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Report to the Chairman, Special Committee on Aging, U.S. Senate

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HEALTH CARE ACCESS

Innovative Programs Using Nonphysicians

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Washington, D.C. 20548

Human Resources Division

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August 27, 1993

The Honorable David Pryor
Chairman, Special Committee on Aging
United States Senate

Dear Mr. Chairman:

In 1992, about 22 million people in the United States were residing in urban and rural areas that had shortages of primary care physicians. Increasing access to health care in these medically underserved areas has been a longstanding and major concern in efforts to reform the nation's health care system. Some experts have suggested that greater use of nonphysician providers has potential for providing greater access to care. For example, several recent studies have found that 60 to 90 percent of the diagnoses seen in outpatient primary care settings can be handled capably by nonphysician providers, such as physician assistants or nurse practitioners.[1]

In response to your request for information about innovative programs that use nonphysician providers to increase access to health care, this report describes (1) a unique method used by the Indian Health Service (IHS) to deliver emergency and primary care in remote Alaska villages and (2) a Florida county's plans to use aspects of this method to provide health care services in a medically underserved urban setting.

Results in Brief

The Alaska program trains local residents to provide emergency and primary care services in villages, which are often hundreds of miles away from the nearest physician. These individuals, called Community Health Aides (CHAs), use procedures set forth in an easy-to-read manual and consult daily by telephone or radio with a hospital-based physician. In 1991, CHAs served about 45,000 Alaska Natives and handled more than 253,000 patient encounters. While the program's effects have not been measured by rigorous study, IHS and the Alaska Native Health Board[2] believe, and available data indicate, that the program has achieved

[1]James F. Cawley, "Physician Assistants in the Health Care Workforce," prepared for the Association of Academic Health Centers (Washington, D.C.: Apr. 13, 1993); Sheila A. Ryan, "Nurse Practitioners Serving Primary Health Care for the Nation," prepared for the Association of Academic Health Centers (Washington, D.C.: Apr. 13, 1993); and Jane Cassels Record, and others "Case Mix in HMOs and Fee-for-Service Systems: The Ratio of Routine Visits to Total Visits in Adult Primary Care" Social Science & Medicine, Vol. 14C., pp. 267-273 (1980).

[2]Formed in 1968, the Alaska Native Health Board is recognized as the statewide voice on health issues for Alaska Natives. It is made up of 12 members who are selected/elected by the boards of directors or health committees of Alaska's Native regional health entities.

substantial acceptance among the population it serves and has played a major role in improving the health status of Alaska Natives. The federal government assumes responsibility for medical malpractice claims against services provided by CHAS.

Elements of the Alaska program have been studied for use in other settings. In particular, the Pinellas County Emergency Medical Services of Florida, whose service area includes medically underserved areas in the city of St. Petersburg, has proposed adapting key aspects of the Alaska program in order to increase access to primary care. Under the proposal, paramedics would provide primary care services to medically needy persons during off-peak hours, following strictly defined procedures and consulting electronically with hospital-based physicians. Whether the program can actually be implemented is uncertain because (1) current state law does not authorize paramedics to provide routine primary care services and (2) the matter of who would assume medical liability for such paramedic services is unresolved.

Background

IHS, an agency in the Public Health Service, U.S. Department of Health and Human Services, is the primary provider of health services to Alaska Natives (Eskimos, Athabascans, Aleuts, and American Indians). Most Alaska Natives live in small villages isolated by mountain ranges, glaciers, stretches of tundra, impassable river systems, and vast distances. About 90 percent of these villages are accessible only by plane, boat, or snowmobile. Air travel frequently is the only means of transportation to a hospital, and then only during favorable weather conditions. The CHA program was established to provide health care in these isolated environments.

