

**A Survey of Waste Management Practices
At Alaska's Health Care Facilities:**

A Report to the U.S. Environmental Protection Agency

Prepared by Alaska Community Action on Toxics

January 31, 2005

EXECUTIVE SUMMARY

Alaska Community Action on Toxics (ACAT) conducted a survey of waste management practices at a representative sample of Alaska village clinics and regional health care facilities. The survey is part of the work ACAT has undertaken for the U.S. Environmental Protection Agency (EPA) to help EPA determine how it can assist health care facilities in Alaska under the auspices of the Hospitals for a Healthy Environment (H2E) program.

Ten rural village clinics and ten regional health care facilities were surveyed regarding how they manage red bag wastes, discarded mercury-containing equipment, wastes containing PVS plastics, pathological wastes, cardboard, non-infectious paper wastes, laboratory chemical wastes, chemotherapeutic wastes and food wastes. They were asked what constituted their most significant problems in waste management. And they were asked how the Hospitals for a Healthy Environment could help resolve these problems.

Nearly all of the health care facilities surveyed indicated that the biggest problems they face in management of wastes are lack of options for waste management strategies and the exorbitant cost of shipping wastes to licensed waste management facilities. Costs of shipping are compounded by other problems, including lack of road access, lack of year-round water access and restrictions on shipping hazardous materials in passenger aircraft. Additional problems raised included lack of knowledge and understanding of waste management regulations and the reliance on clinic health care staff to manage wastes at rural health clinics.

Ninety percent of the village clinics surveyed burned a portion of their wastes, using either the "burn pit" at the village landfill or a burn barrel outside the clinic. Only one of the clinics surveyed—located in the community of 2,300—had an alternative waste management strategy. The clinic had applied for and received a grant to purchase an autoclave unit and now autoclaves wastes that it once incinerated.

Fifty percent of the regional health care facilities surveyed incinerate their wastes either in facility-owned incinerators or off-site incinerators. Thirty percent of the facilities use an autoclave to process a portion of their wastes, and the remaining twenty percent ship their wastes to licensed waste management facilities. Eighty percent of the facilities surveyed process wastes for other clinics and health care facilities.

None of the village clinics and only half of the regional health care facilities had any knowledge of the H2E program prior to the survey, but nearly all offered recommendations for how the program could assist Alaska health care facilities. Most of the suggestions focused on finding ways to reduce waste management costs and increasing waste management options.

INTRODUCTION

Encompassing 570,374 square miles of territory, Alaska is by far the nation's largest state, nearly one-fifth the size of the remaining 49 states combined. It has a population of 627,000, about half of which live in Anchorage, the state's largest city and transportation hub. The balance of Alaska's population resides in regional centers and small villages scattered across the state's landscape, only 25% of which are accessible to Anchorage via the state's rudimentary road and rail systems. There is no railroad line leading out of the state, and there is only one road linking Alaska to the rest of the country: the Alaska Canada—or Al-Can—Highway, a 1,422-mile partially paved road that traverses Canada's Yukon Territory and the province of British Columbia before reaching the rest of the nation's road system. Of the 21 regional hospitals and medical centers in the state, 11 are accessible on the state's road system (including those facilities located in Anchorage). Of the 205 village and community clinics in the state, 12 have road access (although access to the rest of the state's road system from two of these facilities—the clinics at Klukwan and Haines—requires crossing through Canadian territory.) The primary means of transportation within and to the state is by air and water. Alaska's transportation system, together with the state's vast size, has a profound effect on the management of wastes at Alaska's health care facilities.

Health Care in Alaska

Health care facilities in Alaska fall into one of three general categories of administration: 1) community-owned hospitals or clinics; 2) facilities administered by "Outside" corporations, that is, private entities whose corporate headquarters are based outside the state; and 3) facilities administered by Alaska Native nonprofit corporations.

In most rural communities throughout Alaska, Native nonprofit corporations administer the health care facilities. Alaska Natives have made more rapid progress in self-determination than many other Native groups in the United States. They have assumed ownership and management of the Alaska Native Medical Center in Anchorage and regional hospitals and health care facilities throughout the state, as well as rural clinics.

