Compliance by Samoans in Hawaii with Service Norms in Pediatric Primary Care

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Synopsis

American Samoans are one in a number of Pacific Basin groups for which the U.S. Government provides health care assistance and one in a large number of recent immigrant groups to the United States. Although these groups often have health care beliefs inconsistent with Western primary care, their compliance with basic provider expectations (such as appointment keeping and appropriate emergency room use) remains largely unstudied.

In the case of Samoans in Hawaii, concern is often expressed that a group much in need of health care (pediatric hospitalization and acute illness visit rates are high) often seems "out-of-sync" with Western health care. Four measures of noncompliance were studied in the Hawaii pediatric primary care residency training program. Enrolled Samoan patients were compared with an aggregation of more established ethnic groups. Four matched case-control studies controlled for socioeconomic status and the presence or absence of medical insurance and a home telephone. Samoans were more likely than the comparison group to miss health maintenance appointments, to drop in without an appointment, and to use the emergency room for nonurgent problems when a same-day-notice clinic visit would have usually sufficed.

A COMMON PERCEPTION is that some recent immigrant groups often do not conform to the norms of Western health care. Prominent among possible reasons is that the health care values and beliefs of some ethnic groups differ from those of Western medical care (*1-3*). Although this indicates that such groups could be particularly at odds with provider expectations regarding use of basic primary care, most utilization studies examining these groups have been limited to the volume of ambulatory care visits in relation to the issues of health status and the accessibility of care (*4-6*).

Samoan utilization behavior has been viewed as reflecting a logic based on unique concepts of the etiology of illnesses, the acceptance of traditional healers, and previous negative experiences with Western medicine (*7*). As a whole, Samoan behavior appears to reflect an accommodation to two modes of health care and two systems of health beliefs. Their explanations of common causes of illness include the germ theory, but also the consumption of certain foods, too much work, too little sleep, and "bad blood" (*7*). Seeking Western health care in the event of illness is common, but so is an initial treatment of massage by an older family member to put the "life essence" of the patient back into place (*7*). Although Western physicians are sought, the "laying on of hands" by the physician is accorded importance because of their traditional healing beliefs (*7*).

We examined four basic pediatric primary care compliance problems to consider whether they are more frequent for Samoans in Hawaii than for ethnic groups relatively accustomed to and accepting of Western medicine. The four problems studied are (*a*) missing health maintenance appointments, (*b*) missing acute illness followup appointments, (*c*) dropping in instead of calling for a same-day-notice appointment, and (*d*) using the emergency room (ER) for nonurgent problems instead of attending the clinic on same-day-notice.

Specifically, we asked whether Samoans in Hawaii differ in their compliance with norms of health service use from the selected comparison group after controlling for confounding situational variables. If Samoans differ even after controlling

for these conditions, these results will suggest that their greater noncompliance in this instance reflects their unique cultural orientation.

Previous research on missed appointments identified situational variables that might confound these ethnic group comparisons. Variables include the presence or lack of medical insurance, socioeconomic status (SES), and the presence or lack of a home telephone (*8,9*). Distance from home to clinic, though plausible, has not been shown to be significant (*8,9*). Age, while significant in adult populations, is not considered to be a good predictor of missed appointments within pediatric populations (*8*).

In the absence of previous studies on drop-in versus call-first visits and ER versus same-day-notice clinic visits, the same confounding variables for missed appointments were considered, as was the possible effect of distance from home to clinic.

Methods

The University of Hawaii Integrated Pediatric Residency Program provided comprehensive primary care for a multiethnic (21 percent Samoan), largely low-socioeconomic-level patient population of about 1,400 enrollees. An existing information system captured primary care clinic, ER, and inpatient utilization data from the medical records of these patients.

Samoans were compared with an aggregate comparison group of part-Hawaiian, Caucasian, Filipino, Japanese, and Chinese persons. Persons in this mixture were part-Hawaiian or mostly descendants of persons who either came in the major migrations to Hawaii 75–100 years ago or came from the mainland United States. The group represented a large majority of Hawaii's population and was, in contrast to Samoans, mostly long-established and relatively westernized. When Samoans have been compared with this majority, providers, Samoans, and behavioral scientists in Hawaii have perceived that Samoans have particular problems in using Western health services (*7*). If the use of this multiethnic comparison group biases the analysis, it is a conservative bias because we are not trying to compare Samoans with a group that is uniformly assimilated into the mainstream Western culture.

