both state owned and contracted bed facilities, and reflects an 11.1% increase from the previous fiscal year, compared with an average of 5.8 percent of those states that also reported an increase in health care costs (Blanford, Wilkinson, & Wingard, 1999). The rise in the costs of health care in Montana was

associated with the complex management of decentralized regional contract prison facilities, an increasing number of inmates, and the 1994 and 1997 lawsuits filed over health care services at the MSP: *Langford, et al. v. Racicot, et al.* and *United States of America v. State of Montana*.

Although progress has been made toward complying with the terms of the agreements of these two court settlements, unresolved issues primarily focus on nursing protocols, sick call for inmates, and patient referrals for medical services. The National Commission on Correctional Health Care (NCCHC) noted "in systems where the quest for quality is driven by litigation concerns, one of the almost inevitable consequences is an increase in the cost of care" (Anno, 1991, pg. 220). In 1999, recommendations for the Montana Department of Corrections from the Montana Legislative Audit Division included a nine-part plan to improve health care program operations. These recommendations are listed below:

- 1) an increased emphasis on system wide management of the inmate health care system,
- 2) expansion of the long-range planning process to include specific goals and measurable objectives for the entire correctional health care system,
- 3) the development of a comprehensive management information system to review health care costs and utilization patterns system wide,
- 4) expanded managed care strategies,
- 5) strengthened and expanded procedures for review of medical billing,
- 6) implementation of a system wide quality improvement program,
- 7) development of a contract administration and monitoring process,
- 8) a formal reexamination each facility's health care services organization structure, and

9) develop and communicate procedures to ensure proper transfer of medical information (Blanford, Wilkinson, & Wingard, 1999).

Correctional Health Care Nursing

Prison nursing has evolved as an extension of community health nursing, with the focus on the under-served and marginalized population of prison inmates. According to the American Nurses' Association's "Scope and Standards of Nursing Practice in Correctional Facilities," the sole responsibility of nurses practicing in correctional facilities is to provide health care services. Nursing involvement in the security aspects of the prison facility performed solely for correctional purposes is considered inappropriate. Nurses are not to participate in disciplinary decisions or in executions by lethal injection. The security regulations that apply to prison personnel also apply to health care personnel (ANA, 1995). The philosophy of correctional nursing, which underscores the standards of practice, includes the belief that health care provided in the correctional setting should be equivalent to care available in the community and be subject to the same regulations. Ensuring the rights of the incarcerated is of major importance in correctional nursing and reflects the guiding concept that nursing services are equitable in terms of accessibility, availability, and quality (ANA, 1995).

The community concept relative to prison nursing stems from the fact that most prisoners come into the system from the community and will eventually return to the community. A global perspective fosters the overall health of not only the inmate, but also the community as a whole. The role of the nurse includes primary health care, with a strong emphasis on health promotion.

The ability to triage sick inmates and carry out the nursing process for a nursing model of health care delivery are essential skills. Traditionally, prison health care services have adopted a medical service delivery model where care and treatment were dictated by the doctor and the administrative arrangements were dominated by the warden or administrator of the prison. Alternative models of health care delivery incorporate the concept of primary care, with a multi-disciplinary team to address the health care needs of the inmates. This model includes varying administrative components, but focuses on the integral skills and influence of nursing (Norman & Parrish, 1999).

Concerns over the management and control by correctional administration with little or no understanding of nursing functions and the nursing standards of correctional health care practice often frustrate prison nursing staff. This frustration can lead to concern over adequate staffing (Norman & Parrish, 1999). The unique characteristics of the prison setting can complicate the ability to attract and retain qualified nursing staff. Moore (1990) found that salary compression was the greatest factor influencing the supply of nurses in the correctional setting.

The use of advanced practice registered nurses as mid-level health care providers in non-correctional settings has been studied extensively regarding issues of quality of care, substitutability, complementarity, and cost (Clawson and Osterweis, 1993 as cited in Jacobson, Parker & Coulter, 1998). Within correctional settings, Jacobson et al. (1998) found that the larger an institution's managed care population, the greater the nurse practitioner's scope of practice and autonomy, although patients with complex illnesses or multi-system problems usually were referred directly to a physician. A three-year study of the use of nurse practitioners as primary care providers in a large urban jail health service unit found the primary care patient volume

doubled, the average cost of each patient visit decreased by one third, and the technical quality of primary care improved continuously during the three-year period. Patient outcomes, patient satisfaction, and overall mortality rates were unchanged from the previous medical model (Hastings, Vick, Lee, Sasmor, Natiello, & Sanders, 1980). The overall suicide rate decreased with the model's introduction of a psychiatric screening and treatment program and cardiopulmonary resuscitation training for the correctional officers.

The prison setting has also become a location for faculty practice for nursing educators and a site for learning for undergraduate and graduate nursing students. The implementation of faculty practice in the correctional setting offers the nurse educator the ability to serve as a role model for nursing students, practice skills and share knowledge with nursing students, and establish credibility with students and respect among peers (Hall & Ortiz-Peters, 1986). The need to continue nursing practice may be essential for educators to maintain national certification in nursing specialties. Peternelj-Taylor & Johnson (1996) noted that the Canadian prison setting offered the nursing student traditional experiences in psychiatric nursing, the ability to apply the nursing process to clinical experiences, and the opportunity to learn about themselves. Additional benefits included an increase in student understanding of human behavior, strategies for meeting the health care needs of high-risk populations, and becoming advocates for neglected populations (Felton, Parsons & Satterfield, 1987).

The Correctional Population

A Federal Bureau of Justice report indicated that by the end of 1998, more than 1.8 million U.S. residents were incarcerated in either jails or prisons. State and Federal prisons housed two-

thirds of the incarcerated population, while jails, typically operated locally and holding persons awaiting trial, held the other third (Beck & Mumola, 1999). As of December 1998, state prisons were operating at between 13% and 22% above capacity. This prison crowding coupled with an increase in the rate of incarceration from one in every 217 U.S. resident to one in every 149 from 1990 through 1998 provides insight into the need for continued efforts to contain the rising costs of health care in the prison setting. Suggestions to reduce the prison population focus on repealing mandatory-minimum drug laws, releasing drug offenders, reinventing probation and parole policy, modifying federal sentencing guidelines, and doubling efforts to prevent juvenile crimes (Dilulio, 1999).

The Montana prison system witnessed a 91.9% increase in the number of sentenced prisoners from 1990-1998 (1,309 inmates increase). This reflects an annual increase of 8.5%, which is slightly higher than the average 6.8% increase for western states and 6.7% nationally. As of December 1998, Montana prisons were operating at 126% of capacity. Middle-aged inmates comprise a growing part of the nation's prison population, with nearly 30% between the ages of 35 and 44, and Montana is consistent with this figure. The average age of offenders at Montana State Prison is 35.5 years (MDOC, 1999). The growth and aging of the prison population are the result of declining release rates, increases in the length of sentences, and the "three strikes you're out" provision of the 1994 crime bill (Beck & Mumola, 1999). The changes in the overall prison age composition are beginning to alter the health care needs of the prison setting (Drummond, 1999; LaMere, Smyer & Gragert, 1996). It costs nearly three times as much to incarcerate the elderly inmate, at about \$65,000 a year as it does to incarcerate a younger inmate.

Inmates seeking health care in the prison setting do so at a rate three to four times higher than the general population (Schneiderman, 1996). While it is well supported that the general health of the average inmate is poor, it is also understood within the correctional setting that inmates seek health care for a variety of reasons. For some inmates, sick call requests, termed "kites," may be employed to relieve boredom, to avoid work, for socialization with other inmates, to gain access to drugs, or to prepare groundwork for legal action against the state. This population is generally considered to be more litigious than the general population, and inmates routinely threaten legal action if their demands are not met (Schneiderman, 1996).

The preceding review of literature summarizes what is known in the literature concerning prison health care services. Many unanswered questions remain. This study seeks to address questions regarding the various models of health care used in Montana's regional contract prison facilities to meet correctional health care standards and associated costs.

CHAPTER III

METHODOLOGY

The purpose of this study was to describe, compare, and contrast the models of health care delivery provided by regional contract prison facilities to incarcerated inmates.

Population and Sample

The research study focused on the health care delivery systems available to inmate populations at the four regional contract prison facilities in Montana. All four facilities participated in the study with approval from the Montana Department of Corrections. The designated health services director at each of the facilities was interviewed to gather explicit information about the model of health care delivery.

Design

A non-experimental descriptive exploratory survey design was employed to collect data to address the study's aims. The study included two aims. The first aim was to describe, compare, and contrast the provision of health care to state inmates at each of the four regional contract prison facilities in Montana. Objectives were to describe, compare, and contrast:

A. The demographic profile of the state inmate population at each of the four regional contract prison facilities as it relates to health service needs. This included age distributions and prevalence of chronic health problems in order to give context to the model of health care delivery.

B. The implementation of selected policies of correctional health care provision at each of the four regional contract prison facilities. The implementation of selected policies included access to health care services, staffing patterns for the health services unit, triage, medical records, out of facility health care specialists, pharmaceutical services, and prior approval for non routine medical health services. It was anticipated that these policies would offer an in-depth understanding of the provision of services provided through the model.

C. The use of health care providers and staffing patterns at each of the four regional contract prison facilities. It was anticipated that variation in the provision of health care services would provide information about the efficiency and cost effectiveness of the model.

D. The range of health care services offered at each of the four regional contract prison facilities. It was anticipated that the scope of health care services offered within the model of health care delivery would provide information about the efficiency and cost effectiveness of the health care delivery model.

E. The accessibility, availability, and use of outside BC/BS preferred health care providers at each of the four regional contract prison facilities. Variances in the ability to access preferred providers were examined to gain information about the model's coordination and collaborative efforts with outside agencies and providers. Variances in the availability and use of preferred providers were examined to gain information about the model's efficiency and limitations.

The second aim of the study was to describe, compare, and contrast selected cost indicators at each of the four regional contract prison facilities. Objectives were to describe, compare, and contrast:

A. The cost of providing out of facility health care services at each of the four regional contract prison facilities for follow up of a positive tuberculosis screening test. This cost indicator may reflect on the model's coordination with community agencies to provide cost-effective health care services out of the facility.

B. Transportation and security/safety costs associated with use of outside facility health care services at each of the four regional contract prison facilities. These cost indicators were selected to provide information about the model's indirect costs associated with providing health care services to incarcerated populations. The costs of providing transportation and security during out of facility transportation to health care specialists may reflect upon the cost effectiveness of the model.

C. Selected routine laboratory and pharmacy charges at each of the four regional contract prison facilities. Complete Blood Count (CBC), Alanine Aminotransferase (ALT), Prostate Specific Antigen (PSA), and selected pharmaceutical agents were identified to gather information about the health care delivery model's cost efficiency and coordination with ancillary agencies.

D. The relationship of the overall budget to health care delivery expenses at each of the four regional contract prison facilities. This cost indicator was selected to provide information about the health care needs of the population of inmates, the model of health care delivery, and the practice patterns of health care providers. It was anticipated that this might also reflect the value placed upon health care delivery for incarcerated populations by the correctional facility administration.

Procedures for Data Collection

Multiple existing sources of data were used for the study. Demographic profiles of the MDOC data information system, third and fourth quarter BC/BS cost reports for fiscal year 2000, contracts, and monthly health services reports of the regional contract prison facilities were provided by the Montana Department of Corrections (MDOC). MDOC health services site survey results conducted over the last year, specific to the aims, were reviewed for the study. On-site interviews with each regional contract prison facility health services director were conducted by the researcher with the consent of the MDOC, and focused on the delivery of health services during the time reflected in the quarterly cost reports. A thesis committee member, who is also the health services director at one of the regional contract prison facilities, was interviewed for one of the site visits. The committee member accompanied the researcher during the other three on-site interviews, assisted in gaining entry into the regional prison facilities, but did not participate in the interviews. Facility entrance was also assisted by the Professional Services Administrator and Medical Director of the MDOC.

Instrumentation

Selected components of the MDOC contract survey tool, section 10, Health Services were reviewed and used to gather information about the regional contract prison facilities. Data obtained through this instrument were gathered by the same staff of the MDOC and were consistently used for all site surveys. The survey tool is based upon national correction standards, contractual obligations, and is adapted from the Texas Department of Corrections tool used for

monitoring of all contract prison facilities in Texas. A copy of the survey tool is provided in Appendix A.

The on-site interview guide consisted of eighteen preset questions developed by the researcher to facilitate discussion with the health services director regarding the structure of the health services model at the regional prison facility. A copy of the interview guide is provided in Appendix B.

Human Rights and Consent Process

The research study focused on the health care delivery systems available to inmate populations in Montana. There was no contact with vulnerable prison inmates. While the study described the health care offered to inmate populations, there was no known impact on the quality or content of care received during the course of the study. Based upon the contractual agreement with the regional contract prison facilities to allow access for program audits (MDOC, December 3, 1999, p. 12), voluntary, written consent from the Montana Department of Corrections was obtained for the study. Data obtained and used in the study consisted of new and previously collected information. The interview results, DOC cost reports, and site survey results were considered confidential. Results of the study were written in a thesis in partial fulfillment of the degree of master of nursing. Copies of the written project are available at the Montana State University-Bozeman, College of Nursing and the Montana State University Renne Library. Sites were numbered one through four and not otherwise identified. The written thesis did not identify any participants by name. Cost reports, data base printouts, handwritten notes, and survey results will be stored in a locked file cabinet at the Montana State University- Bozeman, College of Nursing.

They will be removed and destroyed after two years. The summary proposal to the Human Subject Committee of the Montana State University- Bozeman, College of Nursing was approved on May 1, 2000.

CHAPTER IV

RESULTS

A non-experimental descriptive exploratory survey was conducted to describe, compare, and contrast the models of health care delivery existing at regional contract prison facilities of the Montana Department of Corrections. The survey design addressed two aims: to describe, compare, and contrast the provision of health care to state inmates and selected cost indicators at each of the four prison contract facilities.