The foundation for the CHA program was laid in the 1940s and 1950s when the federal government, in response to the tuberculosis epidemics, used village volunteers to dispense medicine in remote villages. These volunteers, mostly women, generally acted as intermediaries between patients and hospital-based physicians. Following much debate in Alaska about the appropriateness, legality, and medical dangers of giving short-term medical training to nonphysician providers, in 1968, IHS launched the current CHA program. The title "Community Health Aide" was chosen to show the position's link to the community and emphasize that the person in this role did not practice independently of a physician. Between 1969 and 1970, IHS initiated a program for funding the lease of

village clinics and standardized CHA training and treatment procedures throughout Alaska.

Scope and Methodology

Our report is based on information compiled mainly from interviews with IHS officials at various locations in Alaska and with Pinellas County and state officials in Florida. We conducted much of the work on Alaska's CHA program in conjunction with a broader analysis of the availability of health care services to American Indians and Alaska Natives.[3] Our gathering of information about the Alaska program included visits to the Yukon-Kuskokwim Health Corporation in Bethel, Alaska, and to its regional hospital and three village clinics. Our work was performed in accordance with generally accepted government auditing standards.

Basic Features of the CHA Program

CHAs must meet certain basic selection requirements and are subject to a specific set of standards for training, certification, and continuing education. Working in conjunction with physician guidance available by telephone or radio, CHAs provide emergency, preventive, and primary care treatment in village clinics. An important aspect of the program is IHS's Community Health Aide/Practitioner Manual, which contains step-by-step descriptions of treatment procedures to be used in providing emergency and primary care.

CHA Selection and Training

CHAs are selected by members of the community and are hired by the Alaska Native regional health corporations.[4] A CHA must be a village resident with at least a 6th-grade reading level and a knowledge of basic arithmetic. In 1991, the typical CHA was a 38-year old Native woman with four children, an 11th-grade education, and 7 years' experience as a CHA. In 1991, the program employed 405 CHAs practicing in 171 villages. Their average salary was about $23,000.

CHA training consists mainly of four 4-week sessions of classroom instruction, skills practice, and clinical experience, which usually occur over a 2- to 3-year period. After 2 to 3 years, CHAs are expected to become

[3]Indian Health Service: Basic Services Mostly Available; Substance Abuse Problems Need Attention (GAO/HRD-93-48, Apr. 9, 1993).

[4]Under the authority of the Indian Self-Determination and Education Assistance Act (P.L. 93-638), many Indian tribes and Alaska Native regional health corporations have contracted with IHS to operate and administer health care programs originally managed by IHS. Passed in 1975, the act provided for maximum tribal participation in programs and services conducted by the federal government for Indians and Alaska Natives.

certified as Community Health Practitioners, an advanced statewide designation. Persons in either category must complete 48 hours of continuing medical education requirements every 2 years. (App. I contains more information about training and certification.)

Scope of Services Provided

CHAs maintain regular hours in village clinics and are available 24 hours a day for emergencies. They provide most care at the village and arrange emergency air transportation to a hospital as needed. The services they provide include:

- emergency care, such as splints, care of superficial wounds, emergency delivery of babies, and prehospital treatment of gunshot wounds;
- routine clinical services, such as treatment for ear infection, toothache, or strep throat;
- minimal laboratory screening, such as throat cultures or hemoglobin tests;
- prenatal and well child checks, including administering immunizations; and
- screening physical examinations, preventive health surveillance, and follow-up of chronic disease.

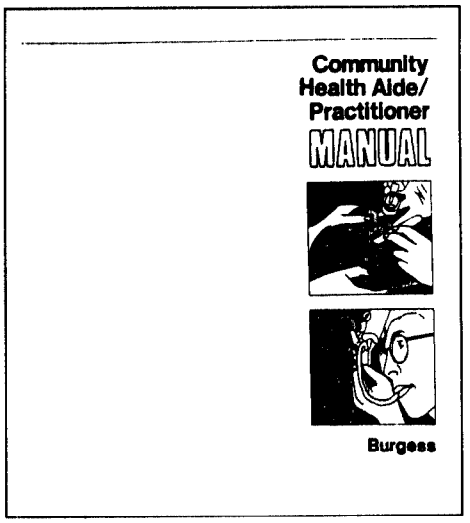
CHAs perform their duties under the direction of hospital-based physicians and other health professionals. They consult daily by telephone or radio with a physician and follow the physician's guidance in providing treatment. They also are visited periodically by IHS-supported physicians, nurse practitioners or physician assistants, and state-employed public health nurses. Generally, these types of professionals only visit a village one to three times a year.