Matching procedure. Samples were matched to control the effects of confounding factors. Every Samoan group appointment or visit between July 1984 and December 1985 was matched with one comparison group appointment or visit at this period if the presence or lack of medical insurance, the presence or lack of a home telephone listed in the medical record, and the SES indicator were the same. A computer program randomized the selection of each succeeding comparison group match from the group of remaining eligible matches present. It was then assured that the resulting samples had no differences in the proportions of patients residing outside the Honolulu area, which was also a possible accessibility factor; in fact, the samples were similar.

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SES was measured by type of medical insurance coverage. Though not ideal, this indicator makes the critical distinction in the State of Hawaii between the poverty-level group (Medicaid coverage) and persons who receive insurance through their place of employment (which is compulsory by law for employees working more than half-time). The small proportion having no insurance, often called the gap group, generally represents an in-between SES stratum with either part-time employment or incomes too high to qualify for Medicaid coverage.

Distance from home to clinic was measured by ZIP Code of residence. Persons residing in the Honolulu area (within about 20 minutes of the clinic) were compared with those living in other parts of the island.

Dependent variables. Dependent variables were defined as follows:

- Kept versus missed health maintenance appointments. Each of the 601 scheduled appointments for health maintenance for enrolled Samoan patients under 5 years of age taking place in the study period was matched with a comparison group appointment as described previously.
- Kept versus missed acute illness followup appointments. Followup appointments for acute illness for 168 Samoan children were identified from a firsthand review of progress notes in medical records for all enrolled Samoan patients using the

Comparison of selected pediatric primary care compliance problems between Samoan and comparison groups in Hawaii

Visit	Samoan group		Comparison group		Total
	Number	Percent	Number	Percent	
	Health maintenance missed appointments[1]				
Kept	378	62.8	440	73.2	818
Missed	223	37.2	161	26.1	384
Total	601	...	601	...	1,202
	Followup acute illness missed appointments[2,3]				
Kept	83	49.4	100	59.5	183
Missed	85	50.6	68	40.5	153
Total	168	...	168	...	336
	Call-first or drop-in for same-day-notice clinic visits[1]				
Drop-in	113	30	64	17	177
Call-first	264	70	313	83	577
Total	377	...	377	...	754
	Same-day-notice clinic vs. nonurgent emergency room visits[1]				
Emergency room visits	111	22.6	65	13.2	176
Same-day-notice clinic visits	381	77.4	427	86.8	808
Total	492	...	492	...	984

[1] $P < .001$.
[2] $P = .07$.
[3] The unusually high rates reflect both the exclusion of the initial visits and the aggressive rescheduling policy of the clinic.

clinic in the study period and matched as described previously. Excluded were appointments for chronic diseases, appointments referred by the ER, and followup appointments for problems initially identified in health maintenance visits.

- Call-first versus drop-in visits. Given an acute illness worrisome enough to seek care at the primary care clinic on same-day-notice, the parent could decide either to call first for an appointment that same day, as preferred for scheduling purposes, or drop in unscheduled. This distinction was noted in the medical record. Each of the 377 Samoan same-day-notice visits (both call-first and drop-in visits) during the study was identified and matched.
- ER versus same-day-notice clinic visits. The main sources of care for parents concerned about nonurgent acute illnesses were (*a*) the clinic on same-day-notice (call first or drop in), as preferred for continuity and cost containment purposes, or (*b*) the adjacent ER when the clinic is not open. Patients arriving at the ER with nonurgent problems during clinic hours were referred to the clinic. Seeking their primary physician's advice by phone, which would often preclude an ER visit, was also encouraged. Because this ER is in the only hospital on Oahu expressly for pediatric care and because the parents were already familiar with it, there were likely few visits to other ERs.