The four regional contract prison facilities were individually visited by the researcher during June and August of 2000. After obtaining consent from the Montana Department of Corrections, the designated health services director at each regional contract prison facility was interviewed by the researcher using an interview guide of open-ended, structured questions. Minimal problems were encountered in obtaining data from the facilities, with the exception of site #3. Personnel changes in the medical services director position at this site precluded the availability of budget information that had not been received from the previous director.

Additional data were obtained from the Montana Department of Corrections. These included BC/BS cost reports, monthly health services reports, MDOC regional contract prison facility contracts, and site survey results specific to medical service provision. A cost comparison of out of facility expenses specific to an identified routine health service was compiled by the DOC's case manager through access to the department's medical data information system.

Description of Sites

Each of the regional contract prison facilities offered some contextual variation in observed attributes. Observations regarding the facility's location in the community, exterior and interior characteristics, a layout of the medical services area, inmate characteristics, and personal safety are included to provide insight into the context of each regional contract prison facility's structure. Sites are numbered according to the visitation sequence.

Site #1, located in an urban setting near a regional medical center, is geographically separated from the edge of town by an interstate highway. The facility serves as the administrative offices for the county sheriff and coroner, local highway patrol, and city police. The facility houses up to 30 federal, 150 state, and 170 county offenders, both male and female, and has been at near capacity of 350 inmates, since its operation began. It is a new building, with advanced security technology. Upon entrance into the facility, it appears as just another governmental building, with busy staff moving from area to area. All visitors are passed through a metal detector, screened by verbal inquiry as to possession of contraband, and on occasion based on institutional protocol are searched for hidden weapons or other illegal items not permitted past the iron gates. Inside, the bare walls and wide corridors lead to pods of inmates classified as to security risk and pattern of behavior.

The medical services area is small, and in close proximity to the pod that houses county inmates. In order to access the state inmate pod from medical services, one must walk a long corridor and pass through two security gates. The medical services area is adjacent to the booking area, which is used to house new arrivals as they are processed into the facility, as well as inmates who require close medical attention. The staff has decorated the area with confiscated art objects

created by inmates out of toilet paper. There are two examination rooms, two shared office spaces, a small laboratory, small pharmacy stock room, and an even smaller record file room. The staff is friendly, cohesive, and interacts professionally, yet personably with the inmates seeking health care.

The state inmates are housed in large bi-level housing pods, and are occupied with various activities that included television, conversation, reading, indoor exercise equipment and activities in an enclosed gym with an open skylight. All inmates are moved individually within the facility by correctional officers, and to health services by an officer specifically assigned to the health services department. At no time did the researcher experience any threat to personal safety during the on-site interview.

Site #2 located on the edge of a rural community is capable of housing 140 state and 10 county male inmates. It is in close proximity to the local hospital, county fairgrounds and a busy youth baseball complex. The entrance to this new facility, which serves as the administrative site for city and county law enforcement, is confined to a small lobby served by one receptionist behind a glass screen. Upon entrance through a metal detector, the researcher was led through a maze of dark closed-in hallways.

The medical services office is separated into one large and one small room. The large room is used on occasion for patient exams for county inmates, although it appeared to also be used for health services administration and management. The smaller adjacent room is used by the director of nursing for supply, records, and pharmacy storage. A second examination room is located closer to the state inmate population, and away from jail administration. The staff is

friendly, professional, and interacted easily with the prison correctional staff. No observation of inmate interaction was available during the on-site interview.

A tour of the facility revealed a number of inmates with readily visible, brightly colored tattoos (the past-time of creative inmates) and opportunity for inmate education and training in several classrooms. A couple of inmates moved freely and unsupervised between the laundry area and the kitchen. Although the researcher perceived no threat to personal safety, the medical officer expressed some concern over the lack of officer supervision.

Site #3, located in a rural community which has a county hospital, is nearly a mile out of town on an open prairie. It is surrounded by a perimeter of high razor coil fences and lights that make it visible at night from a distance of 15 miles away in multiple directions. As the researcher entered the community from the northbound interstate highway, the facility was readily visible. It is contracted to house a total of 500 inmates, male and female and is limited to state prisoners. No county or federal prisoners are housed. Upon arrival at the outside gate, the researcher observed the presence of three unattended inmates located between the secondary entrance gate and the facility's front door. A task of creating a decorative border of old railroad ties for the sidewalk flower bed apparently had been assigned to the crew, along with the use of a large electric chain saw. The chain saw continued to run as the inmates paused to acknowledge the entrance of the researcher through the secondary gate. Passage through the walkway was negotiated and after several moments a female, unarmed guard appeared in the facility entryway. Notably, a compromised sense of personal safety was experienced by the researcher.

In contrast to the uncontrolled entrance into the facility, a complete screening was conducted by the receptionist guard, who led the researcher back to medical services through an

administrative area. The medical services section of the facility is immense, and reflective of the massive nature and architecture of the facility. Designed to provide infirmary services to a facility with a structural potential for 1500 inmates, this area is complete with locked patient cells, and one padded cell, an emergency/treatment room, dental office, pharmacy, and room to grow in case radiology services are desired in the future. A large waiting room, separate staff office, and administrator's office round out the experience. The staff is busy, reserved, and down to business. The researcher was not afforded a facility tour on this visit, nor was any provider-client interaction observed. A previous unrelated, non-academic visit revealed expansive corridors that led to bi-level housing pods filled with inmates occupied with activities, conversation, and television. Indoor and outdoor recreation facilities were also available.

Site #4 is located in a part of an urban community that has grown dramatically over the last few years, and as a result it is adjacent to busy intersections, a community medical center, shopping malls, and a bustling state highway. It is situated in a complex with existing probation offices and a pre-release facility. The facility is capable of housing 170 state, 110 county, 10 federal, and 30 juvenile offenders, male and female, for a capacity of 320 offenders.

Upon security entrance into the prison facility, the researcher was quickly greeted by the registered nurse supervisor of medical services and escorted to the medical services area located close to the county inmate population. The area contains two medical examination rooms, a dental treatment room, storage, and a large administrative office with desks for the nursing staff. The staff was receptive, expressed interest in other state correctional facility health services, and appeared eager to learn any new information or knowledge. A tour of the facility revealed large pods of

occupied inmate populations utilizing indoor and outdoor recreational facilities, a library, and educational opportunities.

Demographic Profile

The demographic profile of the state inmate population at each of the four regional contract prison facilities as it relates to health service needs was identified. This included age, race and ethnic distributions, and chronic health problems perceived and prioritized by the health services director at each facility.

An analysis of the monthly average daily population of inmates at the four facilities revealed data reflective of the age of each of the regional contract facilities. Sites #1 and #2 housed prison inmates at a nearly consistent rate during the period of January through June 2000, reflective of the fact that they had been open for more than one year. Analysis of sites #3 and #4 reflected a growth in inmate population indicative of the more recent opening of the facility. Typically, the MDOC gradually transfers inmates into a new facility allowing for inmate and administrative adaption and adjustment. Figure 1 on page 44 illustrates the monthly average daily inmate population at each facility during the period of January through June 2000.

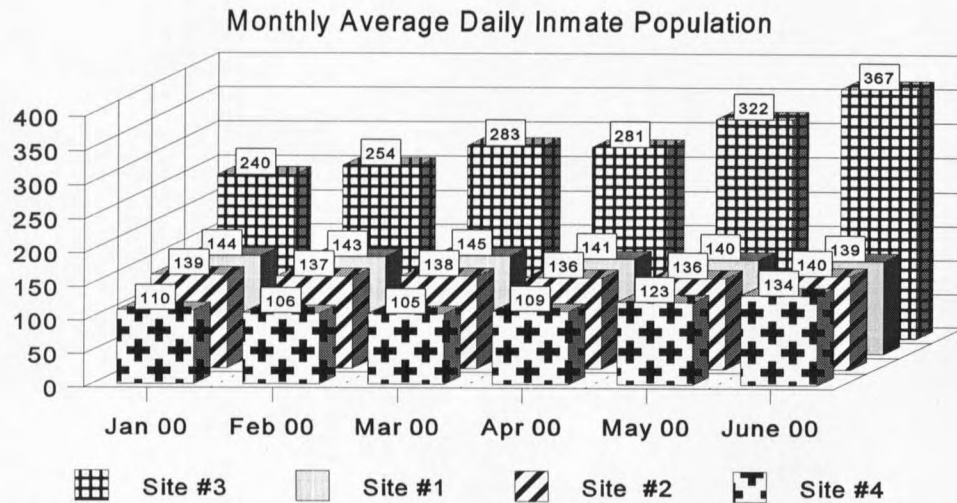


Figure 1. Monthly average daily inmate population by site, January through June 2000.

The average number of inmates was derived from data obtained from the MDOC. Sites #1 and #2 are nearly comparable in the number of state inmates, site #3 has more inmates than sites #1 and #2 combined, and site #4 houses the smallest number of state inmates during the period of January through June of 2000. Table 1 illustrates the contrast in the average number of inmates and the capacity of each facility.

Average Inmate Population by Site			
Site #1	Site #2	Site #3	Site #4
142	137	291	114
Capacity Inmate Population by Site			
350	150	500	320

Table 1. Average and Capacity State Inmate Population by Site, January through June 2000.

Figures 2 through 5 on pages 45 through 47 illustrate the racial and ethnic distribution of inmates at each facility. Analysis of this information obtained from the MDOC, indicated that the distribution of Native American and Caucasian state inmates varies somewhat among the four regional contract prison facilities. The two most prevalent populations are white and Native American. The white state inmate population varies between 72.9% and 80% of the regional prison population as compared to 92.5% of the overall Montana population (Montana Department of Commerce, 2000). The Native American population varies between 12.1% and 22.1% of the regional prison population as compared to 6.5% of the overall Montana population. There is some slight variation in the presence of Hispanic, Asian, Amerasian, Black, and Hispanic/Native American inmates among the four sites. When these populations are combined, the racial and ethnic populations make up approximately 5-7% of the inmates at each facility, as compared to the 2.8% of the overall population of Montana.

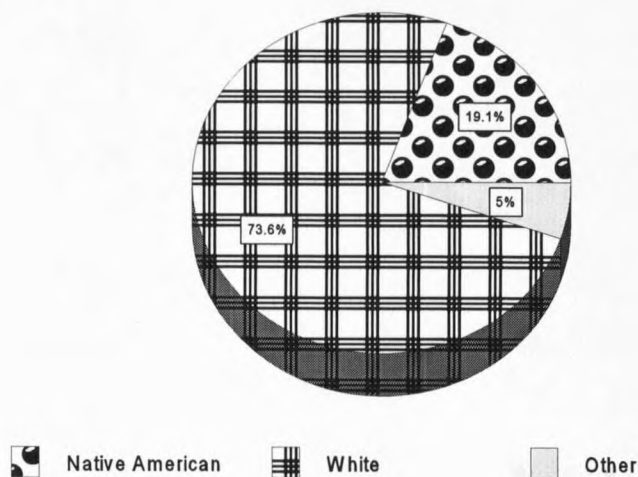


Figure 2. Race and Ethnic Distribution of Inmates for Site #1 as of November 10, 2000.

Site #2 Race and Ethnic Distribution of Inmates

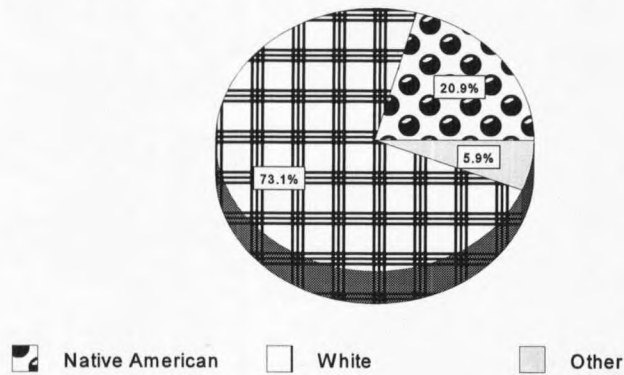


Figure 3. Race and ethnic distribution of inmates for Site #2 as of November 10, 2000.

Site #3 Race and Ethnic Distribution of Inmates

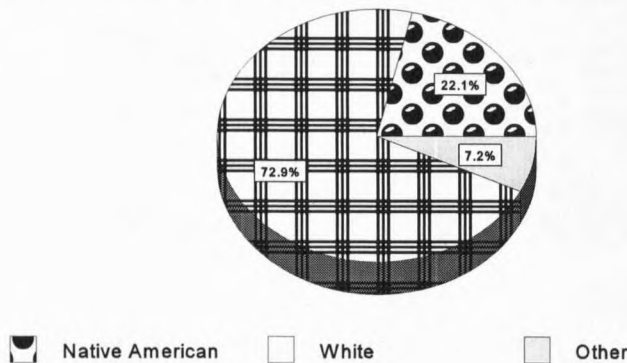


Figure 4. Race and ethnic distribution of inmates for Site #3 as of November 10, 2000.

Site #4 Race and Ethnic Distribution of Inmates

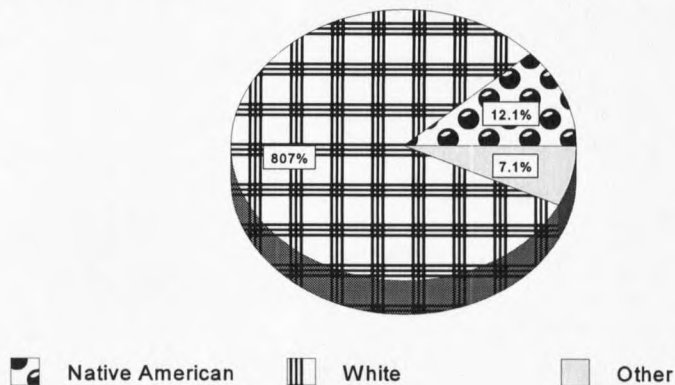


Figure 5. Race and ethnic distribution for site #4 as of November 10, 2000.

