An Evaluation of Correctional Telemedicine

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Abstract

Alternative medical practices are needed in today's ever-growing correctional health care market. Telemedicine has proven capabilities that may be a perfect match for corrections. This emerging technology allows a medical specialist in one location to use a televise, two-way communication system to provide diagnosis or consultation for an inmate who never leaves the secure confines of a prison. Correctional agencies in both Florida and Texas currently utilizing telemedicine were examined in this research. A review of existing literature and the identification of strengths and weaknesses are discussed. Based on the findings of this research, it can be concluded that telemedicine can provide a viable alternative to current medical techniques. Its potential for multi-use applications warrants additional consideration.

Introduction

Telemedicine is the use of telecommunications to evaluate, diagnose and care for a patient's medical condition through interactive video. This is a swiftly developing technology with use in correctional settings rapidly increasing. This technology allows an inmate (in one location) to remain in a correctional facility and still be examined by a specialist in another location.

Georgia, Michigan, Ohio and Texas are among the states that are leaders in providing Telemedicine in the field of corrections, according to (Ed Harrison,) Executives Director of the National Commission on Correctional Health Care. Although only operational since 1987, the Florida Department of Corrections operates what is believed to be the longest running correctional Telemedicine program. However, most Florida correctional agencies have chosen not to pursue this technology as quickly. Currently only five Florida Correctional facilities have Telemedicine capabilities.

Research Problem

The increasingly large correction population poses a series of special health and health care problems for corrections professionals. Correction populations are generally less healthy than the general population, perhaps due to unhealthy lifestyles prior to incarceration. As Wilson (1993) noted:

> The reasons relate to poverty, unemployment, poor housing and sanitation, inadequate nutrition, and limited educational achievement. In addition, few prisoners have regularly received much in the way of preventive health care services. As a result, their health status upon arriving at prison is poor. (p. 23)

In addition, correction populations face other constraints which inhibit timely and adequate medical care. Many correctional agencies are located in rural, isolated areas which are hard to reach for medical practitioners. Few citizens realize the typically high demands inmates place on the medical systems they use, and lawsuits resulting from inadequate care may cost tens of millions of dollars.

Florida lawmakers have also contributed to the rising cost of providing those incarcerated with health care. Having passed laws requiring prisoners to serve at least 85% of sentences, it appears these lawmakers have ignored one detail. Most of those prisoners will get old and sick. State prisons health care costs have shot up from $52 million to $196 million in four years ("Coming to Terms," 1997).

Most correctional agencies struggle with this increasingly high cost of medical care and are further restrained with essential security issues associated with outside medical transports. Alternatives to current practices do exist and telemedicine may be the solution.

This research will examine the following questions pertaining to this technology's suitability in the correctional setting: 1) Will telemedicine save correctional funds or is the technology best suited for the private sector? and, 2) Is telemedicine a feasible alternative to currently utilized correctional medical care in Florida?

Background

The practice of telemedicine, as currently conceived, began in the late 1960's with a two-way, closed-circuit, microwave television psychiatric consultation between Nebraska Psychiatric Institute and a state mental health hospital some distance away (Witson & Benschoter, 1972).

In the 1960's, as well, the United States space program, the military and many others began experimenting with the concept of remote medical care. While many of these early projects were deemed useful and successful, most folded after their grant support collapsed. A second wave of Telemedicine activity was generated by another round of federal interest and federal dollars, beginning in the late 80's and early 90's with heavy emphasis on the development of the information superhighway.

Interestingly, these developments left correctional agencies in a unique position to reap the benefits from years of experimentation, and to relay those lessons into practical, cost-effective telemedicine programs. Approximately three-fifths of all state correctional systems either are actively involved in telemedicine or are considering such projects, according to a recent survey conducted by Ohio State University.

Proponents of telemedicine say it is especially fitting for use in corrections because it increases inmate accessibility to physicians who are specialists and who are located far from prisons. "I think that this is the future for correctional medicine to a certain extent," said Dr. William Gonzalez, the medical director of Texas Tech University Health Services Center, which provides telemedicine services to state prison facilities in the western part of Texas (personal communication, August 11, 1997)..