Many CHAs perform their duties in conditions that, by most U.S. standards, are quite primitive. Two of the three clinics we visited, for example, had no running water or sewage system. (App. I describes the conditions at these three clinics in greater detail.)

Examination and Treatment Manual

CHAs follow examination and treatment procedures set forth in IHS's Community Health Aide/Practitioner Manual. Written on a 6th-grade reading level and designed for easy reference, this manual contains step-by-step procedures for examining a patient's condition and choosing a treatment option. According to IHS, the manual's procedures are acceptable to a wide variety of health care providers. Figure 1 includes a sample page from the manual.

Figure 1: Community Health Aide/Practitioner Manual



Community Health Aide/ Practitioner MANUAL

Burgess

EYE PROBLEMS

EYE INJURIES

WHEN SOMETHING SMALL GETS INTO EYE

Begin here for the following:
- Sand or dirt in eye or very small foreign body in eye.
- Patient feels like something is in the eye.

Do NOT begin here if patient has foreign body inside the eyeball (p.102, "Serious Eye Injury").

1. Begin Emergency Care

1.1 *If patient wears contact lenses,* remove them, unless doing this may injure the eye.
1.2 *If foreign body is probably metal,* report to your referral doctor before you try to remove it.
1.3 *If you see a small foreign body* any time during your exam, try to remove it. Go to plan 5.1.

2. History

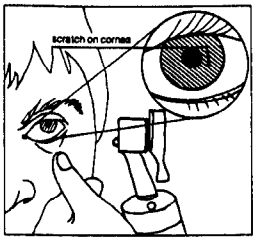
Get general history of present illness (inside cover). Also ask the following specific questions:

2.1 Find out exactly what happened.
- What does patient think is in his eye?
- Where does patient think it is?

2.2 If patient has pain, is it worse when he moves the eye?
2.3 Does patient have any other eye complaints:
- Change in vision:
  - ☐ loss of vision in one or both eyes?
  - ☐ double vision? Does not want to open one eye?
  - ☐ blurry vision?

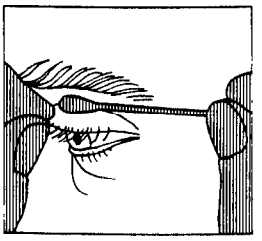
3. Exam

Examine the eye as follows:
3.1 Look carefully for a foreign body. Have patient look in different directions, as you check the following:
- Sclera (white part) and lower conjunctiva (thin cover for sclera and for inside of eyelid).
  - ☐ place your finger just below lower eyelid, and pull down gently.
- Cornea ("clear window").
  - ☐ shine a light on cornea from the side to look for a scratch.

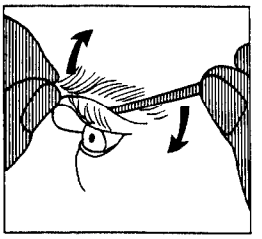


  - ☐ it may help to look through an otoscope without the ear speculum.
- Iris (colored part).

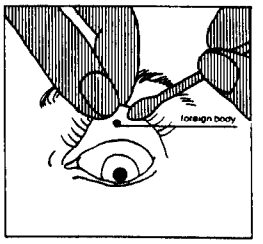
3.2 Fold back upper eyelid and remove foreign body if you find it:
- Moisten a Q-tip® (cotton tipped applicator) and put it where you can get it easily.
- Remove most of cotton from another Q-tip®.
- Have patient look down and keep looking down until you tell him to stop.
- Get a good hold on eyelashes. Next pull eyelid forward a little bit.
- Place a Q-tip® on eyelid.



- Push down with Q-tip as you pull eyelid up and over Q-tip.