The average age of inmates at each of the four sites is consistent with the overall average age of the prison population in Montana. MDOC (1999) reports that the average state inmate is 35.5 years old. Sites #1 and #2 had a population slightly younger than the average Montana inmate at 33.6 and 31.3 years respectively. Sites #3 and #4 were 34.8 and 36.7 years, nearly equal the age of the average Montana inmate. Figure 6 on page 48 illustrates this finding.

Age Distribution of Inmates

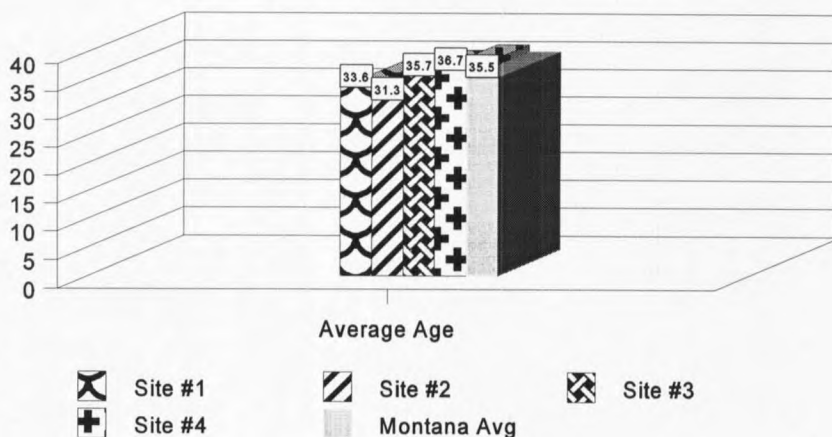


Figure 6. Age distribution of sites #1-4 as of November 10, 2000.

Table 2 on page 49 outlines the identified "top five" chronic health problems among inmates at each of the four sites. These data are in response to question #1 of the site interview guide, which asked the health service director to identify and describe the prevalence of any chronic health problems in the facility. After identification, each director was asked to subjectively rank the five top problems by frequency of occurrence. Recreational injuries, defined as health complaints from inmates related to activities in the indoor and outdoor recreational areas, was the only consistent health problem identified in all of the sites, and ranked not lower than third by the health service directors on the priority scale. Injuries sustained in the recreational areas often require diagnostic services not available within a regional prison health services department. These may include radiology services, computerized axial tomography (CAT scan) or magnetic resonance imaging (MRI) services, or consultation from orthopedic specialists. Mental illness, hypertension, and diabetes were also identified by three of four sites. These health care problems

may be adequately managed through a primary care setting, with occasional consultation with specialty physicians. These health complaints reflect the variety of personal health care needs encompassed in primary care medicine. The responses were not based upon actual occurrences, but reflect the perceptions of the health services director. The perceptions may be influenced by more recent activities, the individual focus of the primary care provider, or circumstances unknown to the researcher.

Identified and Prioritized "Top Five" Chronic Health Problems by Site			
Site #1	Site #2 *	Site #3	Site #4
1. Mental Illness 2. Recreational Injuries 3. Hypertension 4. Diabetes 5. Amputee Management	1. Hepatitis C 2. Mental Illness 3. Recreational Injuries 4. Headaches	1. Recreational Injuries 2. Hypertension 3. Mental Illness 4. Seizure Disorders 5. Diabetes	1. Hypertension 2. Gastro-Esophageal Reflux Disorder 3. Recreational Injuries 4. Back Pain 5. Diabetes

Table 2. Identified and prioritized "Top Five" Chronic Health Problems by site.

*only 4 health problems identified.

Correctional Policies

Selected standards of correctional health care provision established by the National Commission on Correctional Health Care (NCCHC) and required by MDOC contracts and policies were compared to practice identified by the health care directors at each of the four regional contract prison facilities. The implementation of selected standards and policies included access to health care services, staffing patterns for the health services unit, triage, medical records, pharmaceutical services, and prior approval for non-routine medical health services.

According to the NCCHC (1997), accessing care to meet serious health needs is the principle upon which all correctional health care standards are based, and is the result of *Estelle v. Gamble*, 429 U.S. 98, 97 S.Ct. 285 (1976) which established the legal foundation for inmates to have the right to access care, the right to care that is ordered, and the right to a professional medical judgement. Unreasonable barriers to be avoided include: punishing inmates for seeking care; excessive co-payments that prevent or deter inmates from seeking care; establishing disincentives; permitting unreasonable delays; and interfering with prompt transmittal of a request for care. The access systems identified by the health services directors during the interview were categorized by the researcher into two different types and were based upon general systems theory. A limited access system allowed an inmate to access care through access points inside the facility. These include a formal communication format called a "kite" that provided a means by which the inmate could describe his health complaint and request to be seen by a health care provider. Health care could also be initiated through the nursing staff during the daily triage and medication rounds, through a correctional officer, or another inmate. An open access system was defined by the researcher as inclusive of the limited access system criteria with the addition of an ability to accept a request from outside the facility. This may include inmate family members, outside health care providers, and attorneys. Sites #1 and #4 offered access to health care utilizing an open system, while sites #2 and #3 identified a limited access system. Table 3 on page 51 illustrates the system of access identified by each site.

Access to Health Care by Site			
<u>Open System</u> Utilizes access points from inside and outside the facility. <u>Limited System</u> : Utilizes access points from inside the facility.			
Site #1	Site #2	Site #3	Site #4
Open System	Limited System	Limited System	Open System

Table 3. Access to Health Care by Site.

Significant differences in the educational preparation of the health care model's director position were also noted. Defined as the responsible health authority or health administrator, the director is charged with the responsibility to develop and revise health policies, procedures, and protocols; enforce the drug formulary, provide policy guidance and oversight, monitor the level and quality of health services to ensure compliance with standards, oversee continuous quality improvement programs; provide professional directions and leadership; and guide compliance with legal standards throughout the system (MDOC, 4.5.2, 1997). A health administrator is defined by the NCCHC (1997, p. 4)

as a person who by virtue of education, experience, or certification (e.g., MSN, MPH, MHA, Certified Correctional Health Professional, Fellow in the American College of Healthcare Executives) is capable of assuming responsibility for arranging all levels of health care and providing quality and accessibility of all health services for inmates.

The director of site #1 has a master's degree in nursing administration and community health nursing (MSN) and oversees the entire baccalaureate prepared nursing staff and advance practice nurse primary care providers. The health services director of Site #2 is a baccalaureate prepared RN, with a Masters in Public Health (MPH) and certification as a physician's assistant, who administers the health services department, provides primary health care and supervises an associate degree RN and part-time LPN. The health services director of Site #3 is an associate

degree RN, who supervises the nursing staff, and coordinates health services. Site #4 employs an associate degree RN as health services director, who oversees the nursing staff of all LPNs.

Table 4 illustrates the educational preparation of the director of each health service model.

Educational Preparation of Health Services Director by Site				
	Site #1	Site #2	Site #3	Site #4
Degree	Masters in Nursing	Masters in Public Health	Associate	Associate
Focus	Administration, Community Health	Public Health	Nursing	Nursing
Years of Post Secondary Higher Education	8	8	2	2

Table 4. Educational Preparation of Health Services Director by Site.

Nursing Staff, Staffing Patterns and Triage Protocol

The varied educational preparation of health care delivery nursing staff and the patterns of nurse staffing offers insight into the model of health care delivery within each regional facility.

Decisions on the types of nursing staff and the patterns of nurse staffing are influenced by multiple factors. The American Nurses Association recognizes the use of two levels of professional nursing practice in the correctional setting. The roles of the basic and advanced practice nurse are described in the "Scope and Standards of Nursing Practice in Correctional Facilities" (ANA, 1995).

The advanced practice nurse is a registered nurse who has received master's degree in nursing

and provides specialized advanced level nursing in a specified field as described in MCA 37-8-202(5) and 37-8-409. Basic nursing practice as described by the ANA is identified as a professional nursing role, a registered nurse. Montana offers two types of registered nursing (RN) preparation: a professional baccalaureate nursing degree (BSN) and an associate nursing degree(AD). After four years of college education, the professional baccalaureate degree nurse is

prepared to plan, deliver and coordinate care for clients including individuals, families, and communities in a variety of structured and unstructured settings with an emphasis on care management, complex care situations and clients with unpredictable outcomes (American Association of Colleges of Nursing (AACN), 1998, MCA 8.32.1105).

After two years of college education, the associate degree nurse is able to "provide direct care to clients, individuals or groups, in a variety of structured settings with clear policies and procedures" (National League of Nursing, 1990, MCA 8.32.1106). A two year licensed practical nurse (LPN) technical degree allows the graduate to "provide nursing care for clients in structured health care settings who are experiencing common, well-defined health problems" (MCA 8.32.1107).

According to the NCCHC (Anno, 1991) factors that influence the type of nursing staff and scheduling patterns include specific characteristics of the prison institution, inmate population, and the health delivery system. The MDOC contractually obligates the regional prison facilities to provide RN supervision of LPN practice; nursing care 24 hours a day, seven days per week if providing infirmary care; and nursing care 16 hours per day, seven days per week if not providing infirmary care. Infirmary care is defined by the NCCHC (1997, p. 67) as an

area within the confinement facility accommodating two or more inmates for a period of 24 hours or more, expressly set up and operated for the purpose of caring for patients who are not in need of hospitalization or licensed nursing facility placement, but whose care cannot be managed safely in an outpatient setting.

Infirmiry care is further defined "as inpatient care provided to patients with an illness or diagnosis that requires daily medication and/or therapy, assistance with activities of daily living, or other nursing care on a daily basis...under the supervision of a registered nurse" (NCCHC, 1997, p. 67)

Only site #3 offers infirmiry care.

Each of the regional sites provides nursing care with a variety of nursing educational preparation and staffing patterns. Site #1 utilizes a nursing staff of only baccalaureate prepared registered nurses in a non-infirmiry structure, complete with specially trained mental health nurses. Sites #2 and #4 utilize a combination of associate degree registered nurses and a licensed practical nurse. Site #3 utilizes a combination of associate degree registered nurses, baccalaureate prepared registered nurses and licensed practical nurses to staff the infirmiry.

The practice of triage, the "sorting out and classifying of patients' health complaints to determine priority of need and the proper place for health care to be rendered" (NCCHC, 1997, p. 49) is required contractually by the MDOC as a provision of nursing care. Although triage is not specifically identified under the scope of practice for a licensed practical nurse (LPN), Montana rules and regulations for the practice of nursing focus on the role of the LPN as a "contributor" to the nursing assessment under the supervision of a RN, who is ultimately responsible for assessment, establishing and documenting nursing analysis, developing and prioritizing a strategy of care, and prescribing nursing interventions based on the nursing analysis (MCA 8.32.1403 through 8.32.1407). Given the resultant secondary gains prisoners receive when seeking health care, prudence in the safeguard of licensure would dictate the use of specific written protocols and consistent RN supervision for LPN's performing triage in the correctional setting. The NCCHC (1997) does not recommend the use of standing orders in the prison setting. This would include

the use of written orders that outline the same course of treatment for any prisoner who presents with a specific complaint. The health services director at Sites #3 and #4 reported using LPN nursing staff for the practice of triage. The use of corporate protocols at site #3 was identified by the director during the interview. Sites #1 and #2 reported using only registered nurses for triage. The frequency of performing triage also varied. Although there were contractual differences in the required amount of triage for each site, some sites had chosen to perform this function more frequently (Appendix C). Sites #1 and #4 performed triage twice daily, whereas, site #2 performed it daily and site #3 conducted triage five days per week.

The number of health care staff utilized by a facility can vary according to the NCCHC, and efforts to establish a standard have been avoided. According to an NCCHC study of 1989 (Anno, 1991), which was conducted prior to the development of Montana's regional prison concept, the ratio of health care staff to inmates served ranged from 1:100 in Wyoming to a high of 1:14.5 in Massachusetts, with a mean ratio of 1:32.6. During this period, Montana had a ratio slightly above this mean at 1:53.8 staff to inmates served. During the period of January through June 2000, the regional prison facilities staffed at contrasting ratios. With the total number of full time equivalent employees (FTE) ranging from 1.3 to 6.0 between the sites, use of a staff to inmate ratio has comparative value. However, sites #1, #2, and #4 also are required to provide health care services to additional county or federal inmates who are being housed in the facility. Based upon capacity population, all of the sites were above the mean ratio identified by Anno and ranged from 1:80 and 1:83.3 at sites #4 and #3 respectively to 1:115.3 and 1:134.6 at sites #2 and #1 respectively.

Table 5 illustrates the comparison and contrast of nursing educational preparation, nursing staffing patterns, management of triage in relationship to contractual obligations, and the health care staff FTE to inmate ratio at each of the regional prison facilities. These indicators may reflect different interpretations of the facilities for contractual provision of nursing services in the delivery of correctional health care, understanding of the varying scopes of practice for all levels of nursing, and appreciation of the philosophical differences in nursing practice.

Nursing Staff, Staffing Patterns and Triage Protocols by Site				
	Site #1	Site #2	Site #3	Site #4
Educational Preparation	RN- BSN Degree	RN- AD Degree LPN	RN-BSN & AD Degree LPN	RN-AD Degree LPN
Staffing pattern Nursing	16 hrs/day 7 days/wk	8 hrs/day 7 days/ wk and as needed	24 hrs/ day 7 days/ wk with infirmary	16 hrs/ day 7 days/ wk
FTE Totals	2.6 medical .6 mental health	1.3 medical 0 mental health	6.0 medical 0 mental health	4.0 medical 0 mental health
*Ratio of health care staff to inmates served	134.6	115.3	83.3	80
Triage Protocol	Twice daily	Daily	5 days per week	Twice daily

Table 5. Nursing Staff, Staffing Patterns and Triage Protocol by Site, January through June 2000.