Given there is an apparent relief to correction's medical transports, one must ask why Florida Correctional Health Administrators have chosen not to embrace telemedicine with open arms.

To determine the current state of telemedicine usage in corrections, it is necessary to evaluate existing correctional telemedicine systems. It is important to determine the reasons for success and failures in the correctional telemedicine systems. Those outcomes are the focus of this research.

Method

This research project was conducted by literature review of telemedicine, both in the private and public sectors. In addition, telephone interviews were conducted with noted telemedicine authorities currently supervising telemedicine systems. A comprehensive study of the Texas State Department of Corrections telemedicine program and it's findings of a recent survey conducted by the International telemedicine Center involving each of its 104 institutions utilizing this technology was also conducted. This research focused on the correctional agencies high risk security transformations diverted by the use of elemedicine, and concludes with a discussion on the future of telemedicine in the correctional setting.

Results

Security Issues

Telemedicine's most valuable asset may be its ability to minimize security risks associated with taking inmates outside of a corrections facility for health care. The last corrections officer killed in the line of duty occurred during an outside medical transport. History has also shown that outside transportations are frequent settings for escapes or attempted escapes during incarceration. Telemedicine also minimizes the potential for inmates to hoax an illness in order to be sent out of an institution for either an escape attempt or for the mere exhilaration of leaving a secure area. With each transportation diverted by the use of telemedicine, the potential for injury to the public is completely eliminated.

Cost Analysis

The purchase price for a fully integrated telemedicine system varies from manufacturer to manufacturer. Estimates are between 15, 000 to 40,000 dollars, depending on the necessity of available technology. A 1996 Feasibility Study conducted by the Florida Department of Corrections Office of Health Services determined that when equipment maintenance and service costs are included, the use of telemedicine is not cost effective when utilized strictly for a health services function. This means security costs, risks and the potential for multiple uses must be added to the equation for a complete analysis.

Other cost issues include futuristic opportunities offered by the use of telemedicine. When the issue of interstate licensure is settled, telemedicine will allow a Correctional agency to shop in the open market for the most cost effective care. It will also allow for specialty care which may not be available in every area, which will allow medical directors to choose the most practical care available.

Problems associated with use

The following issues or problems were identified by the Florida Department of Corrections 1996 Feasibility Study:

- The fear of technology;
- The fear of changing from known practice patterns to unknown ones;
- No long-range definitive goals;
- Need for more training for older physicians and support staff;

- Hesitancy of federal and commercial third party payors to accept telemedicine as an approved service for reimbursement;
- Uneasiness of possible new areas of litigation;
- Cost and general lack of availability of equipment; and,
- Fear that uses of health care services will increase, thereby increasing costs without corresponding savings.

According to Jim Grigsby (Grigsby), who reviews current telemedicine programs for Medicaid and Medicare, no definitive study of telemedicine cost effectiveness has yet been completed.

A Case Study

The International Telemedicine Center, located in Houston, Texas recently published its findings from the first year of operation of the Texas Department of Criminal Justice's Telemedicine Project. The University of Texas Medical Branch and Texas Tech Health Science Center are responsible for providing health care for approximately 130,000 inmates housed within the Texas Department of Corrections. New prison units are located in rural areas throughout the state and tend to be located far from medical referral centers. Telemedicine was considered a way to solve some of the problems presented with large populations in rural areas.

In an effort to contain the rising health care costs within this rapidly growing system, the Texas legislature established a Correctional Managed Health Care Plan as a health maintenance organization for inmates in its prison system. The Texas Department of Corrections also entered into a contractual agreement with The University of Texas Medical Branch U-TMB to provide health care services for the prison units located within their assigned territory. The U-TMB is responsible for health care services, including all primary and specialty care and encompassing outpatient and inpatient services, for approximately 80% of the prison population.

The economic impact of this program was assessed on the basis of this question; Does telemedicine save corrections health care funds? The corrections system bears the entire cost of transporting the patient for health care services, more so than any other system. Transportation costs include not only vehicle costs and officers but also purchasing, storing and maintaining the vehicles utilized for transportation. Other factors included security manpower used to arrange transportation, operating transient cells and scheduling inmates for transportation.