- Once eyelid is up, slide Q-tip out.
- If you see a small foreign body, touch it with the clean, moistened Q-tip® to try to remove it.



3.3 Stain the eye with FLUORESCEIN dye as on p.377.
- Look carefully for a scratch on cornea.

3.4 Vision:
- Do a Snellen test (p.375).
- If patient can not cooperate, use any print (magazine, book).
- If vision is very poor, examine as on p.375.

4. Assessment

4.1 Your assessment should include one of the following:
- **Small foreign body in eye** (Plan 5.1).
- **Scratch on cornea** (Plan 5.2).
- **Patient feels like something is in eye but can NOT see it on exam** (Plan 5.3).

Program Funding and Liability

IHS provides most of the program's funding. IHS funding for the program has grown substantially in recent years, from about $5 million in 1988 to nearly $19 million in 1991. The state of Alaska also provides about $2 million annually for CHA training and supervision.

Since 1987, medical liability for CHAs has, in effect, been assumed by the federal government under the Federal Tort Claims Act.[5] Since the federal government's assumption of medical liability, no medical malpractice suits directed primarily at CHAs have been filed against the government, according to IHS officials.

Extent of Acceptance and Success

Although no systemwide survey has been conducted to measure the level of Alaska Natives' satisfaction with the care provided, a 1989 survey conducted by one Native health corporation whose clinics we visited[6] provides some indication of clients' attitudes. Seventy-seven percent of survey respondents said that they had received good or average care from CHAs compared with 82 percent who said that they had received good or average care when they had to see a physician. Nearly all physicians, public health nurses, and midwives contacted in connection with the survey reported that their patients were satisfied with the CHA program.

As with patient acceptance, no systemwide study has been conducted to measure the CHA program's effect on the health status of Alaska Natives. However, the Alaska Native Health Board has tied the CHA program to improved health status on the part of Alaska Natives. A recent assessment of the CHA program (1988) for the board concluded that the program had ensured that basic primary care services were available, accessible, acceptable to the population, and cost effective.

IHS's 1992 data showed that the health status of the Alaska Native population has improved substantially during the last 10 years when the CHA program was the only readily available local source of emergency and primary care for about one-half of the population. For example, the neonatal infant mortality rate for Alaska Natives decreased by 27 percent to a level not significantly different from the overall U.S. rate, and the rate of accidental death for Alaska Natives decreased by 40 percent. The level of incidence of hepatitis B and gonorrhea has also declined.

The medical director of the Alaska Native health corporation whose clinics we visited gave two examples of how CHAs had improved health status in his region:

[5]The Alaska Native regional health corporations, which hire and pay CHAs with funding provided by IHS, are contractors of the government under the Indian Self-Determination and Education Assistance Act. For purposes of the Federal Tort Claims Act, these contractors and their employees, while acting within the scope of the contract, are deemed to be federal employees.

[6]The Yukon-Kuskokwim Health Corporation, headquartered in Bethel, manages a regional hospital and 48 village clinics, which account for more than one-third of the total CHA program patient encounters.

- Without proper diagnosis and treatment, 2 to 4 percent of strep throat patients will develop rheumatic fever and rheumatic heart disease, he said. Before CHAs became involved in treating strep throat, rheumatic heart disease was the primary cause of cardiac death in the region. Because of CHA involvement in actively treating strep throat, the region has had no cases of rheumatic fever in recent years.
- The ability of CHAs to accurately assess premature labor and treat it in the village while the hospital assembles a team to fly to the village and bring the patient to hospital has allowed the region to have one of the lowest neonatal death rates in the United States.

Florida County Proposes Adapting CHA Approach in Program of Paramedic-Assisted Care

In an effort to deliver more primary care to indigent citizens, the Pinellas County Emergency Medical Services (PCEMS) in Florida has proposed adapting the CHA approach in a program that would involve paramedics in the delivery of primary health care services.[7] According to a 1990 task force study, Pinellas county had at least 179,000 medically needy residents, with existing public health care programs serving only 43 percent of them.[8] The unserved remainder of the population lacked access to primary care providers and often called the 911 emergency number as a way of getting medical attention, even when no emergency existed. This practice was reflected in data showing that up to 69 percent of patients using hospital emergency rooms in the county were doing so to obtain primary care. According to the medical director of PCEMS, the cost of such a visit is four to five times greater than a standard visit to a physician's office.