*Does not include mental health staff, based upon capacity population.

Use and Management of Medical Records

The use and management of health care information vary greatly between the regional prison facilities. The health care record is used to document the care provided and to facilitate communication among the various providers who treat a single patient. Issues of format, content, confidentiality, and transfer of health information are vital to the structure of a health delivery system. The MDOC (DOC 4.5.28, 1998) specifically outlines the format and content of health care information. The record is to include all medical, dental, and mental health information. Identified as a unified health care record, this format offers solutions to efficiency, continuity of care, and communication. Only site #1 utilizes a unified format and content, which is most likely the result of the equally unified approach to providing both mental and physical health services out of one structure. The remaining sites separate physical, dental, and mental health records.

Confidentiality of inmate health care is reflected in the management of health care information at each of the contract facilities. The NCCHC noted that there "is a consensus among courts generally that the privacy of one's personal affairs is protected by the constitution" despite the limitations of incarceration (Anno, 1991, p. 40). Disclosure of health care information is strictly limited to only individuals who have obtained written authorization from the patient (MCA 50-16-525). In the prison setting, sharing of health information must be restricted and access to the health care record must be controlled. According to MDOC policy 4.5.29, (DOC, 1998), medical records are not to be viewed by non-health care staff, and should be stored separately from custody records in locked cabinets. Sites #1, #2 and #3 limit the exposure of medical records to health care staff and use only health care staff in the management of the records. Further, site #1 employs a baccalaureate prepared medical records librarian to manage the inmate records. Site

#4 has assigned medical records management to non-medical personnel from the jail administration staff, although all records are stored in the health services area.

The transfer of health information from one facility to another occurs frequently, but there does not appear to be a standard protocol from the MDOC on how this information is to be shared. DOC policy 4.5.30 (1998) outlines the retention of health care records for five years after release to parole or discharge, and the storage of records to maintain confidentiality. Specific protocols regarding the disposition of the original record are not addressed. Sites #1 and #4 maintain the original record and copy the entire record for the receiving facility. Site #2 sends the original record to the receiving facility, and does not maintain any records of transferred inmates. Site #3 returns the original to MSP and maintains a copy after the transfer. Table 6 illustrates the variance in medical records management for the regional prison facilities.

Medical Records Management By Site				
	Site #1	Site #2	Site #3	Site #4
Medical Record Manager	Medical Records Librarian - Baccalaureate prepared	Nursing/medical staff	Nursing/clerical staff	Jail Administration
Record Format and Content	Unified (Medical, dental and mental health)	Separate	Separate	Separate
Transfer Protocol	Original saved, copy sent to next facility	Original returned to next facility	Original returned to MSP, copy saved	Original saved, copy sent

Table 6. Medical records management by site, January through June 2000.

Medication Administration

The administration of medication in the prison setting is subject to the laws of pharmacy. According to the NCCHC, each medication must be: properly dispensed from a labeled container filled by a pharmacist; passed by licensed health care staff; recorded on individual patient records; and observed for administration and not hoarded (Anno, 1991). Since the feasibility of employing a pharmacist on-site is considered cost prohibitive, accommodations to these procedures for the prison setting have evolved into the use of "blister packs." This method of unit dosing medication into a sealed pack has become standard throughout the state's regional prison facilities. Each "blister pack" is filled by a pharmacist and labeled appropriately. Once the medication is completed or discontinued, the pack is to be sent back to the pharmacy for proper disposal. Partially used packs are not to be reused for other patients. The administration of medication is performed by the nursing staff via either a drug storage cart that is taken to the inmate pods or the inmates are brought in groups to a window at health services for medication administration. Both methods are acceptable with the NCCHC, however considerations of nursing time, officer time, security, and adequate observation of inmate compliance are factors of each practice. It is imperative that administrations of the medication are carefully observed. The practice of hoarding or hiding, frequently called "cheeking," medication is common among inmates, especially those receiving psychotropic or controlled substances. A nurse's ability to adequately observe the administration and ingestion of medication through a window may be compromised. Table 7 on page 60 represents the contrast in pharmacy protocols among the regional prison facilities.

Pharmacy Protocols by Site				
	Site #1	Site #2	Site #3	Site #4
Pharmacy Protocols	Drug cart taken to the pods	Drug cart taken to the pods	Inmate brought to medical services	Drug cart taken to the pods
Packaging	Unit dose - "blister packs"	Unit dose - "blister packs"	Unit dose - "blister packs"	Unit dose - "blister packs"

Table 7. Pharmacy protocols by site. January through June 2000.

Emergent Out of Facility Health Services

The protocols utilized to facilitate the use of emergent out of facility health services reflect upon the administrative and medical autonomy of the health care model and the system's ability to coordinate with jail administration an efficient and safe transportation of an inmate out of the prison setting. Medical autonomy, defined by the NCCHC as "the professional judgement of clinicians regarding their patients' needs [that] cannot be overruled by non-medical personnel" (Anno, 1991, p. 60) ensures that decisions regarding health care are not based upon the needs of the correctional facility (NCCHC, 1997). Actions regarding the health care of inmates are not compromised for or by security reasons. The MDOC further outlines this concept for the regional prison facilities through policy 4.5.3 (DOC, 1997). Although the responsible health authority arranges for access to, and monitoring of, health care services, cooperation with jail administration is deemed essential. Each of the sites clearly demonstrated that the decision for emergent out of facility medical services is independent of and coordinated with the jail administration. Health services directors were asked to describe the steps needed to accommodate an out of facility transfer. Differences in protocol highlight the need for approval from a corporate medical officer at

site #3, and the approval of a receiving medical doctor at the local hospital at site #2. Table 8 illustrates these differences in protocols for emergent out of facility health services.

Emergent Use of Out of Facility Health Services by site				
	Site 1	Site 2	Site 3	Site 4
Decision	Independent of Jail Administration	Independent of Jail Administration	Independent of Jail Administration	Independent of Jail Administration
Transfer	Coordinated with jail administration	Coordinated with jail administration	Coordinated with jail administration	Coordinated with jail administration
Approval	Health Services Director and MDOC	Medical officer, MD on call at hospital, and MDOC	Physician, MDOC, and Corporate Medical Director	Physician and MDOC,

Table 8. Emergent Use of Out of Facility Health Services by site.

Primary Care Providers

The term "qualified health care professional" is used by the NCCHC (1997) to outline the varied professionals appropriate for the delivery of primary care in the correctional setting. The qualified health care professional is defined as:

physicians, physician assistants, nurse practitioners, nurses, dentists, mental health professionals and others who by virtue of their education, credentials, and experience are permitted by law within the scope of their professional practice acts to evaluate and care for patients (p. 4).

The type of primary care provider contracted to provide health services at each of the four regional contract prison facilities was identified through the interview with the health services director at each regional facility. The different types of providers practicing at the four sites may be associated with the major differences in the health care delivery models of the regional prison system.

Site #1 provides primary physical and mental health care through the use of advanced practice registered nurses 32 hours a week at a facility cost of \$58,240 per year or \$35.00 per hour. Master prepared family nurse practitioners with prescriptive authority and a master prepared psychiatric registered nurse are utilized. The scope of practice for these licensed APRNs is independent and requires no physician supervision.

Site #2 provides primary physical health care through the use of a full time physician's assistant (PA), whose practice is limited to those services outlined in a statutory utilization plan and requires the supervision and licensure of a local physician (MCA 37-20-301). Site #2 contracts for physician supervision at \$1500.00 per month. This combined with a PA salary of \$55,000 per year equates to a total facility cost of \$73,000 per year or \$35.09 per hour. This figure also includes the costs associated with the health care delivery model's administration which is a separate cost in the other sites, but does not include mental health services, as this is provided separately from the health care delivery model.

Site #3 contracts with local family practice physicians, whose scope of practice is independent, to provide 16 hours a week of primary health care at \$125.00 per hour or \$104,000 per year for the facility. Occasionally the facility uses an APRN at \$50.00 per hour to supplement primary care service needs. This was estimated to be a .05 FTE or two hours per week. There

were no mental health services in place during the period of January through June of 2000; however these are traditionally provided separately from the health care delivery model.

Site #4 also utilizes a family practice physician, whose scope of practice is independent, 20 hours per week at \$ 60.00 per hour or \$62,400 per year. Mental health services were available, but separate from the health services model.

Decisions regarding the amount of primary health care to be delivered in the model are based upon the contractual obligations of the facility. The amount of contractually mandated routine sick call or primary health care varies among the regional prison facilities (appendix C). Sites #1 and #2 are required to provide sick call four times a week. Site #3 is required to provide sick call five days per week, and segregated inmates must have access seven days per week. Site #4 is contractually obligated to provide nursing assessment to general housing inmates five days per week and segregated inmates must be able to receive health care seven days per week, and to ensure appropriate referrals to a physician when clinically indicated. These varying requirements reflect the growth in detail and scope the MDOC developed for the regional prison facilities and the difficulties associated with attempts to compare the resultant implementation of the contracts. Staffing ratios have been identified by both the American Public Health Association (APHA) and the NCCHC to provide a comparative standard for primary care staff levels. The APHA standards applicable to large state prisons and small county jails in rural areas, suggests a ratio of one physician for every 200-750 inmates. The NCCHC standard, specifically designed for adult prisons, offers a standard of one physician for every 750-1000 inmates (Anno, 1991). The inmate to primary care provider ratios at the four regional prisons were calculated from the primary care provider FTE and the capacity inmate population of each facility. It should be noted, however,

that sites #1, #2, and #4 also care for additional federal and county inmates. The ratios of the four sites varied from 1:150 to 1:1111 primary care providers to inmates. Table 9 illustrates the contrast and comparison of types and amount of primary care providers used at the Montana regional prison facilities.

Type of Primary Care Provider by site					
	Site #1	Site #2	Site #3	Site #4	NCHCC Standards
Primary Care Provider	APRN	PA	Family Practice Physician	Family Practice Physician	
Mental Health Services Included	Yes Psych MSN RN [.4 FTE]	No	No	No	
FTE	FNP [.4 FTE]	1.0 FTE	.4 FTE APRN .05 FTE (PRN)	.5 FTE	
Scope of Practice	Independent	Requires Supervision	Independent	Independent	
Cost of Supervision	None	\$1500.00 per month	None	None	
Provider Cost per Hour	\$35.00	\$35.09**	\$125.00	\$60.00	
*Provider to Inmate Ratio	1:875	1:150	1:1111	1:640	1: 750-1000

Table 9. Type of Primary Care Provider by site, January through June 2000.

*Based upon capacity inmate population.

**Includes model's administration costs.

Health Care Service Provision

The range of health care services offered through the health care model at each of the four regional contract prison facilities was identified. The variety of health care services offered within each of the health care delivery models is contractually outlined for each regional prison facility, but these contracts vary greatly and reflect substantial growth in specificity and detail of responsibility and accountability. The contracts in effect for sites #1 and #2 reference the responsibility of the regional prison to provide "ongoing routine health care," which includes "sick call" and "appropriate disposition," and nonspecific references to optical, dental, and mental health services (MDOC, 1997, p. 12). The contract in effect during the period of January through June of 2000 for site #3 provides greater detail regarding the requirement to provide "1) all medical, mental health, and dental services, including specialty clinics, 2) all medically related transportation, both routine and emergency, and 3) eyeglasses, hearing aids, dentures, and other prosthetics and limited use equipment." (MDOC, 1998, p.25). The contract for site #4 outlines the requirement that the health care model provide continuity of care for inmates with chronic illness, which includes diabetes, pulmonary disease, cardiovascular disease, hypertension, seizures, tuberculosis treatment and prevention and infectious disease. A comparison of the contractual obligations of each regional contract prison facility in Montana during the period of January through June, 2000 is located in Appendix C.

The provision of primary care services was identified at each of the sites. There was variation with respect to the use of electrocardiogram (EKG), intravenous (IV) therapy, dental health services, and vision services, which offers some insight into each model's ability to

effectively and efficiently provide primary care and other contractually required services. The use and availability of an EKG offer the primary care provider the opportunity to more thoroughly assess the complaints of chest pain, shortness of breath, and vague cardiac complaints. Along with the availability, however, is the responsibility of being able to interpret the findings. Trained and appropriate use of an EKG for diagnostic benefit may preclude an unnecessary, costly, and potentially unsafe trip to the emergency room. Sites #1 and #3 provide EKG diagnostic services. The use of IV therapy allows the health care delivery model to also avoid unnecessary transportation of inmates to the emergency room or observational hospital bed for treatment of dehydration or intravenous antibiotic therapy. Sites #1, #3, and #4 provide intravenous therapy services.

The inclusion of dental services on-site was found at sites #3 and #4. This service requires separate space, costly dental equipment, and the availability of an on-site dentist, which is a limited resource in the state of Montana. Contractually, if dental services are not available on-site, the health service model remains responsible for procuring the service off-site. The ability to identify a willing and available dentist for a prison population has been difficult for sites #1 and #2. Site #1 has been able to secure the services of one dentist who allows, on average, two appointments a week. A local oral surgeon has been secured and 10 four hour blocks of time were orchestrated during the period of January through June of 2000 for much needed dental extractions. Site #2 has secured the services of a dentist, but must transport inmates a distance of 50 miles for a limited appointment schedule of four per week. This has created a waiting list of approximately four to six weeks, and requires the added expense of weekly security personnel and transportation costs.

Vision services are available on-site at only one facility, site #3, which contracts with a local optometrist for eight hours of service per week. Sites #1 and #4 utilize the local Walmart optical department, and Site #2 has procured the services of a local optometrist who allows time for four to six appointments per week.