To focus as closely as possible on nonurgent ER use, visits for trauma, chronic conditions, asthma, bronchiolitis, pneumonia, seizures, allergic reactions, and serious infections were excluded (*10*). Each of 492 Samoan group nonurgent ER and same-day-notice clinic visits during the study was matched as described previously.

Analysis. A chi-square test for independence was done to test the null hypothesis that the ethnic groups and the compliance variable were statistically independent.

Results

Preliminary analysis of the entire available data set, before assembling matched samples, indicated the necessity of controlling for the variables selected. For health maintenance appointments, the Samoan group was initially overrepresented with cases of no home phones (26.1 percent of Samoans compared with 17.3 percent of the comparison group, $P < .001$), no insurance (12.4 percent compared with 6.8 percent, $P < .001$), and insurance coverage categories indicative of lower SES (Medicaid and the no insurance gap group) (81.3 percent compared with 74.6 percent, $P < .01$). Similar differences were also shown in the initial drop-in versus call-first comparison.

Because a relationship between high utilizers and high missed appointment rates has been reported (*11*), preliminary analysis also examined whether the overall volume of utilization was reasonably similar for the two groups under study. This appears to be the case, as the Samoan group had an overall utilization rate of 4.34 visits per patient per year and the comparison group had a rate of 4.11.

Although different working patterns of parents could account for a different volume of after-clinic-hours ER use, it is not likely to have affected this comparison. In both groups (the matched sample), 84 percent of the ER and same-day-notice visits were by unemployed persons as indicated by Medicaid coverage.

The matched samples indicate more Samoan noncompliance for three of the four behaviors analyzed (see table): missed health maintenance

appointments, dropping in to the clinic instead of calling first for a same-day-notice appointment, and choosing the emergency room after clinic hours for a nonurgent problem instead of visiting the clinic during normal hours. Proportions of missed followup appointments in a sample of common acute illnesses were not significantly different ($P = .07$).

Discussion

In providing effective health care to recent immigrant groups, it is useful to inquire where cross-cultural problems seem to exist. Studies of the volume of use of ambulatory care only marginally serve this purpose because they relate mainly to the issues of health status and accessibility of care. Compliance studies are indicated. The greater prevalence of some basic measures of noncompliance by Samoans in Hawaii, as shown in these results, seems a case in point.

Certain qualifications based on the experience of our study may assist more indepth prospective compliance studies of Samoans and others:

- The characterization of health beliefs in conflict probably oversimplifies the reasons behind Samoan health care utilization. Noncompliance may also relate to the provider's difficulty in communicating the basic expectation and the rationale for the expectation, irrespective of the effect of differing health beliefs. To this extent, noncompliance arises from a lack of understanding, not a lack of acceptance.
- Previous satisfaction with medical personnel and their treatments should be elicited because it is also likely to affect utilization.
- That Samoans appear relatively noncompliant should not invite the characterization that they are seriously undercompliant. For example, the fact that 70 percent in the Samoan sample did call for a same-day-notice appointment instead of dropping in unscheduled seems by itself to indicate a good deal of compliance.
- Before samples were matched, Samoans were overrepresented by factors previously shown to be associated with higher rates of missed appointments (no home telephone, lower SES, and no medical insurance). Although most Samoans understand English, the possible effect of a language barrier should also be considered.
- The high rate of nonurgent use of the ER by Samoans may be related, in part, to a reluctance to phone the primary physician for advice (which would often preclude an ER visit) because the "laying on of hands" has traditionally been an important aspect of treatment.
- Although preliminary analysis indicated the overall volume of utilization was reasonably similar between groups, the most common acute illness for which followup is indicated, otitis media, was 1.8 times greater for Samoan patients (2.08 visits per patient) than for the comparison group (1.15 visits per patient) during the study period ($P < .001$). Samoan compliance may be affected by having to cope with a greater number of persistent and recurrent illnesses that often require followup.

Cross-cultural problems are complex, and programmatic solutions are not evident. To suggest better health care for Samoans through better education, better understanding, and better communication does not really seem substantive. However, when specific reasons behind specific compliance problems are identified, the ability to address each problems will be enhanced. This should be the ultimate goal of research in patient compliance.

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