

Factors that Influence Navajo Patients to Keep Appointments

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No great imagination is required to appreciate the disruptive affect of broken appointments on the efficient running of a basic health care program. Debate might be more appropriate about whether an appointment system can be effectively used with a rural indigent population. Experience with the Navajos using the Family Health Center (FHC) in Page, Arizona, suggested that fully two-thirds of the Navajo patients given appointments kept them.¹ Further experience in this setting emphasized that both the providers and consumers of health care could appreciate the benefits of a smoothly functioning appointment system. Yet, an unresolved question remains and was addressed by this study: why did some patients keep their appointments while others did not. This paper explores this issue.

Setting

The Page Family Health Center is a federally funded HEW Project administered through the University of Utah's Department of Family and Community Medicine.

Professional staff includes one full-time physician, one full-time family nurse practitioner, an office nurse and one full-time native Navajo nurse-aide who also does some laboratory work. All are females. Additional administrative support is provided by an administrator, his secretary, and a native Navajo clerk who also serves as receptionist in the clinic. Both the clerk and nurse-aide serve as interpreters for those patients who do not understand and/or speak English.

Located on the Arizona-Utah border, Page has a population of approximately 5,000 "anglo" residents and also serves a large population of Navajo Indians who live on surrounding reservations. The Family Health Center provides care for an estimated 4,000 to 5,000 native Navajo patients who live within a radius of 50 miles.

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All but a very few of the patients cared for in the Page Clinic are Navajo. The "anglo" patients were excluded from this study.

The physician and nurse practitioner equally share the patients with each referring to the other when indicated. The patient may indicate his preference for one or the other and that request is honored. During the past year the nurse practitioner has seen roughly 56 percent of the patients.

An average of 36 patients are seen each day, with the number ranging from 15 to 105. Those who need care not available in Page are usually referred to the nearest USPHS hospital in Tuba City, some 80 miles from Page, or they may be referred to other physicians located in Page, Flagstaff or Phoenix.

The most common problems among the 12,521 patient encounters in fiscal year 1974-75 included (in descending order of frequency): upper respiratory infection, acute otitis media, well-child care, pharyngitis and prenatal care. A wide variety of other problems were seen as well. The pattern of fiscal year 1975-76 was expected to show a slight decrease in the total number of visits but with generally the same distribution of reasons for visits.

In July, 1975, when the current physician and nurse practitioner began full-time work, certain decisions were made which changed the practice. Some of those decisions were:

1. To administer antibiotics only when indicated,
2. To administer other "shots" *only* when clinically indicated,
3. To work intensively on patient education with those under 40 and those older persons who demonstrated a wish to change some health care practices, and
4. To introduce an appointment system.

Note: Most of the clinics and hospitals offering service to Navajo patients have had an open clinic attendance system. That is, any patient could walk in for whatever reason, and if he were willing to wait, he would be seen without an appointment.

As a result of these decisions, patients who could not understand that upper respiratory viruses do not respond to penicillin and bacterial ones do, and who, therefore, wanted penicillin for their colds and influenza type symptoms, have stopped attending the clinic for those problems. The same holds true for those wanting "shots" for arthritis and general aches and pains.

Our advocating simpler therapeutic measures, other than medication, for minor problems caused some

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patient dissatisfaction with care provided; some apparently go elsewhere for those problems. In some instances, these simple remedies proved inappropriate. For example, forced fluids and steam are not always available in the hogan and thus recommending their use would produce dissatisfaction.

The emphasis on well-child care (including teaching), prenatal care and care of common ailments has been successful; most infants born during the past 18 months are up to date on their immunizations and most of the mothers have had at least four prenatal visits prior to delivery. Some mothers now initiate home care prior to attending clinic. This may include clear liquids when diarrhea is present, cool baths for temperature elevations, and soap and water scrubs for skin infections.

In addition, the rate of return for follow-up care is gratifying. During the first 15 months of an appointment system, 62 percent of all appointments were kept. This favorable response provided the impetus to develop this study to identify the factors influencing patients to keep their appointments.