Mental health services were identified as separate from physical or primary health services at sites #2, #3, and #4. Medications and therapies prescribed by the mental health providers were not readily communicated to the primary care providers in these facilities. The health services directors in each of these sites noted that information regarding an inmate's diagnosis, treatment, and prescriptions was difficult to obtain from the mental health staff. As noted above, site #3 had not procured psychiatric services at the time of the interview and data collection. Site #1 utilizes a master prepared psychiatric nurse for inmates with mental health concerns, and contracts for weekly consultation with a psychiatrist and a doctorally prepared forensic psychologist for psychometric testing and interpretation.

Range of Health Care Services by Site				
Service	Site #1	Site #2	Site #3	Site #4
EKG	Yes	No	Yes	No
IV Therapy	Yes	No	Yes	Yes
Dental On-site	No	No	Yes	Yes
Vision On-site	No	No	Yes	No
Mental Health	Combined	Separate	No	Separate

Table 10. Range of Health Care Services by Site, January through June 2000.

Use of Outside Health Care Providers

The accessibility, availability, and use of outside BC/BS preferred health care providers at each of the four regional contract prison facilities was identified. The NCCHC (Anno,1991) notes that it is essential to evaluate health resources when designing a health care delivery model. This evaluation should include an assessment of the availability of community health resources and the willingness of those resources to accept prison inmates. Out of facility BC/BS preferred health care providers identified by the health service directors included orthopedic specialists, general surgeons, ear, nose and throat specialists (ENT), oral surgeons, and optometric specialists. In this study accessibility is operationally defined in terms of the health care delivery model's ability to readily procure an out of facility appointment for an inmate within a reasonable period of time. This is determined by the model's health services director and is compared to a locally defined community standard. Limited accessibility is defined as the ability to obtain an appointment, but the appointment is subject to an extended waiting period as determined by the model's health services director. Variances in the ability to access preferred providers offer information about the model's coordination and collaborative efforts with outside agencies and providers.

Availability is operationally defined in terms of the health care delivery model's ability to procure an out of facility service within the community. In this study, limited availability is defined as available to the model, but not within the community. Variance in the availability and use of preferred providers offers information about the model's efficiency and limitations.

Site #1 noted limited accessibility to both oral surgeons and optometric specialists. Site #2 noted limited availability to the orthopedic specialist who is 50 miles from the prison facility, limited availability and accessibility to an ENT and oral surgeon none of which are available in the

community nor have reasonable appointment waiting periods. Site #3 identified limited orthopedic availability, ENT, and oral surgeon services, as none of these services are available within the community, and inmates must be transported approximately 80 miles away for these services. Site #4 identified no limitations in out of facility services. Table 11 on page 70 illustrates the contrast and comparison of accessibility, availability and use of outside BC/BS preferred health care providers by site during the period of January through June of 2000.

Accessibility and Availability of Outside BC/BS Preferred Health Care Providers by Site								
Out of Facility BC/BS Provider	Site #1		Site #2		Site #3		Site #4	
	Available	Accessible	Available	Accessible	Available	Accessible	Available	Accessible
Orthopedic Specialist	Yes	Yes	Limited	Yes	Limited	Yes	Yes	Yes
General Surgeon	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ear, Nose, and Throat Specialist	Yes	Yes	Limited	Limited	Limited	Yes	Yes	Yes
Optometric Specialist	Yes	Limited	Yes	Yes	Yes	Yes	Yes	Yes
Oral Surgeon	Yes	Limited	Limited	Limited	Limited	Yes	Yes	Yes

Table 11. Accessibility and Availability, of Outside BC/BS Preferred Health Care Providers by Site, January through June 2000.

A review of BC/BS cost reports from January through June of 2000, illustrate the use of out of facility preferred providers. Table 12 on page 74 represents the percentage of expenditures for each specialty area to the total expenditures during the period. Large expenditures are noted for ear, nose and throat (ENT) and cardiovascular specialties for Site #1; orthopedic specialty for site #2; plastic surgeon specialty for site #3; and orthopedic specialty for site #4. These represent outlier expenses, or cases that signify unusually large expenditures of health care. Examples would include an open heart surgery or a gun shot wound requiring extensive surgery. The exact nature of these outlier costs is not included in the cost reports. The comparative value of this information relates to the process of health care and is outside the scope of this study. By contract, all out of facility health care costs are paid by the MDOC, with the exception of site #3, which contractually is responsible for the first \$1000 of each inmate's out of facility health care expenses.

The costs associated with dental services in sites #1 and #2 are reflective of the models' lack of dental services within the regional facility. The total number of dental visits during this period was 68 and 43 respectively. Two dental visits were noted for site #3 despite contractual requirements to provide services on-site. There were no dental costs for site #4.

Further analysis of the cost reports revealed significant contrasts in the use of radiology, oral surgeon, and family practice specialties at the four sites. The use of out of facility family practice health services represents a lateral referral for services that are within the model's contractual obligation to provide primary health care. Sites #1 and #2 indicate a family practice service use of .08% and .5% of the total expenditures during the period, respectively. Site #3 utilized 13.5% of the total out of facility expenditures on family practice health care. Site #4 had no

utilization of family practice health care. The use of radiologic services was noted to contrast sharply between sites. Sites #2 and #3 utilized 8.9% and 13.3% of the total expenditures on radiology services during the period respectively. To better defined this utilization, the total number of visits for radiologic services was calculated for the same period of January through June of 2000. Visit totals are represented in Table 12 on page 74. Sites #1 had 4 visits identified as provided by a radiology specialty provider, however during the site interview it was noted that radiology services were also utilized at one of the local immediate care centers in the community. Radiologic services from an immediate care setting are not clearly identified in the cost reports. Site #4 had five visits identified as provided by a radiology specialty provider. Site #2 had 38 visits identified as provided by a radiology specialty provider, and site #3 had 45. A significant use of services from an oral surgeon is noted for site #1 at 11% of total expenditures during the period. During the site interview with the health services director, it was noted that it is the preference of the community's dentists with whom the model relies upon for prison dental care to have oral surgeons perform all extractions. Sites #2 and #3 are noted to have oral surgeon utilization at .17% and 2.2% respectively.

The use of laboratory and optical services was noted to be significantly different at the four regional prison sites. The comparative value of the cost reports for this health service is limited as site #3 utilizes an out of state laboratory for services and costs are absorbed through the facility's per diem as per contractual agreement. The total number of laboratory visits at sites #1, #2, and #4 were explored and are noted on Table 12 on page 74. Site #1 had 74 lab visits, site #2 had 11 lab visits and site #4 had 68 lab visits for a percentage of total expenditure costs of 5%, 1.8% and 34% respectively. Optometry services are not available within the model of health care delivery at

sites #1 and #2 and costs associated with these out of facility services are noted on Table 12 on page 74 at 2.7% and 3.8% respectively. Site #4 also utilizes out of facility optometric services, but no expenditures were noted during the study period.

Out of Facility Specialty Services				
Type of Provider	Site #1	Site #2	Site #3	Site #4
Internal Medicine	2.5%	.08%	----	3.4%
ER Physician	1.1%	2.8%	.5%	1.7%
Ophthalmology	.5%	.45%	1.3%	2.8%
Orthopedic	3.4%	19.8%	.7%	22.5%
Dental	24% 68 Visits	46.9% 43 Visits	.69% 2 Visits	-----
Urology	.5%	----	2.3%	.5%
Immediate Care	1.1%	----	----	----
Diagnostic Radiology	.5%	.12%	----	1.4%
Podiatry	.4%	----	.33%	----
Radiology	.8%	8.9%	13.3%	3.4%
General Surgery	7.2%	----	----	7.5%
Optometry	2.7% 33 Visits	3.8% 36 Visits	----	----
Oral Surgery	11%	.17%	2.2%	----
Anesthesia	4.2%	5.5%	7.1%	7.9%
Laboratory	5% 74 Visits	1.8% 11 Visits	----	34% 68 Visits
Cardiovascular	16%	----	----	3.5%
Family Practice	.08%	.5%	13.5%	----
Plastic Surgery	1.4%	----	52%	----
ENT	14.6%	8.6%		.2%
Pathology	.7%	----	2.3%	1.2%
Neurology	----	----	3.4%	3.6%
Dermatology	.05%	.3%	----	.3%
Denturist	1.5%	----	----	----
Physical Therapy	----	----	.11%	----
Audiology	----	----	----	5.6%

Table 12. Percentage of Total Expenditures of Out of Facility Specialty Services.

Selected Cost Indicators

The second aim of the study was to identify selected cost indicators at each of the four regional contract prison facilities.

Positive TB Testing Follow Up Costs

The costs associated with the follow up of a positive tuberculosis screening test were identified. Since tuberculosis (TB) is an airborne disease in which transmission is accelerated in crowded conditions, it is imperative for health care professionals to take an active role in preventing and controlling its spread (Anno, 1991). Each of the four regional contract facilities screens for TB on intake of an inmate into the facility. The costs associated with the follow up of this screening include the chest x-ray radiology services at an out of facility agency and the x-ray interpretation services of an associated radiologist. A cost comparison of out of facility expenses specific to the follow up of a positive TB test was compiled by the DOC's case manager through access to the department's medical data information system. This cost comparison identifies a wide variance in the individual and total costs associated with out of facility radiology services. Sites #1 and #4 identify comparable costs of \$70.25 at a local immediate care facility and \$90.10 at the local hospital respectively. Sites #2 and #3 identify higher costs of \$163.00 and \$174.50 at the local hospitals, respectively. Table 13 illustrates the contrasting costs associated with follow up of a positive TB test at each of the four regional contract facilities. Figure 7 on page 76 further illustrates this finding.

Positive TB Test Follow Up Costs by Site				
	Site #1	Site #2	Site #3	Site #4
Radiologist	\$70.25	\$31.35	\$33.00	\$25.60
Chest x-ray		\$133.15	\$130.00	\$64.50
Total Cost	\$70.25	\$174.50	\$163.00	\$90.10

Table 13. Positive TB Test Follow Up Costs by site, January through June 2000.

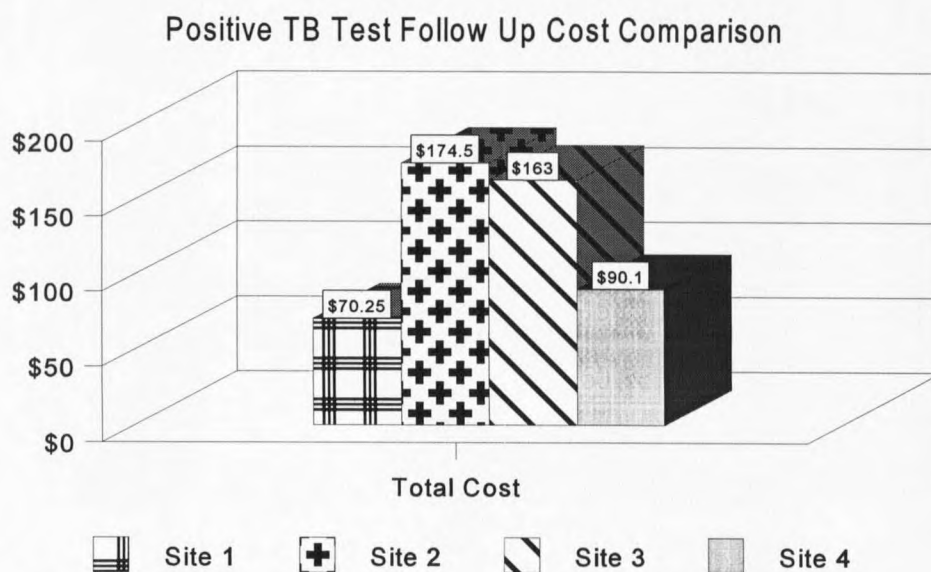


Figure 7. Positive TB Test Follow Up Cost Comparison by site, January through June 2000

Transportation Costs

The indirect costs associated with providing out of facility health care services at each of the four regional contract prison facilities were difficult to identify. Each of the health services directors noted that there were costs associated with the transportation of inmates out of the

facility for health care services. These costs included the personnel time of the transporting officers as well as the associated vehicle costs. In each of the facilities, however, these costs were not part of the overall health services budget nor are they identified as separate from the rest of jail administration to aid in reporting or tracking.

Laboratory Charges

The costs associated with the provision of selected ancillary health care services at each of the four regional contract prison facilities were identified. The cost of a complete blood count (CBC), alanine aminotransferase (ALT), and prostate specific antigen (PSA) provide information about the health care needs of the inmates, the health care delivery model's ability to secure cost-effective laboratory services, and the practice patterns of the primary care providers.

A CBC is a series of peripheral blood tests that provide information about the hemotologic system and many other organ systems. It is considered inexpensive, easy, and a fast screening test. ALT is an enzyme found predominantly in the liver, and is released in response to injury or disease affecting the liver parenchyma. Since most elevations are associated with liver dysfunction, the test is considered a sensitive and specific indicator of hepatocellular (liver) disease. PSA is a glycoprotein (part carbohydrate, part protein) normally found in prostate cells. Elevated levels are associated with prostate cancer, benign prostatic hypertrophy, and prostatitis. It is considered a sensitive test for monitoring response to medical therapy (Pagana & Pagana, 1992). Each of these tests is regularly requested by the primary care providers at the four regional contract prison facilities. However, some variance exists in the laboratory vendor used and the

costs associated with each test. Although the same vendor is used by sites #1, #2, and #3, the costs for each test vary substantially. Site #4 uses the local hospital laboratory for testing. Table 14 on page 78 illustrates the variation noted in the costs of routine laboratory tests. Figure 8 further illustrates the variation of selected routine laboratory testing costs by site during the period of January through June 2000. Table 14 illustrates the variation noted in the costs of routine laboratory tests.