This research demonstrated that a high-volume of telemedicine consultations can be delivered at a cost ranging from $40 to $70, including technology, network, support personnel, and other operational costs. This cost is substantially less than the real costs of transporting inmates to Hospital Galveston's specialty clinics. This figure can be achieved when telemedicine is done in volume and technology and network costs are shared with other, non-healthcare applications.

The rough estimate of the current cost to transport for prisoner for medical care in Texas is $180 to $200, including direct manpower and vehicle expense to process and transport a single prisoner to a specialty clinic in Galveston. This number can change

drastically depending on the distance traveled, mode of travel and the number of officers required for security concerns.

Patients and providers were interviewed and asked to complete a questionnaire giving their views on this form of providing care. The results provided strong indications that the technology was clinically effective and that patients, presenters, and consultants tended to be satisfied with its setting. In summary, seven out of ten inmates preferred telemedicine to face to face encounters. Another 14% had no preference and only 17% preferred face-to-face appointment to telemedicine.

Other findings from this study include secondary plans for “virtual”examination rooms to other examination rooms throughout the state of Texas. These rooms will operate 24 hours a day and could assist with emergency visits, after hours or on weekends when physicians are not always available. Plans are also being implemented for trauma centers to triage the patient and help decide whether the inmate needs to be transported to the emergency room.

Future Directions

Most telemedicine authorities agree that the future of correctional telemedicine will continue to evolve. John Burke, chief of health service administration for the Florida Department of Corrections, predicts “Telemedicine usage will explode within the next 12 to 18 months," as suppliers such as ATT, MCI & Sprint, get into the Telemedicine business and start paying for its use. Burke suggests the large communication companies have unused capabilities that can be integrated, and the technological capabilities exist.

Beyond this, there is a suggestion of organizing and developing a “virtual medical” facility. These national or even international “centers of excellence” could provide “super specialty” care increasing the feasibility for correctional agencies. This may already be coming of age when Texas Tech University recently bid on New York City’s Department of Correction’s health care services by providing telemedicine to its institutions. Ted Willich, the vice president of Medical Development International, states, “the real savings in telemedicine usage is it’s ability to provide an open market." The “open market” will allow agencies to choose the most suitable health care provider at the lowest cost.

Telemedicine will increase its appeal because of its versatility. The Ohio State University Medical Center (OSUMC) is already taking advantage of Telemedicine’s multiple uses. OSUMC is offering a fully accredited continuing medical education to physicians at remote sites and other plans are under way to use the system for administrative meetings and possibly court proceedings.

Telemedicine is an excellent method of providing medical care services to correctional agencies while managing health care dollars. However, barriers such as interstate licensures and correctional staff’s own fear of unknown technology still exist and must be overcome before telemedicine can be fully integrated in Florida Correctional agencies. The key to successful integration is organization.

The potential for telemedicine to improve the delivery of medical care is probably limited only by the boundaries of our intellect and our ability to think futuristically. Ultimately, the value of any new health technology must be measured against the benefit that it brings to its patient.

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Appendix A

Question: Is teleconsultation an acceptable, cost effective, quality methodology for the transmission of enough information to reach an adequate diagnosis and formulate a comprehensive treatment plan to an increase number of patients?

1-Poor 2-Fair 3-Good 4-Very Good 5-Excellent

1. To what extent was this interactive video consultation useful in developing a diagnosis?

1 2 3 4 5

2. To what extent was this interactive video consultation useful in development of a satisfactory treatment plan?

1 2 3 4 5

3. To what extent was this medical problem appropriate for video consultation?

1 2 3 4 5

4. To what extent was the quality of the transmission adequate for this video consultation?

1 2 3 4 5

5. How useful was this consultation in saving trips to other facilities?

1 2 3 4 5

6. To what extent was the procedure for this teleconsultation adequate to meet all your needs?

1 2 3 4 5

7. To what extent was this consultation worth the expense?

1 2 3 4 5

8. To what extent was did this video consultation meet your standards of good medical care?

1 2 3 4 5

9. To what extent were you satisfied with the equipment and facilities for this video teleconsultation?

1 2 3 4 5

10. To what extent were you satisfied with the format of this type of consultation?

1 2 3 4 5