Although the medically underserved populations of Pinellas County are mostly located in an urban area, PCEMS still found the rurally oriented Alaska program useful in developing the proposal. The PCEMS medical director said that many models of nonphysician-delivered primary care were considered in developing the proposal, including two provided by the military services. PCEMS selected the CHA model, he said, because (1) the patients served by CHAs were similar to PCEMS's target population in that they were economically disadvantaged, had no routine access to physicians, and had a broad range of health problems and (2) the CHA manual and training program were well designed and easily adaptable.

[7]Officials of IHS's Alaska area said that they were aware of several other instances in which aspects of the CHA model had been adapted or studied for use in other locations. For example, the Alyeska Pipeline Service Company, which hires experienced paramedics to provide emergency and primary care to employees working at 11 sites along the Trans-Alaska pipeline, has distributed the CHA manual to its field paramedics for reference purpose.

[8]The federal government has since designated the inner St. Petersburg of Pinellas County as a primary medical care professional shortage area.

Under the proposed program, PCEMS would analyze incoming 911 requests to identify calls for nonemergency acute and primary care services. For such callers, a visit by a paramedic would be scheduled, generally at the caller's home or workplace, during off-peak hours, when paramedics often would have time to provide such attention. Like CHAS in Alaska, PCEMS paramedics providing such care would follow procedures strictly defined (as those in the CHA manual) and consult electronically with hospital-based physicians. If necessary, the medic would transport the patient to a hospital or other treatment facility.

The PCEMS medical director outlined three main benefits of the proposal:

- It could make primary care services available to large underserved populations at marginal cost.
- The broader range of services would allow PCEMS paramedics to more fully utilize their time and talents.
- The proposal could be used to assess the capability and cost effectiveness of an emergency medical service model of primary care that could be adapted both to urban and to rural areas.

Unresolved Legal Issues Have Delayed Implementation

Two legal issues have delayed implementation of the PCEMS proposal. One issue is what types of services that paramedics can provide under Florida law; the other is who assumes liability for their actions. Neither issue had been resolved as of June 1993.

Extent of Paramedics' Ability to Treat Patients Under Florida Law

Florida's Emergency Medical Transportation Services Act, which authorizes paramedics to perform emergency services, does not authorize paramedics to provide even the most routine primary and preventive care services. To illustrate the dilemma posed by this law, the PCEMS director gave an example of a patient who calls 911 because of a severe toothache. Under the current system, a paramedic who responds to the call is not allowed to treat the patient at all—not even give an aspirin to relieve pain—because the condition is not an emergency. The paramedic can either transport the patient to a hospital emergency room for pain relief or convince the patient to wait and terminate the service. Under the proposed program, the paramedic would evaluate the patient's condition and, if necessary, apply a pain blocker on the tooth to relieve the pain temporarily. The paramedic could then schedule the patient for a visit with a dentist, during regular office hours.

The PCEMS director believes that the current situation makes inefficient use of medical resources because of (1) the high cost of transporting patients and using hospital emergency rooms for nonemergency service and (2) the waste of paramedics' productivity in responding to a patient's call without treating or transporting the patient. During fiscal year 1991, 63,000 of PCEMS' 150,000 responses resulted in such wasted productivity, according to a PCEMS report.

Although state and county officials were supportive of the proposed project and viewed it as a cost effective way of delivering primary care services in underserved areas, attorneys for Pinellas County and the state's Office of Emergency Medical Services concluded it could not be authorized under current state law. Florida's Director of Emergency Medical Services said that because the concept was new and untested, no clear approach had been developed at the county or state level to resolve this issue.