Selected Routine Laboratory Costs by Site				
	Site #1	Site #2	Site #3	Site #4
CBC	\$8.00	\$14.25	\$3.75	\$21.00
ALT	\$10.75	\$10.75	\$2.81	\$29.50
PSA	\$50.00	\$69.25	\$12.00	\$42.00
Laboratory Vendor	Quest	Quest	Quest	Local Hospital

Table 14. Selected Routine Laboratory Costs by site, January through June 2000.

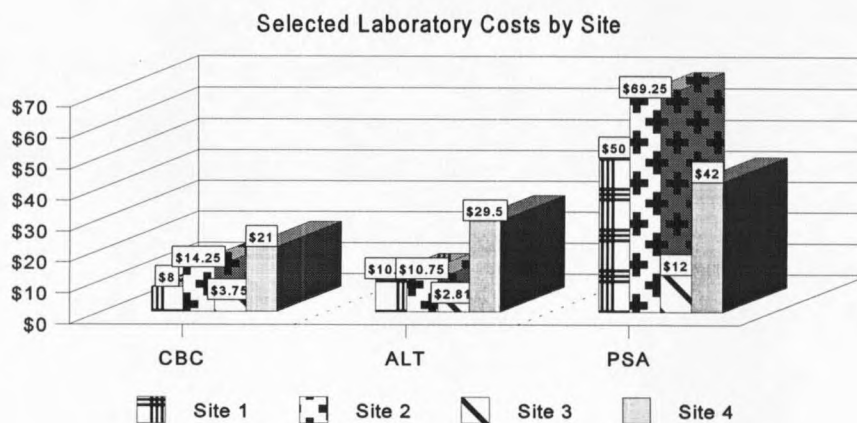


Chart 8. Selected Routine Laboratory Testing Costs by site, January through June 2000.

Pharmacy Costs

The costs of pharmaceutical supplies for each of the four regional contract prison facilities were identified. The costs of sites #1, #2, and #4 were identified by the health service directors, and the pharmaceutical costs of site #3 were identified through the facility's drug utilization report obtained through the MDOC. Site #1 utilizes Med Management for provision of prescriptions for the facility. Site #3 utilizes a corporate national pharmacy vendor out of state, and sites #2 and #4 use a local pharmacy for prescription services. Cost comparisons are outlined below in table 15 and are further illustrated in figure 9 on page 80.

Selected Pharmacy Costs by Site				
	Site #1	Site #2	Site #3	Site #4
Zyprexa 10 mg	\$216.75	\$217.14	\$226.10	\$218.95
Paxil 40 mg	\$66.37	\$67.31	\$68.34	\$64.10
Prozac 20 mg	\$78.00	\$69.68	\$68.72	\$76.85
Effexor 75 mg	\$57.79	\$35.56	\$60.72	\$39.65
Prevacid 30 mg	\$97.30	\$96.48	\$104.65	\$108.15
Prescription Fill Fee	\$7.60	\$3.19	\$5.00	\$5.00
Average Number of Prescriptions per month	158	109	671	47

Table 15. Selected pharmacy costs by site, January through June 2000.

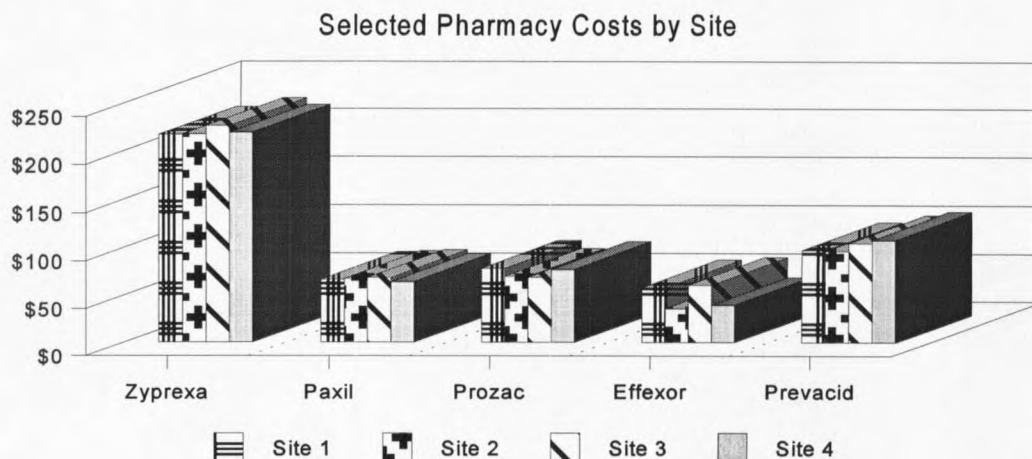


Figure 9. Selected Pharmacy Costs by site, January through June 2000.

Health Care Budget

The percentage of the overall budget directed to health care delivery at each of the four regional contract prison facilities was identified as a cost indicator to provide information about the health care delivery model in relation to the entire facility. Funding used to support the facilities is based upon an inmate per diem fee paid by the State of Montana to the contract facilities to provide incarceration services for the state. Sites #1, #2, and #4 are also paid a per diem fee to house federal inmates. The costs associated with housing county inmates are absorbed and budgeted by the county government. In each of the facilities the costs associated with health care services for county and federal inmates are not separated from the costs associated with state inmates. None of the health service directors were able to provide specific monthly budget reports for their department, reflective of the fact that each of the facility's health services financial

operations is managed by the jail administration. The health care delivery model at site #1 is provided under contract by the Montana State University - Bozeman, College of Nursing. Financial reports were not available from the facility nor the contracting agency. The health services administrator creates a separate record of expenses independently of the university to monitor expenditures. The remaining health care delivery models at sites #2, #3, and #4 rely upon jail administration to ensure compliance with budgeted expenses. Information from site #2 and #3 was obtained through the assistance of the MDOC. Budget information was obtained from sites #1 and #4, and expenditure cost data was obtained from site #2 and #3. This variation offers limited comparative value. Figure 10 illustrates the variation in the percentage of budgeted health care expenses to the total facility budget for fiscal year 2000 at each of the regional contract prison facilities.

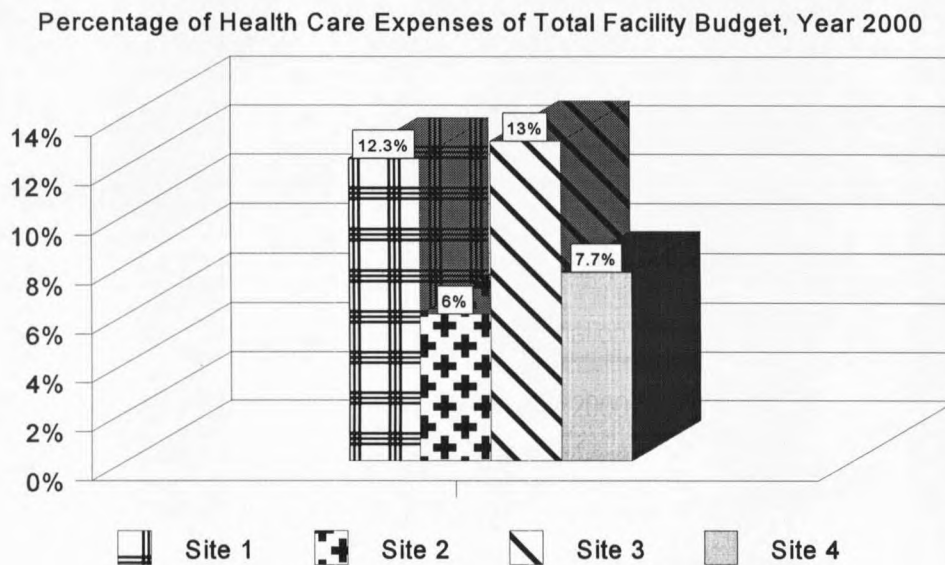


Figure 10. Percentage of health care expenses to the total facility budget, by site for fiscal year 2000.

CHAPTER V

DISCUSSION

Introduction

A non-experimental descriptive exploratory survey was conducted to describe, compare, and contrast the models of health care delivery existing at regional contract prison facilities of the Montana Department of Corrections. The study addressed two aims: to describe, compare, and contrast the 1) provision of health care to state inmates, and 2) selected cost indicators at each of the four prison contract facilities. A summary and discussion of the findings, limitations, implications for nursing practice, and recommendations for future study are offered.

Summary of Findings

The study identified similarities and differences in the health care delivery models among the four regional contract prison facilities in Montana. In the analysis of indicators reflecting the provision of health care to state inmates, similarities in the models were found in the age distribution of inmates and in the absence of identified transportation and security costs associated with providing out of facility health care services. Notable differences among the models were found in the demographic profiles of inmates, the inmate health complaints as perceived by the health services directors, the inmates' access to health care services, staffing patterns of the health service unit, triage protocols, medical records management, pharmacy services, and the

approval routines for out of facility health care services. Analysis of the types of primary care providers, the range of services provided within the model, and the availability, accessibility and use of specialty health care services out of the facility revealed distinct differences among the health care delivery models.

In the analysis of indicators used to identify cost efficiency, differences were noted in the comparison of selected radiology, laboratory, and pharmacy costs. The absence of monthly financial reports for the health service directors was consistent among the models.

Discussion of the Findings

The development of the regional prison concept emerged as a result of inmate overcrowding at the Montana State Prison in Deer Lodge in the mid and late 1990's. In response to this and under the authority of the 1997 state legislature, Montana built four regional prisons. Decisions regarding the implementation of constitutionally mandated health service delivery at each of the regional contracted facilities were left to the discretion of local law enforcement and city and county government officials. Politically and philosophically defined as local control, the Department of Corrections anticipated that the local decision making process would result in wide variances in the structure of health care delivery at each of the four regional prisons. Increasing national health care costs, a significant rise in Montana correctional health care costs over the last decade, and resulting demand for additional state legislative funding stimulated a legislative audit in 1999 of the management of health care services within the Montana correctional system. Specific recommendations included a formal reexamination of each facility's health care services

organizational structure as part of an overall improvement plan for program operation. As a result of the audit, the Montana Department of Corrections was left to assure that the locally defined regional models of health care delivery would provide the necessary services cost effectively and through an integrated statewide system. This research study sought to describe the structure at each facility in order to provide an understanding of the similarities and differences in the health care delivery model and its associated correctional health care costs.

Aim 1 - Provision of Health Care

The first aim of the study addressed the provision of health care to state inmates at each of the four facilities. This was further delineated into a demographic profile of the sites; implementation of selected policies; the use of health care providers and nursing staff; the range of health care services; and the accessibility, availability, and use of outside BC/BS preferred providers. Data identified that two of the regional contract prison facilities were located in urban settings that offered regional medical center support and a wide variety of specialty physician services. The two remaining regional prison facilities were located in rural communities that offered community hospital and local physician support, and limited physician specialty services within a reasonable geographic range.

Demographic Profile

Demographic profiles revealed a noticeably lower percentage of Native American inmates at site #4 as compared to the other sites. A variety of factors may account for this difference

including the low number of overall inmates at the facility and the availability of a sweat lodge at site #3 which has the highest number of Native American inmates. The age distribution was consistent among the sites as well as the overall Montana inmate population. Perceptions of the health services directors regarding the top five health complaints of inmates at the regional contract facilities provided information about the types of inmate health complaints and the variety of health care service requests that present to the health care delivery model. Recreational injuries represented the most consistent response. However, mental illness, a primary issue facing the state's health care community and the 2001 state legislature, was only noted by sites #1, #2, and #3. While the perceptions of the health services directors' may be influenced by multiple factors, one would expect Montana's mental health crisis to be consistently evident in these data. The lack of professional mental health services at site #3 and #4 may have impacted the perceptions of the health service directors.

Correctional Policies

Analysis of the implementation of selected policies of the Montana correctional system revealed significant findings. Access to health care services, staffing patterns of the health services unit, triage, medical records, pharmaceutical services, and prior approval for non-routine medical health services were addressed in the study. The data suggest that health care services were initiated without limitation in the two urban settings as inmates were allowed to initiate access to health care from both inside and outside the facility. Findings suggest that the two rural facilities were more limiting in their health care access, as inmates could only initiate services within the

facility. The ability of inmates to access care is one of the foundational elements of constitutionally mandated health care for incarcerated populations.

The educational preparation of the health services director at each of the facilities varied greatly. NCCHC standards (1997, p. 4) define the responsible health authority or health administrator as "capable of assuming responsibility for arranging all levels of health care and providing quality and accessibility of all health services for inmates." The scope of professional expectations, the decisions regarding implementation of correctional standards, and the propensity of inmate litigation regarding the quality of health care, offers support for the commission's requirement that the responsible health authority possess professional education, certification, or experience in correctional health care. The study findings would suggest that use of associate degree registered nurses in this role may allow for limited administrative authority within the model. Educated to provide direct care in a variety of structured settings with clear policies and procedures (National League of Nursing, 1990, MCA 8.32.1106), an associate degree RN functioning as the model's administrator potentially places the upper jail administration in the position of developing health policy and monitoring the level and quality of health services. Master prepared health administrators are trained and educated in leadership, policy development, and the interpretation of legal standards. This preparation represents the NCCHC standard of responsible health authority and offers greater administrative authority and management of correctional health care. Decisions of the health service directors have profound impact on the health care delivery structure and its ability to provide cost effective quality health care to inmates. Sites #1 and #2 offer master level preparation for health services administration, and sites #3 and #4 employ associate degree registered nurses in the administrative positions. The director of site

#2 is also the primary care provider for the model. Although this represents a potential cost saving measure, placing the primary care provider in the dual position of the administrator also has the potential to cloud or compromise the monitoring of quality improvement and limit policy oversight within the model of health care delivery.

