The STARPAHC collection: part of an archive of the history of telemedicine

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Summary

An early telemedicine project involving NASA, the Papago Tribe (now the Tohono O'odham Indian Nation), the Lockheed Missile and Space Company, the Indian Health Service and the Department of Health, Education and Welfare explored the possibilities of using technology to provide improved health care to a remote population in southern Arizona. The project, called STARPAHC (Space Technology Applied to Rural Papago Advanced Health Care), took place in the 1970s and demonstrated the feasibility of a consortium of public and private partners working together to provide medical care to remote populations via telecommunication. In 2001 the Arizona Health Sciences Library acquired important archival materials documenting the STARPAHC project and in collaboration with the Arizona Telemedicine Program established the Arizona Archive of Telemedicine. The material is likely to interest those studying early attempts to use technology to deliver health care at a distance, as well as those studying the sociological ramifications of technical and scientific projects among indigenous populations.

Introduction

In 2001 several boxes of documents relating to a 1970s telemedicine project came to light. The materials consisted of reports, correspondence and photographs of a telemedicine project conducted on the Papago reservation in Arizona (now called the Tohono O'odham reservation). The project was called STARPAHC (Space Technology Applied to Rural Papago Advanced Health Care). The University of Arizona agreed to archive these materials in the hope that the collection would form the nucleus of an archive of historical materials related to telemedicine.

The STARPAHC project

The STARPAHC project was conceived and sponsored by NASA, assembled by the Lockheed Missiles and Space Corporation, managed and evaluated by the US Indian Health Service, and used and evaluated by the Papago Nation. The original budget was US$4.26

million in 1973 dollars. The project employed advanced technology to deliver medical services on the Papago Indian reservation; extensive evaluation criteria were used.[1]

The STARPAHC system included a control centre located in the Indian Health Service hospital on the Papago reservation which was staffed by physicians and a system operator. There was a remote clinic in the village of Santa Rosa located 50 km away which was staffed by a physician assistant. There was also a mobile health unit staffed by a physician assistant and a laboratory technician (Figures 1 and 2). Finally, there was a referral centre at the Indian Health Service hospital in Phoenix with access to medical specialists (Figure 3). Two-way video, audio and data communications linked these units, which were used primarily for remote diagnosis. Communications were provided via microwave (video, voice, data), VHS radio (voice, data) and telephone (voice, data, pre-recorded video).

The project was active from 1973 until 1977.[2] Subsequently, Bashshur summarised the significance of the programme as follows:

- NASA and the Indian Health Service demonstrated the organizational and technological capacity to provide medical care to remote populations;

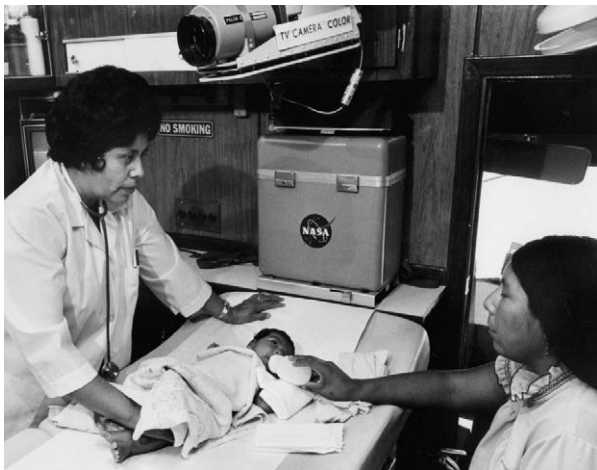**Figure 1** Exterior view of the mobile health unit on location

Figure 2 Interior view of the mobile health unit with medical personnel, neonatal patient and mother

- the approach to the design and implementation of this mode of care delivery was effective and holds promise for other situations;
- the efficacy of remote telemetry and non-physician medical personnel in the provision of medical care was demonstrated;
- the cooperation and advance planning on the part of all the participants in the project can serve as a model for others.[3]