Methods

February 17 through May 14 was chosen as the study period. Although this time represented a stable staffing period, there was some problem because March through May is the lambing and sheep shearing season; kept appointments might be less during this season than another. Previous data showed a pattern of more kept appointments from September through January with a decrease from mid-February through July.

The study used data abstracted from the chart of each patient given an appointment during the study period. These data included age, sex, the problems treated, previous record of keeping appointments, income, education and address. Those keeping their appointments were interviewed in the clinic and those who failed to keep their appointments were visited in their homes.

The interview was conducted with the responsible family member of both groups to determine their satisfaction with care, ability to institute care, evidence of pre-planning for clinic visits, educational level of the responsible family member, satisfaction with clinic hours and staff, distance from the clinic and ownership of transportation. Additional information was elicited from the nonkeepers about the reason for not keeping the appointment and the presence of a current calendar and a functioning clock in the home.

Admission of a family to the study was accomplished by using the patient with a follow-up appointment as the index source. That is, once a patient's name appeared on the appointment book the family was admitted to the study for chart review and interview. Even though various members of the same family might be seen frequently throughout the study period, the family was included in the study only once.

The chart review was done by the family nurse practitioner/researcher on all families with follow-up appointments during the study period. Each patient who kept the appointment (or his responsible family member) was interviewed if the trained interviewer was present. If the appointment was missed, the chart review was assigned to the nonkept group and plans were made to interview the responsible family member in the home. A few of the nonkept were interviewed in the clinic if they happened to be present for another visit when the interviewer was there.

A kept appointment was defined rather stringently as one in which the patient appeared for the visit no earlier than 30 minutes before or after the time assigned on the appointment book.

The interview form was developed by the family nurse practitioner/researcher with the assistance of a staff anthropologist and two of the Family Health Center's Navajo employees. The native Navajo employees made suggestions as to the sensitivity of the material.

The interviewer was a native born, bi-lingual Navajo. The purpose of the research was explained to her and the intent of the questions was discussed so she might be able to assist the individual being interviewed in a more thoughtful manner. The translation of the interview questions into the Navajo language was tested by having the interpreter ask another Navajo-speaking employee the questions in Navajo; the respondent then wrote down what she thought she had heard.

All data were analyzed in terms of the primary dependent variable, whether or not appointments were kept. Statistical analysis of continuous data utilized the t-test; categorical data were analyzed by means of the chi-square test. In all cases the level of statistical significance was set at $< .05$.

Results

During the study period, 351 follow-up appointments were given of which 59 percent were kept. The percentage of kept appointments for various conditions is shown in Table 1. The most success in keeping

TABLE 1
Percentage of Kept Appointments by
Category of Chief Complaint

Eye.....	100%
UTI.....	80%
Postpartum, family planning, gyn.....	78%
URI.....	72%
Miscellaneous.....	65%
Pre-Natal.....	63%
Well-Child.....	55%
Physical Examination.....	51%
Lower respiratory disease.....	49%
Ear.....	42%
Cardiovascular, hypertension.....	35%
Total.....	59%

appointments was in scheduled visits for eye check-ups and for family planning. Surprisingly, one of the best kept appointment rates was for urinary tract infections.

The 351 appointments were given members of 139 families. Seventy-four were classified as nonkept and 65 were admitted to the kept group. There were a total of 410 family members in the nonkept group, an average family size of 5.53. The kept group contained a total of 274 family members with an average family size of 4.22.

It was anticipated that distance from the clinic to the home and ownership of transportation would affect the rate of appointment keeping. Families who tended to keep their appointments lived an average of 9.7 miles from the clinic and those who did not keep their appointments lived an average of 12.6 miles from the clinic. This difference of 2.9 miles was not significant. Seventy-seven percent of the nonkeepers and 83 percent of the keepers owned their own transportation. This difference was not statistically significant according to the chi-square statistic.