The use of LPN nursing staff in the correctional health setting raises concern over the practice of triage. The findings would suggest that utilization of this level of nursing preparation and licensure provides the health care delivery model with limited flexibility for triage. While the LPN is considered to be a contributor to nursing assessment - the essence of triage, the RN is ultimately responsible for assessment, nursing analysis, planning care, and prescribing nursing interventions. The use of baccalaureate nursing (BSN) staff provides the most flexibility in the correctional health care setting. BSN nursing staff educated and prepared to plan, deliver, and coordinate care in unstructured settings for complex clients with unpredictable outcomes offers a health care delivery model the most freedom in staffing patterns and nursing service. (American Association of Colleges of Nursing (AACN), 1998, MCA 8.32.1105). Site #1 provides nursing services, which includes triage, medication administration, and sick call evaluation, with an all baccalaureate prepared registered nurse staff. Sites #2, #3, and #4 utilize a combination of RN and LPN nursing staff. All the sites were within the NCCHC accepted range of health care staff to inmate ratio.

Analysis of the use and management of medical records in the regional facilities offered significant findings that suggest the need for development of standard protocols within the Montana correctional system. Consistency in the format of the health care record, handling of health care records by qualified health care professionals, assurances of confidentiality, and the

protocols of transferring records within the correctional system were variable among the sites. The inclusion of documented accounts of inmate medical, dental, and mental health care into one unified medical record illustrates a holistic approach to health care and is reflective of traditional APRN practice. It further highlights the ability of site #1 to support efforts to coordinate the mental and physical health services within the overall structure of health services. The separation of documented mental health services from physical health services suggests limited communication between the disciplines, which has the potential to impact quality health care. The use of a baccalaureate prepared medical records librarian at site #1 suggests a level of competency that should be established to ensure professional management of an inmate's health care record. The use of non-health care staff to manage records represents uncontrolled access and compromised confidentiality. The inconsistent procedures for transferring medical records within the correctional system have great potential for complicating and delaying legal cases. The findings would suggest that change should focus on establishing a defined protocol for the transfer and storage of medical records. Efforts to improve the health record format and use of health data within the correctional system are being directed toward the use of a statewide electronic information system. Such a system would offer restricted access, improved coordination between health care disciplines, and consistent data collection for continuous quality improvement programs and national statistical reporting.

Analysis of the protocols of medication administration offered little variance between sites #1, #2, and #4. At site #3, inmates are brought in groups from their housing pod down long corridors to a window at health services to receive their medication. While this practice is acceptable according to NCCHC standards, the ability to monitor for "cheeking" medication, as well

as the administrative issues regarding the need for labor intensive supervision and confidentiality should be addressed.

The findings suggest that the protocols for coordinating the use of emergent out of facility health care services varied little between sites #1, #2, and #4. In emergent situations requiring transfer to an out of facility health care setting, the additional step at site #3 of seeking approval from an out of state corporate medical director has the potential to limit medical autonomy and delay medical treatment. Efforts to prevent undue delay should be paramount in administrative decisions.

Primary Care Providers

The type, scope of practice, and cost of primary care providers at each of the sites varied significantly. The findings suggest that the use of APRN nurse practitioners provides an essential element of cost savings in the correctional setting. Licensed and defined as a primary care provider, APRNs maintain an independent practice from physicians. In this study, the cost of this independent primary care for the model of site #1 represents the most cost efficient among the sites. The use of a PA at site #2 is of comparable cost, but the practice is limited to those services outlined in a statutory utilization plan, and requires physician supervision for an additional cost to the model. Physician services utilized at sites #3 and #4 also represent independent primary care, but at a considerably higher investment to the model. Findings suggest that decisions regarding the type of primary care provider were at the discretion of the health care delivery model, but may be limited to the availability of primary care providers in the community. Site #1 was the only model to include mental health services in their structure, which corresponds to the model's identification and prioritization of mental illness as the number one chronic health problem. Sites

#1, #2, and #4 were consistent with the NCCHC standard of 1:750-1000 primary care provider to inmate ratio. Site #3 was slightly above the standard at 1:1111 primary care providers to inmates.

The range of health care services offered by the health care model illustrates the model's ability to provide effective and efficient primary care and other contractually required services. This indicator varied greatly between the regional contract prison facilities. Although, the contractual obligations of the models vary widely, findings suggest that Site #3 provided a broad range of health care services, which closely mirrored the detailed contractual obligations of the facility. Efforts to more closely align the contractual agreements of the regional prison facilities is ongoing. This alignment would assist in the standardizing of health care provision and overall management of health care costs. The inclusion of on-site dental and vision services at site #3 offers greater flexibility and assurance of security. However, provider costs of \$125.00 per hour for optical and dental services at site #3 would suggest that there is a need to compare on-site and out of facility dental and vision services that is inclusive of the costs associated with transportation and security. Of significance, is the lack of mental health services at site #3 and the lack of EKG capability at sites #2 and #4. Out of facility use of this non-invasive cardiac diagnostic tool suggests unnecessary cost and a service that could be provided in the primary care arena.

Use of Outside Health Care Providers

Although not articulated through identical contractual language, all four facilities are obligated to meet the primary care service needs of inmates within the health care delivery model. The availability, accessibility, and use of specialty health care services that are outside the scope of primary care practice was a notable finding of this study. The analysis suggests that decisions

regarding the placement of a regional prison facility in an area with limited specialty health services warrants attention. The need for readily available and accessible orthopedic intervention is apparent in light of the health service directors' perception that recreational injuries are consistently among the top five health problems. Both rural sites #2 and #3 reported the need to transport inmates 50-80 miles for an orthopedic consult. Transportation out of the facility area for this distance represents considerable cost and security risk for the facility. Site #2 also reported limited access and availability of dental and ENT services. Site #1 reported limited access to both oral surgery and optometric specialists, while site #4 identified no limitations. The findings suggest that there are significant taxpayer costs associated with these limitations.

While there are limitations in using cost data to identify the types of services provided through the model, comparative analysis of the total expenditures of out of facility health care highlights the use of lateral referrals to family practice physicians. Of the total out of facility expenditures at site #3, 13.3% were directed to the same level of primary care practice the model is obligated to provide within the facility. This practice was notably higher than sites #1 and #2, and at #4, which had no family practice costs. The findings suggest that the model is not meeting the primary care needs of the inmate population within the facility, but rather outside the facility at a higher cost to the model and ultimately the tax payer. Although there were limitations to the defining elements of the BC/BS cost reports, the use of out of facility radiology services were notably higher at the rural sites. Additional limitations precluded the comparative value of laboratory and optometry services.

Aim 2 - Selected Cost Indicators

The second aim of the study was to describe, contrast, and compare costs of selected indicators at each of the four regional contract prison facilities. Comparison of the costs associated with follow up of positive TB skin test, transportation and security of inmates out of facility, laboratory charges, pharmacy charges, and the overall health care budget of the model were addressed in the study. Findings suggest an association of higher radiology health care costs for sites located in the rural setting. The costs associated with a chest x-ray and the radiologist's interpretation were more than double that of the urban models. In a larger community, the availability of multiple radiology services and increased service volume may allow for competitive pricing of health care services. Efforts to negotiate usual and customary costs should be addressed through managed health care practice.

Transportation and security costs associated with providing out of facility health care services were not readily identifiable, but are considered by the NCCHC to represent a defining cost element associated with providing health care to an incarcerated population. Site #1 does provide for a designated health services officer, whose position is funded through their contract for health services. The presence of this officer is highly valued by the health care staff, and represents a recruitment strategy aimed at reducing the staff's concern for personal safety. This is in sharp contrast to an occurrence at site #3 which may reflect a lack of regard for safety. The practice of allowing inmates access to chain saws for a work detail just inside the facility entrance gates offers insight into the issue of public and health care staff safety. Efforts to separate health care associated transportation and security costs should be addressed.

Analysis of the costs associated with laboratory charges illustrate the corporate influence on contract pricing, as site #3 reported significantly lower costs for selected common laboratory tests. Further study would be necessary to determine if the use of out of town laboratory testing has any affect on quality of care and its perceived benefit over using local services that have higher costs. These factors were outside the scope of this study.

Findings suggest that the pharmacy costs at each site were essentially similar despite the fact that each regional facility contracted with a different pharmacy for services. The only significant difference was found in the prescription filling fees and the average number of prescriptions filled per month. Site #1 pays a fill fee of \$7.60 per prescription and site #2 pays the lowest fill fee of \$3.19. Efforts to secure statewide drug pricing for the correctional health care system have not been initiated due to concerns over delays in response time. The limited availability of drug utilization and cost data at site #3 was a limitation of the study and impacted the selection of drug comparison. Additional research directed at pharmaceuticals more reflective of primary care practice may reveal differences in the prescriptive practices of the various primary care providers at the regional sites. Provider practice issues reflect upon process as an indicator of quality, which was outside the scope of this study.

The absence of available monthly budget reports for any of the health service directors was a significant finding and suggests that the administrative authority for each model is limited without this essential information. None of the health services directors was provided with or able to produce monthly financial reports of their departments. This administrative tool represents an up to date account of fiscal accountability and authority. Expectations of correctional health care cost containment, staff management, and effective leadership would warrant the procurement and

regular provision of this information. Overall facility budget information was difficult to obtain from sites #2 and #3. While actual proposed budget information was readily available from jail administration at sites #1 and #4, only expenditure information was available from rural sites #2 and #3. Assistance from the MDOC was necessary to obtain this information. The use of expenditure costs and proposed budget information has limited comparative value.

Limitations

Limitations to this study exist. The small sample size and cross-sectional design of the study offers limited ability to generalize the findings or establish associations between indicators. It was not within the scope of the study to include elements of the process or outcomes of health care services. As a result there is limited ability to assess Donabedian's (1980) relationship between structure, process, and outcome and their reflection on quality of care.

Models of health care delivery in the regional contract prison facilities are influenced by the politics of the state and local correctional system, geographical location, accessibility and availability of health care providers and staff, as well as the economics of the community. These contributing factors may have affected the decisions made regarding the health care delivery models and the ease and availability of data collection. The turnover of the health service director position and the proprietary nature of private prison services at site #3 affected the researcher's ability to collect data in a timely manner.

Implications of the Study

The results of the study have implications for the practice of nursing, and nursing administration. The findings illustrate the potential value of professional nurses in the correctional setting. APRN, master prepared nurse practitioners are identified as a cost efficient primary care provider in the correctional health care setting. The independent scope of practice and holistic approach offers advantages to the health care delivery model. Master prepared nurse managers offer appropriate expertise as health administrators, and baccalaureate prepared nursing staff offer more flexibility in the provision of nursing care in a complex, unstructured, and unpredictable setting. Efforts to retain and recruit professional nursing staff at all levels should focus on concern for personal safety.

The results of the study have implications for correctional services and correctional health care. The findings suggest that the decisions made regarding the development of health care delivery models for incarcerated populations should be directed at improving the structure as an indicator of quality. Enforcing the NCCHC standards and statutory laws of medical record management, ensuring consistent contractual obligations, and avoiding the use of out of facility primary care services will assist in the overall goal to reduce costs associated with correctional health care in Montana. Study results directed at holistic care would indicate that the models of health care delivery should be inclusive of mental health services, and decisions regarding the location of additional regional prisons should place availability, accessibility and cost of specialty health care services as a paramount determining factor. Finally, health care delivery model administrators must be provided with accurate, timely, and detailed financial documents if they are

to be held accountable for comprehensive management and cost containment of correctional health care.

Recommendations for Further Study

This study addressed the structure of the health care delivery model for incarcerated populations. The work of Donabedian (1988) illustrated the need to correlate indicators of process and outcome with structure in order to assess the quality of health care provision. Further study should be directed at identifying process and outcome indicators of quality care in correctional health care in the Montana regional prisons. This may include comparative analysis of the prescriptive practices of the primary care providers, management of specific health complaints and their adherence to accepted correctional standards, and improved patient knowledge, behavior, or quality of life resulting from the provision of correctional health care. Comparison and identification of costs associated with health care provision for women in the correctional system was not addressed in this study, and would be of comparative value in any future studies. Comparison of the health care services provided at the main prison in Deer Lodge should be conducted in order to provide a more complete understanding of the correctional health care system in Montana.

Conclusions

The prison setting offers the health care industry an opportunity to impact the health of a large segment of the population. Efforts to provide constitutionally mandated health care and limit

correctional health care costs illustrate the dichotomy facing correctional health officials. Insight into the structure of health care delivery models suggests that the standards of correctional health care, established by the National Commission on Correctional Health Care, provide a sound foundation for quality health care provision. The provision of quality health care for incarcerated populations is supported financially through state legislative funding and philosophically by society and the judicial system. Despite the need for cost containment, quality should remain the primary focus of health care delivery models for incarcerated populations.

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APPENDICES

APPENDIX A

MONTANA DEPARTMENT OF CORRECTIONS SURVEY TOOL

Description of Requirement	Yes	No	N/A
Section 10 Health Services			
1. Does the facility provide routine health care including sick call at least four times per week by a nurse, mid-level provider, or licensed physician?			
a. Does the policy also list the number of times per week for each visit by discipline (nurse, mid-level provider and physician)?			
2. Does the facility document the number of on-site nursing care hours per day in addition to 24 hours a day, seven days per week on-call nursing care?			
3. Does the facility have a policy which outlines how inmates access health care services?			
a. Does the inmate orientation handbook provide similar information on access to health care services?			
4. Are all health care policies current and adhered to?			
5. Are there written policies and procedures that describe the medical and dental services to be provided and that include sections which address how the following will be provided at a minimum:			
a. 24 hours a day, seven days per week emergency medical and dental care?			
b. A staffing pattern for the medical unit?			
c. A physical examination within seven to fourteen days of reception conducted by a mid-level provider or physician, unless performed by the transferring facility?			
d. Daily triaging of complaints?			
e. Sick call at least four times per week?			
f. Health records?			
g. Health care specialists (specify number of hours per week or month and if on or off site)?			
h. Ancillary services – radiology, laboratory, etc.?			
i. Dental services?			
j. Pharmaceutical services, prescription and non-prescription drugs and supplies?			
k. Optometry services?			