Assumption of Liability for Paramedics' Primary Care Practices

According to Florida officials, medical liability is another major obstacle in implementing the proposed program. They explained that, under current emergency medical systems, medical liability for paramedics is covered by the malpractice liability insurance of the physicians who trained and supervised the paramedics. Because of a common law doctrine, which says that physicians who act in good faith in an emergency situation should not be held responsible for any harm or damages resulting from such act, the medical liability risk of physicians and physician extenders, such as the paramedics, is relatively small when they practice within the scope of emergency. However, when paramedics practice beyond that scope, the risk factors change and current malpractice insurance probably will not cover them. According to state and county attorneys, because paramedics performing primary care could be challenged in court for practicing without a license, the risk would probably be too high for any insurer to be willing to cover them.

Conclusions

The CHA program in Alaska demonstrates that innovative ways can be found to deliver emergency and primary health care services to medically underserved areas in even the most extreme circumstances. Pinellas County's proposed adaptation of this approach holds considerable potential as a prototype for using existing emergency medical system resources to supplement medically underserved persons' access to primary care. However, Pinellas County's difficulty in implementing its proposed program illustrates the complexity of issues involved in adapting

this approach when the circumstances are less extreme than they are in Alaska. The proposal has raised major questions about who should be authorized to provide basic medical care and how medical liability for their actions should be assumed. Neither the state nor the county has developed a means to resolve this problem.

We asked appropriate officials in the Alaska Area Indian Health Service and Florida State Department of Health and Rehabilitative Services to review a draft of this report. They generally agreed with the information presented. We have incorporated their comments where appropriate.

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 15 days after its issue date. At that time, we will send copies to the appropriate congressional committees, the Secretary of Health and Human Services, the Director of the Indian Health Service, the Director of the Office of Management and Budget, and other interested parties. We also will make copies available to others on request.

Please contact me at (202) 512-7119 if you or your staff have any questions. Major contributors to this report are listed in appendix II.

Sincerely yours,

Mark V. Nadel

Mark Nadel
Associate Director, National
and Public Health Issues

Contents

Abbreviations

CHA	Community Health Aides
CHP	Community Health Practitioners
IHS	Indian Health Service
PCEMS	Pinellas County Emergency Medical Services

Additional Information About IHS's Community Health Aide Program in Alaska

As discussed previously, IHS's CHA program trains local residents to provide various health services at small, often primitive, village clinics. This appendix describes in more detail (1) the program's standards for CHA training, advanced-level certification, recertification, and continuing education and (2) the condition of the village clinics that we visited.

Training and Certification

Newly selected CHAs attend emergency care training, "new hire" orientation, and a more comprehensive medical training known as "basic training." The 1993 basic training curriculum includes four 4-week sessions of classroom instruction, skills practice, and clinical experience, usually in a training center that is affiliated with a hospital. Following each session, CHAs are required to perform 200 hours of field work in the village clinics. Generally, between sessions, CHAs return to their communities for about 6 to 12 months to practice skills and gain more experience.

After 2 to 3 years of initial experience, CHAs are expected to become certified Community Health Practitioners (CHPs), an advanced CHA designation. In 1993, the CHP certification requirements, as established by Alaska's community health aide programs, included the successful completion of such requirements as the following.

- Completion of all sessions of basic training.
- Completion of field experience including 800 hours of clinical experience generally in the village clinic.
- Demonstration of capability in performing tasks listed in the CHA "skills list," including about 140 necessary skills such as administering hemoglobin tests, performing routine physical exams, checking pulse rates, and performing a wide range of first aid and emergency skills.
- Completion of a preceptorship. To complete a preceptorship, the CHA works for at least 30 hours providing direct patient care under the supervision of a mid-level practitioner or physician preceptor. The purpose of the preceptorship is to enable the CHA to improve clinical skills and to reinforce ties with the hospital referral doctors, with whom the CHA will consult during the CHA's village practice.
- Completion of the two-part statewide CHP certification examination (both written and practical) with a score of 80 percent or higher.
- Satisfactory evaluation of field performance by physician or other qualified health care providers, such as a public health nurse.