Another factor thought to be an important difference between the two groups was economic status. Economic status as defined by the Family Health Center Project was used as a basis for identifying low, middle and high economic groups. For the purpose of this study, low income families were identified as those with cash earning of less than \$5,000 per year. Middle income families were identified as those earning between \$5,000 and \$7,000 per year and high income families were identified as those with incomes over \$7,000 per year. This grouping does not take into account any income generated by the sale of sheep,

wool, jewelry or blankets. It is accepted that this additional income might alter the status of some families.

The distribution of families in each income group is shown in Table 2. There were 13 percent more families in the low income group, 3 percent more in the middle group and 16 percent less in the high group who did not keep their appointments. This difference, too, was not statistically significant using the chi-square statistic.

TABLE 2
Percentage in Income Group
by Appointment Status

	Low		Middle		High	
	#	%	#	%	#	%
Nonkept	43	59	15	20	16	21
Kept	30	46	12	17	23	37

The clinic visitation record of each family member was examined and the number of visits to the clinic by walk-in and by appointment for the preceding six months was recorded. On the whole, families and individuals who did not keep appointments tended to have more visits to the clinic than those who did keep appointments. The families of appointment non-keepers were also less likely to keep appointments. This information is shown in Table 3.

TABLE 3
Clinic Visitation by Nonkept and Kept Appointments

	Nonkept	Kept
Total number of visits to clinic per family	749	466
Average number of visits to clinic per family	10.12	6.86
Average number of visits to clinic per family member	1.83	1.63
Total number of visits to clinic per family by appointment	132	123
Average number of visits to clinic per family by appointment	1.78	1.89
Average number of visits to clinic per family member by appointment	.32	.45

Additional information of age and years of formal education was examined to determine if there were significant differences between the two groups. The years of education were obtained by asking the patient directly. The education of the parent and/or responsible persons was used for all children under the age of nine. It was possible to obtain stated years of education on 43 of the nonkept group and 49 of the keepers. The education of the remaining members of each group was estimated by the clerks and aides who work in the clinic and who, in many instances, had attended school with the individual or had direct information about this matter. Some of the estimates were in ranges, for example, 12-14 years; in this case the highest estimate was used.

The average age of those persons who did not keep their appointments was 19.0 years; the average age of those who did keep their appointments was 16.2. This was not a statistically significant difference by the use of the t-test statistic.

The average number of years of education for those who did not keep their appointments was 7.22 using real stated years, and 7.77 using real plus estimated years. For the group which did keep their appointments, the average real years of education was 9.32 and using real plus estimated years the average was 12.74.

Statistical analysis on both real and real plus estimated years was significant.

Discussion

In view of the season of the year, the newness of the system, and the strictness of the criteria the findings were most gratifying. Fifty-nine percent of the follow-up appointments were kept while 66 percent of all appointments were kept. This additional figure represents appointments that were of a first visit nature: physical examinations, first prenatal visits, first well-baby visits, etc.

Few of the factors thought to distinguish those keeping appointments from those who did not could be demonstrated, although trends were in the anticipated directions. Distance from the clinic, ownership of transportation, age and economic status all showed non-significant differences.

Although the average distance any study family lived from the clinic was 11.1 miles, 96 families lived within an eight mile radius of the clinic, another six lived within a 16 mile radius and only three families lived greater than 50 miles away.

As to ownership of transportation, some families who had a vehicle also indicated there were higher priorities for its use. This reason was offered several times as a reason for not keeping the appointment.

The data collected show an inverse relationship between age and amount of formal education. The non-keepers tended to be both older and less educated. Twelve of the nonkeepers were over the age of 40 while only one of the keeper group was over 40. One might postulate that older, less well educated individuals might also be a more traditional Navajo raised prior to and during the 1930's when roads, transportation and exposure to "anglo" ways were considerably less.

Data obtained from the interviews tend to indicate those who keep appointments have done some pre-planning for the appointment and are beginning to be active participants in their own health care. Twenty-six of 35 respondents indicated their main reason for coming to town was "to keep their appointment"; and 16 of the same group had other activities planned while in town.