Description of Requirement	Yes	No	N/A
l. Inpatient hospitalization services?			
m. Emergency room services?			
n. Outpatient hospitalization services?			
6. Is a mental health basic assessment/screen conducted by a qualified mental health professional within 14 calendar days of admission?			
7. Does the facility comply with contract requirements to obtain prior DOC approval of all non-routine medical and dental procedures?			
8. For services of an emergency nature, does the facility provide the services without contacting DOC but notifies DOC within 24 hours in accordance with the facility contract?			
9. In the event of an emergency medical procedure, does the facility furnish full and complete information regarding the nature of the illness, type of service provided, and estimated cost of treatment when requested to do so and in compliance with the contract?			
10. Does the facility have first aid equipment (which meets American Red Cross standards) available at all times for medical emergencies? NOTE: Attached in the addendum is a copy of the Red Cross Standards which apply to this question.			
11. Are staff present on each shift who are trained in emergency first aid procedures, including cardiopulmonary resuscitation?			
12. Does the facility have written policies and procedures regarding the possession and use of controlled substances and other prescribed medications and over-the-counter drugs and are the policies adhered to?			
13. Are written policies operational that stipulate that prescribed medications are administered according to the directions of the prescribing physician?			
a. Are medications administered by a licensed health professional?			
b. In the absence of a licensed professional, is a "supervised self-administration" system utilized?			
14. Do health history records accompany the inmate to the facility and are they kept current?			
15. Are all appropriate staff made aware of a particular inmate's medical problems to the extent possible and based on a "need to know basis" in keeping with confidentiality policies?			

Description of Requirement	Yes	No	N/A
16. Are current written policies and procedures utilized for the prompt notification of inmate's next of kin and the DOC in case of serious illness, surgery, death, or injury?			
<i>References:</i> DOC, Chapter 4, Section 5, Health Care (DOC 4.5.2 - 4.5.12 and 4.5.14 - 4.5.35)			
<i>Note: Review of the policies and procedures, interviews, review of contract and logs not by chart review should answer these questions. Only DOC medical personnel should be conducting chart audits. The frequency of sick call and professional medical visits will be dictated by the size of the facility and articulated in standards.</i>			

APPENDIX B

STUDY INTERVIEW GUIDE

Study Interview Guide

Site Visit # _____

Name of Interviewee _____ Position _____

1. How would you describe the prevalence of any chronic health problems in your facility?
Rank _____
2. Who performs the inmate triage within the facility? When is it performed?
3. How does an inmate access health care services?
4. How are medical records managed within the facility?
5. What services are offered within the facility? Who provides these services?
6. What services are not offered within the facility?
7. What providers are utilized for these out of facility health services? Where are they located?
8. How often are they available for inmate appointments?
9. Who seeks prior approval for out of facility non-routine health services?
10. What transportation and security requirements are instituted for out of facility medical services?
11. What are the costs associated with out of facility medical services?
12. Does this come out of the health services budget? If not, which budget?
13. Which pharmacy vendor do you contract with?
14. What are the top five pharmaceutical agents used in your last utilization report provided by the company? What is your average cost per month for pharmaceuticals?
15. What ancillary services are provided on-site?
16. What laboratory vendor do you contract with? What is the cost of a CBC? LFT and ALT? PSA?
17. What is the amount of the budget for health care delivery in this facility? What is the total budget amount of the facility?
18. In the following scenario, what steps are needed in order to accommodate an out of facility health care service?
"An inmate has complained of acute abdominal pain and found upon examination to need a surgical consultation. What steps within your system do you take to arrange for this service?"

APPENDIX C

MONTANA DEPARTMENT OF CORRECTIONS CONTRACT COMPARISON

Comparison of Contractual Health Care Services of Regional Prison Facilities FY 2000				
	Site #1	Site #2	Site #3	Site #4
Emergency Care			24 hour a day, 7 days a week Cost: facility per diem	24 hours/ 7 days per week Cost: county per diem
Nursing Care			24 hour a day, 7 days a week Cost: facility per diem Daily triage	RN or LPN 16 hours per day, 7 days per week Cost: county per diem
Laboratory Services			On-site: CLIA waived tests only. Contract with accredited laboratory with stat work by a local accredited provider Cost: facility per diem	On-site specimen collection, contract with local licensed laboratory service to perform lab work, including stat work. CLIA waived tests on-site <u>Routine lab costs:</u> MDOC with prior approval for test > \$100
Medications	All in house medication ordered through MDOC pharmacy contractor Cost: county per diem All outside prescription orders: cost: MDOC	All in house medication ordered through MDOC pharmacy contractor Cost: county per diem All outside prescription orders: cost: MDOC	All services and supplies with no on-site licensed pharmacy provided Cost: facility per diem	Use MDOC drug formulary, Local providers must justify the use of non-formulary medications. Cost: county per diem
Health Education			Provide to all inmates Cost: facility per diem	Provide to all inmates Cost: county per diem

Comparison of Contractual Health Care Services of Regional Prison Facilities FY 2000				
Health Screening and Assessment	*Physical exam with 7 days of admission Mental Health *Assessment within 14 days of admission	*Physical exam with 7 days of admission Mental Health *Assessment within 14 days of admission	Health appraisal examination screening with 24 hours of admission. Cost: facility per diem	Screening upon arrival and full assessment within 14 days* Cost: county per diem
Medical Record			Must be kept current, confidential, and returned to MDOC upon transfer.	Must be reviewed within 24 hours. Complete copy must be maintained and returned with inmate upon transfer.
OSHA Exposure Control Plan			Developed by facility prior to opening Cost: Facility per diem	Develop and Implement Cost: county per diem
Sick Call	Routine health care at least 4 times a week Cost; county per diem	Routine health care at least 4 times a week Cost; county per diem	5 days per week, segregated inmates must have access 7 days per week Cost: facility per diem	Triage inmate complaints daily; Nursing assessment no less than 5 days per week, Inmates in segregation shall be provided opportunity to request and receive care 7 days per week. Cost: county per diem
Transportation Costs to off-site health services and Security Costs	Costs: county per diem	Cost: county per diem	Responsible for the provision and cost of all medically-related transportation, routine and emergent for off-site services along with appropriate level of security at an off-site medical facility.	Costs: county per diem for the first 8 hours, thereafter the responsibility of MDOC

Comparison of Contractual Health Care Services of Regional Prison Facilities FY 2000				
Staffing and Equipment			Must have first aid equipment, CPR trained staff at all times	Adequate in accordance with community and National Standards Must be CPR certified
Informed Consent				Shall obtain and document informed consent and ensure right to refuse medical treatment Cost: per diem
Suicide				Implement a suicide prevention and management program Cost: county per diem
Continuous Quality Improvement				<u>Monthly reports required:</u> # of nursing contacts # of provider contacts # of outside referrals Inmate name, medication and # of RX per inmate Timeliness of sick call, triage and evaluation by discipline # of transports to hospital or outside provider # of admissions to hospital with Dx # of ER visits

Comparison of Contractual Health Care Services of Regional Prison Facilities FY 2000				
Primary Care			Must be seen within 5 days of referral from triage system Cost: facility per diem	On-site Medical Care: <u>Primary Care</u>: family practice, general practice or internal medicine, including skin biopsies, suturing of lacerations and ingrown toenails. Cost: county per diem
Non Emergent Medical, Surgical or Diagnostic Services, Durable medical equipment or supplies	Cost: All non-routine medical procedures: MDOC with prior approval	Cost: All non-routine medical procedures: MDOC with prior approval	Health Care Specialists, including orthopedic Inpatient & Outpatient hospital access Cost: facility per diem for the first \$1000 per inmate per year at all off-site facilities with prior approval	If over \$250.00: MDOC(requires prior approval) Cost:County per diem
Emergency Care	Must be notified as soon as practical Cost: MDOC	Must be notified as soon as practical Cost: MDOC	Emergency Room Access Cost: facility per diem for the first \$1000 with notification	Must be notified within 72 hours of incident. BCBS/Managed Care must be notified of all emergency inpatient admissions (>24 hrs) on the next working day. Off-site emergency services Cost: MDOC

Comparison of Contractual Health Care Services of Regional Prison Facilities FY 2000				
Medically necessary detoxification treatment of substance abusers			Cost: facility per diem	
Billed Services			Cost: facility per diem for the first \$1000 per inmate per year at all off-site facilities with prior written approval	Must comply with BCBS requirements, including pre-authorization code number
Exceptions: MDOC will pay for the following	Post mortem preparation and shipment	Post mortem preparation and shipment	Inpatient hospitalization costs associated with the treatment of person with AIDS; medications for HIV/AIDS inmates	HIV/AIDS related illnesses Post-mortem examinations Psychological Assessments required by the Board of Pardons
Continuity of Care for chronic illness			Chronic Illness clinics: diabetes, respiratory, cardiovascular, seizure disorder, TB and immune-deficiency	Primary care(Chronic Illness clinics: diabetes, respiratory, cardiovascular, seizure disorder, TB and immune-deficiency) Cost: county per diem
Diagnostic Exams (other than lab)				Costs: County per diem with prior approval required for cost > \$250

Comparison of Contractual Health Care Services of Regional Prison Facilities FY 2000				
Radiological Services			Plain film on-site and other procedures through contract with local off-site provider Cost: facility per diem	Plain Film and 1 st \$240: county per diem All other: MDOC with prior approval
Vision	Initial Assessment as part of the physical examination within 90 days of admission	Initial Assessment as part of the physical examination within 90 days of admission	All services including eyeglasses may be requested by inmate every two years	Complete exam with refraction every two years. Services coordinated with MDOC, prior approval Costs: MDOC
Mental Health Services			24 hour a day, 7 days a week Psychological evaluations required by the Board of Pardons and Parole Cost: facility per diem	Emergency Services 24 hrs/ 7 days per week, by licensed or certified mental health professionals Costs: county per diem, on or off site
Dental Services	Initial assessment as part of the physical examination within 90 days of admission	Initial assessment as part of the physical examination within 90 days of admission	Emergency: 24 hour a day, 7 days a week Routine, preventative care: exams, cleaning, extractions, relief of pain and infection, impressions, dentures, minor repair and adjustment of dentures, pulpotomies and root canals, fillings and comprehensive periodontal and oral hygiene services Cost: facility per diem	Routine, preventative care: exams, cleaning, extractions, relief of pain and infection, impressions, dentures, minor repair and adjustment of dentures, operative dentistry, and comprehensive periodontal and oral hygiene services Cost: county per diem

Comparison of Contractual Health Care Services of Regional Prison Facilities FY 2000				
Infirmary Care: Medical observation, Post Operative Care, Isolation, Administration of IV drugs, short term nursing care, suicide observation, seclusion and/or restraint for mental disorders, and chronic medical housing.			Cost: facility per diem	

* not required if they have already been administered at the Montana State Prison within the last 6 months

APPENDIX D
STUDY CONSENT

REQUEST FOR OFFENDER PARTICIPATION IN RESEARCH PROJECTS

Name of Requesting Person(s): Susan J. Wallace Raph, BSN, RN

Agency: Montana State University - Bozeman, College of Nursing

Division: Great Falls Campus

Unit: _____

Address: P.O. Box 6010

Phone: (406) 771-4442

Great Falls, MT 59406-6010

Will offenders receive any compensation, remuneration or payment of any kind? ☒ No ☐ Yes

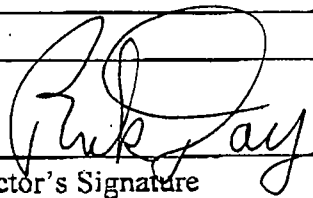
1. Purpose of proposed research project: The purpose of this study is to describe, compare and contrast the models of health care delivery provided by regional contract prison facilities to incarcerated inmates assigned by the MDOC. The study seeks to address two aims: 1) To describe the provision of health care to state inmates, and 2) To identify cost indicators at each of the four regional contract prison facilities.

2. Offender involvement in proposed research project: There will be no offender involvement in the proposed research project. While the study will reflect upon the health care offered to inmate populations, there is no direct impact on the quality or content of care received during the course of the study.

Bottom portion to be completed by the Director

Research request: ☒ Approved ☐ Denied

Limits and/or conditions under which this project may be conducted: _____


Director's Signature

04-25-00
Date

APPENDIX E

LETTER OF INTRODUCTION

Dear Regional Prison key informant:

The Montana Department of Corrections, in adherence of DOC policy 1.6.3 to support and assist with correctional research efforts of non-departmental agencies, has consented to participate in the research study to describe the models of health care delivery provided to MDOC inmates housed in regional contract prison facilities. This study is being conducted by graduate student, Susan Raph, BSN, RN. The results will be discussed in a written thesis required by Montana State University - Bozeman as partial fulfillment of a Master's Degree in Nursing Administration.

Ms. Raph will contact you to schedule a convenient date and time to conduct an interview that will last approximately one hour, but no longer than two hours. The interview will consist of questions regarding the provision of health care delivery to incarcerated inmates at your facility. There may be questions you elect not to answer, and you may withdraw from the study at any time. All interview information will be confidential. Your name will not be used in any written or verbal discussion of the study results. The results may be published in books and articles or presented in professional lectures. Copies of the written thesis will be available at Montana State University - Bozeman, College of Nursing for the study participants and interested individuals. If you have concerns about the study, you may contact myself, Professor Sharon Hovey, MN, RNC, CNAA, thesis chair, or Robert Jones, M.D., CCHP, MDOC Medical Director and thesis committee member.

Thank you for your commitment and involvement with this interview. Your efforts will improve our understanding of the correctional health care delivery in Montana.

Sincerely,



Sally Johnson, Administrator
Professional Services Division
Montana Department of Corrections

Susan Raph, BSN, RN
MSU Graduate Student
Montana State University - Bozeman
(406) 771-4442

Sharon Hovey, MS, RNCS
Thesis Chair
MSU - Bozeman
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MONTANA STATE UNIVERSITY - BOZEMAN



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