Like CHAs, CHPs must complete 48 hours of continuing medical education requirements every 2 years, including education to update their emergency

medical treatment skills. CHP recertification is recommended every 6 years. Recertification requirements included performance of primary care services in the clinic, completion of an emergency training refresher course and continuing medical education requirements, successful performance of supervised clinical duties and the completion of CHP recertification checklist, and a passing grade on the statewide recertification examination.

The Conditions of the Village Clinics We Visited

Most of the villages in which CHAs work are small and isolated from other populated areas of Alaska. In October 1991, we visited three village clinics in the Yukon-Kuskokwim Delta region. The villages—Kipnuk, Upper Kalskag, and Lower Kalskag—were small and remotely located.

- Kipnuk is a small village of about 500 Yupik Eskimos located about 83 miles west of Bethel on the wetlands of the Bering strait where no road systems exist. The village clinic has no running water or sewage system.
- Upper Kalskag and Lower Kalskag are two small villages located along the Kuskokwim River about 63 miles east of Bethel. The two villages are about 3 miles apart connected by a gravel road. They were separated in the past by religious differences; Upper Kalskag is a village of about 165 Roman Catholic Yupik Eskimos, while Lower Kalskag is a village of about 300 Russian Orthodox Yupik Eskimos. Upper Kalskag had no running water or sewage system, while Lower Kalskag had both. At the time of our visit, CHAs at Lower Kalskag told us that the village had many problems with gastrointestinal disease due to problems with the sewage system.

The clinics in all three villages were small wooden houses. The clinic in Upper Kalskag, for example, was a very old log building that is quite small. Figure I.1 shows the clinic in Upper Kalskag and the region visited. Figure I.2 shows a CHA working with a young patient.