The STARPAHC collection

Although archives are often located in university libraries, the term 'library' is not synonymous with the term 'archive'; librarians are not necessarily trained as archivists, nor in most cases are archivists trained as librarians. In general, librarians organize items such as books, journals, audiovisual and digital materials, most of which are not unique. In contrast, archivists
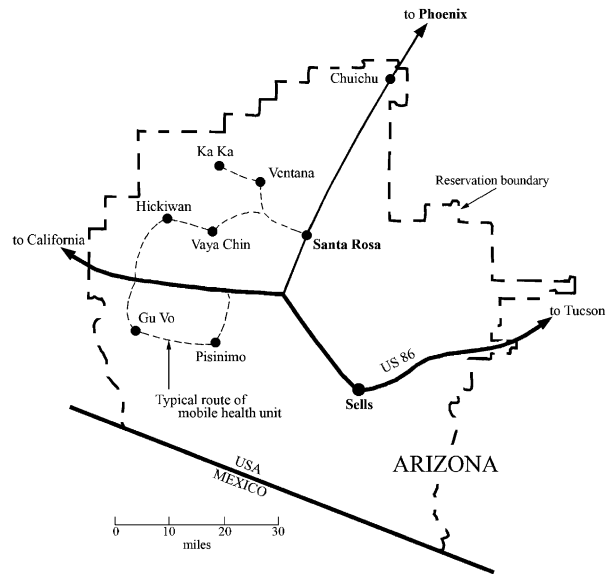

Figure 3 The STARPAHC sites. The distance between Sells and Phoenix is approximately 220 km

organize items from the records of a person, company or institution into a unique aggregation. Library materials are usually arranged according to an established classification scheme such as the National Library of Medicine system, while archival collections are arranged according to provenance (i.e. office or person of origin) and original order. In addition, library materials are described individually and listed in a library catalogue, while an archival collection is described as an aggregate by means of a finding aid.[4]

Since none of the staff at the Arizona Health Sciences Library was a professionally trained archivist, an archivist was hired to carry out the work. The aim was to organize the papers, reports and photographs (approximately 3 m of shelf space) into an archive usable by researchers. In addition, policies were to be established so that the collection could be maintained and additional collections could be added to create a general archive of telemedicine. Over a seven month period, working an average of twenty hours a week, the archivist reviewed the contents of the collection, stored documents, publications and photographs in acid-free binders and boxes, and created a finding aid for future researchers.

After processing, the STARPAHC collection occupied approximately 2.6 m of shelf space. The documentary material was organized into 22 storage containers and there were two large framed pictures in addition. The reports, correspondence and photographs are from the period 1970–1991, but the bulk of the material is from the period 1972–1978. The collection was organized into seven distinct series based on the manner in which the materials were collected, filed and maintained by three of the people directly involved in the project: James W Justice, the STARPAHC evaluation officer and

medical director; Peter G Decker, the Indian Health Service project engineer; and Norman Belasco, STARPAHC's project officer and chief of NASA's Integrated Medical and Behavioral Laboratory. The first six record series were organized chronologically. The seventh series contained undated material.

Once the processing of the collection was complete and the finding aid had been prepared, press releases were sent to major library and archival publications to let others know of its existence. A record for the finding aid was created and added to the OCLC WorldCat database to ensure that researchers could locate the collection from anywhere in the world (see http://worldcat.org/oclc/53231018).

Significance of the STARPAHC collection

The STARPAHC project represented the 'first generation' of telemedicine, a generation which has been said to be unsuccessful because the projects were not sustained and because telemedicine was not widely adopted for health-care delivery. Nevertheless, first generation telemedicine projects provided evidence of the feasibility of remote consultation, the clinical effectiveness of several clinical functions, training and education.[5]

The press release announcing the archive of telemedicine project, stated that 'This collection will be of great value to scholars interested in the historical roots of 'e-health care', its early successes and failures… Arizona has had important experiences with multi-cultural telemedicine for more than a generation. As other major institutions extend their e-health networks

around the world, the Arizona experiences provide a frame of reference for studies on the critical roles of tele-communications in health care in the information age.'[6]

In the last five years, the STARPAHC collection has been consulted several times by researchers from Arizona and elsewhere. The material is likely to interest those studying early attempts to use technology to deliver health care at a distance, as well as those studying the sociological ramifications of technical and scientific projects among indigenous populations. From the library's perspective, an important lesson in regard to establishing archival collections is that the processing and managing costs are not insignificant and are easily underestimated. For future collections, the library will need to seek specific funding. Nevertheless, we urge people from other telemedicine programmes to document their history and preserve important documents in collaboration with their own institutional libraries.

References

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