Additional indirect evidence substantiates this difference. The group keeping their appointments had more specific things to offer when asked, "What would you have done to take care of the situation if you hadn't been able to attend the clinic today?" For instance, keeping the baby cool by sponging, keeping the nose clear, giving Tylenol, and more particularly, seeing the Medicine Man. The nonkeepers tended to offer no response or to simply state they did not know. Both groups indicated they would have tried to attend another clinic.

In all instances, individuals in both groups thought the care offered was sufficient to take care of the problem. Forty-nine out of 58 thought the clinic hours were acceptable to them.

When patients were asked if they thought the people at the clinic wanted to help them, 52 out of 58 answered affirmatively. They were then asked to indicate what the clinic staff did that made them think that. Most of the responses centered around rapport, helpfulness and politeness. Common responses were "they are willing to help us"; "they give us medicines"; "they have interpreters to talk for us"; "they are nice, polite, friendly and they don't ignore us." The only negative comment offered was that the clinic staff does not give "shots" when the patient thought he needed one.

Although the responses were gratifying they cannot be accepted blindly. One must question whether the staff at the clinic is not trusted enough for the people to

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be totally open. Certainly if it were possible to obtain "honest" responses there should be more negative comments.

What does all this mean? First, it means there are patients who can keep appointments and apparently wish to do so. There are patients who ask for an appointment when one is not offered and who stop by to change an appointment when they know they will not be able to keep the original. Remember, there are few telephones on the Reservation.

Second, it means the clinic staff is succeeding with some families and not with others. Certainly if follow-up appointments are kept, certain situations are more easily taken care of. For example, when children with acute otitis media are seen on follow-up, the staff knows whether or not the problem has resolved. If it has not resolved there is an opportunity to change therapy and/or refer for additional care. The child whose mother returns him three or four weeks after the original earache is not so fortunate: the staff does not know if they are dealing with the original problem or with a new one. One would suspect if follow-up care had been obtained the course of the situation for certain children might have been better.

Infants whose mothers return them at appropriate intervals for health maintenance can be examined when essentially well rather than when ill. An acute illness examination is more likely to produce a haphazard check except for the system in trouble. One child was noticed to have a congenital dislocated hip only when she started to walk. A review of her chart revealed no routine visits, only visits for acute problems. Needless to say this experience has led the present staff to a greater awareness of this problem and to develop procedures to prevent this occurrence.

The success of clinic staff with one group and not the

other, opens two avenues for consideration. The staff might choose simply to continue to work with those who have responded to the appointment system, with the rationale that they are more willing to learn and thus more likely to profit from their experiences with health care. Certainly this track should be less expensive to maintain, less wearing on staff and hopefully more educational for the patients. Or the staff, suspecting the keeper group would be able to care for themselves more easily, could begin to concentrate on the less well educated nonkeeper group. If one could discover the reason for noncompliance, the institution of remedial measures might alter the course of their health care practices.

Summary and Recommendations

Navajo patients who are younger and better educated tend to keep their health care appointments more frequently. However, additional study should be made prior to making a more definitive statement about the Navajo's ability and/or desire to keep health care appointments.

Additional areas to be studied should include: priority of use of the family owned vehicle, responsibility of various family members to herding the sheep and caring for other aspects of the home, understanding of the need for health care, exploration of the conflicts of Navajo medicine versus "anglo" medicine and identification of patients' attitudes toward female health providers.

REFERENCES

1. Mealey, Shirley, "Navajos Can and Do Keep Health Care Appointments." *The Nurse Practitioner* 1:1, pp 12-15.

Costs of Training Nurse Practitioners

A 15-month study of 44 HEW training and research programs for nurse practitioners and physician assistants shows median training costs ranging from \$5,700 to \$15,100 per graduate, according to the National Center for Health Services Research. Copies of the report, PB 259 025, are available from NTIS, 5285 Port Royal Road, Springfield, Va. 22161, at \$19.25. Executive summary, PB 259 027, is \$4 a copy.