Figure I.1: GAO Evaluator in Front of Clinic in Upper Kalskag and Region Visited

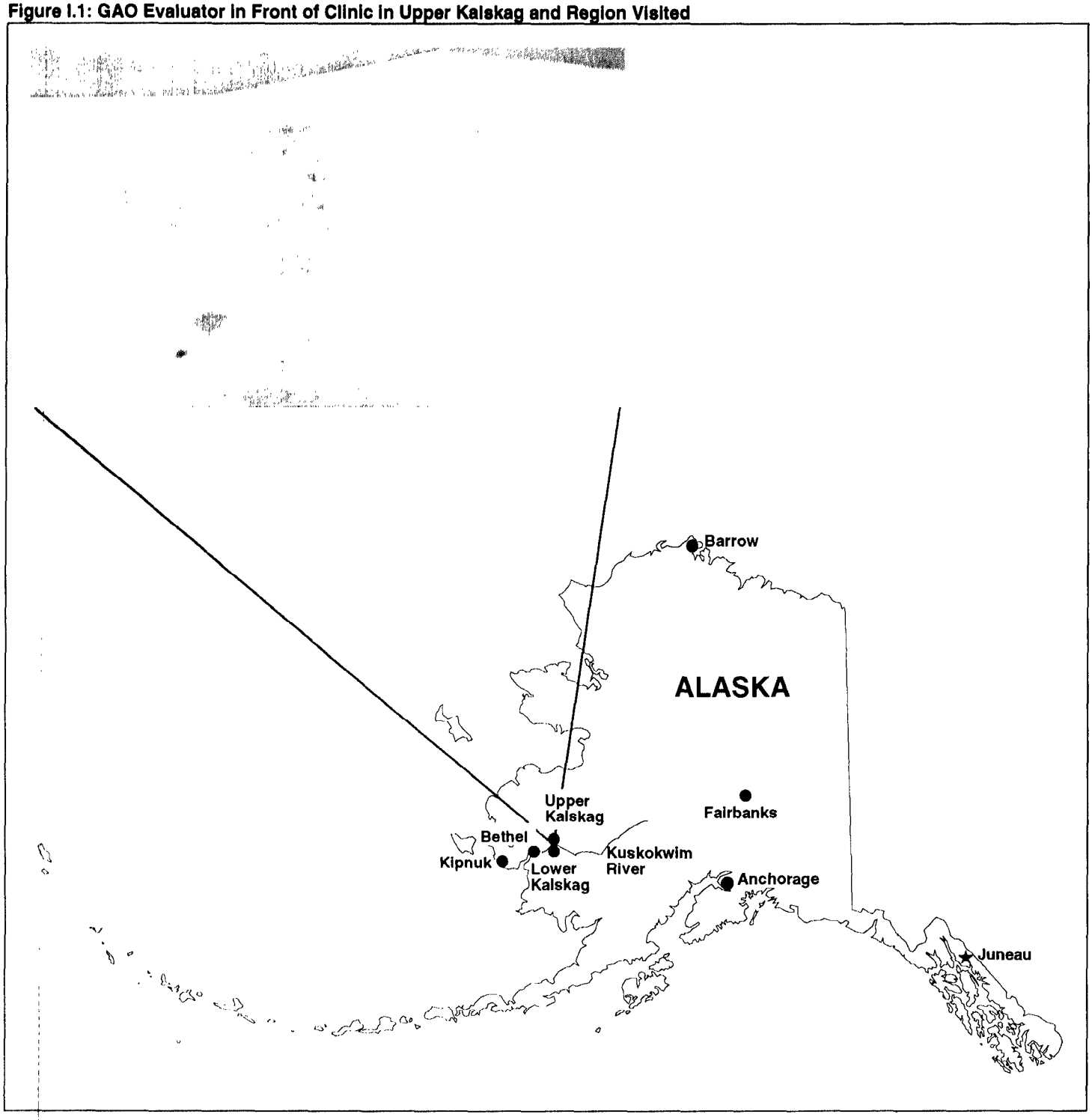
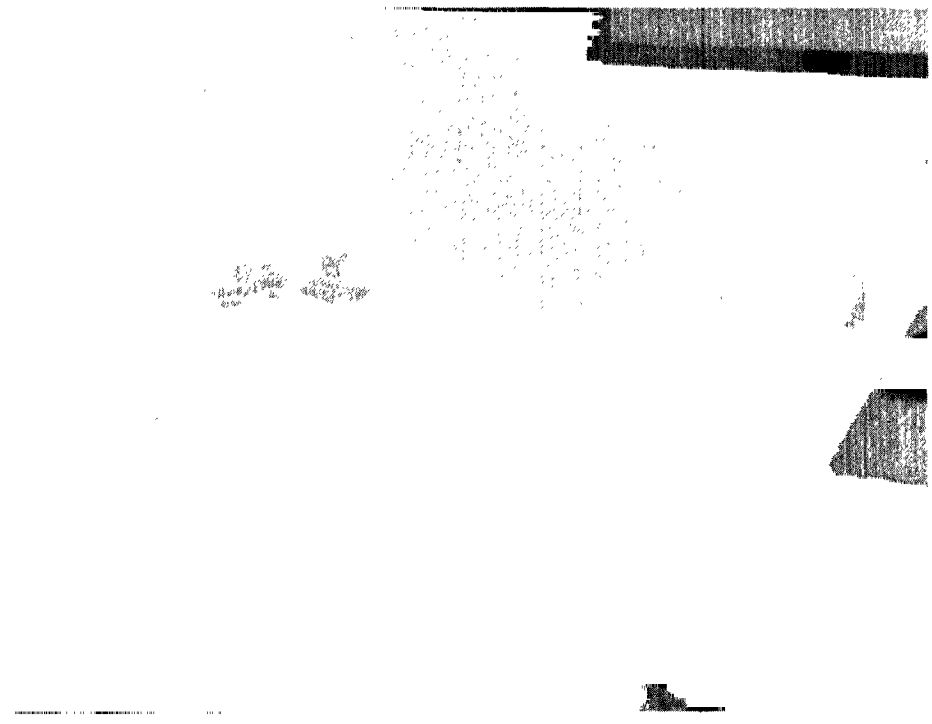


Figure I.2: Community Health Aide Working With a Boy Who Had Frostbite



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