The boards of directors of the nonprofit corporations that administer these facilities are comprised of residents living in the region served by the corporations. Each of the corporations has at least one regional health care facility located in a regional transportation hub and several small clinics in outlying villages. Village health aides provide day-to-day non-emergency care in the village clinics and, when needed, arrange for transport of patients to regional centers or to Anchorage. Many of the health aides are bilingual, speaking English as a second language. Medical

doctors who travel from the regional health care facilities on a rotating schedule periodically visit the village clinics. The regional facilities also act as receiving centers for some portion of the village clinics' wastes.

For the larger community clinics administered by the communities in which they are located, clinic staff often includes physician's assistants, trained EMTs and/or registered nurses. Occasionally, a physician may also be on staff, but usually these clinics rely on visiting physicians who are contracted to provide medical care on a regular schedule. Clinic staff are responsible for all waste management for these larger community clinics.

SURVEYING WASTE MANAGEMENT AT ALASKA HEALTH CARE FACILITIES

In order to achieve a better understanding of the waste management problems faced by Alaska health care facilities, a survey of a representative sample of village clinics and regional health care facilities was conducted by Alaska Community Action on Toxics (ACAT), a statewide nonprofit organization dedicated to achieving environmental health and justice for Alaska's communities. The survey is part of work ACAT has undertaken for the U.S. Environmental Protection Agency (EPA) to help EPA determine how it can assist health care facilities in Alaska under the auspices of the Hospitals for a Healthy Environment (H2E) program.

The H2E program is a cooperative effort between EPA, the American Hospital Association, the American Nurses Association and environmental health organizations to educate health care professionals about pollution prevention opportunities in hospitals and health care systems. Through activities such as the development of best management practices, model plans for total waste management, resource directories and case studies, the program hopes to provide hospitals and health care systems with enhanced tools for minimizing the volumes of waste generated and the use of persistent, bio-accumulative and toxic chemicals.

Survey Methodology

A geographically diverse sample of ten regional health care facilities and ten village clinics was selected to participate in the survey. Of the ten regional facilities surveyed, three are administered by the communities in which they are located, private corporations based outside of Alaska administer three, and four are owned and operated by Native nonprofit corporations. Of the ten village clinics surveyed, two are community-owned and operated, and eight are owned and operated by Native nonprofit corporations. All but one of the villages has a population of fewer than 1,000, ranging in size from 90 to 717. The remaining community clinic surveyed is located in a town with a population of 2,298.

A list of the survey participants is attached as Appendix 1. A copy of the survey questions is attached as Appendix 2. Survey participants were asked how they managed ten types of wastes: mercury-containing instruments and materials; red bag wastes; polyvinyl chloride (PVC) plastics such as saline bags, blood bags, tubing, gloves and fluid collection bags; sharps; pathological wastes; cardboard; noninfectious paper wastes; laboratory chemicals; chemotherapeutic wastes; and food wastes. The participants were also asked to identify the significant challenges they face in managing facility wastes. And they were asked if they were familiar with the H2E program. Those that were not were briefed on the history and purpose of the program. Participants were then asked how they thought the H2E program could assist their facility. All participants were assured that their answers to the survey questions would be kept confidential.

SURVEY RESULTS

Nearly all of the health care facilities surveyed indicated that the biggest problems they face in management of wastes are lack of options for waste management strategies (e.g., no local recycling programs or local facilities for processing wastes) and the exorbitant cost of shipping wastes to licensed waste management facilities with whom they contract for disposal of hazardous and bio-hazardous wastes. (Those facilities that didn't raise shipping costs as an issue were village clinics whose operating costs are paid by their regional health care corporations.) Costs of shipping are exacerbated by other shipping limitations, e.g., lack of road access, limited seasonal (ice-free) water access for tugs and barges, and restrictions on shipping hazardous materials in aircraft carrying passengers. One of the regional facilities surveyed noted that the cost of shipping its wastes increased dramatically when the city landfill it utilized was forced to close because it was full. Now all wastes in the community, including all municipal wastes gathered from households and community businesses, are barged to Seattle for disposal.

Additional problems raised included lack of knowledge and understanding of waste management regulations and the reliance on clinic health care staff to manage wastes. While the volume of wastes in village clinics is small, village health aides were concerned that the time they spent burning and preparing wastes for shipment to processing facilities took time away from their patients.

Two of the regional facilities surveyed expressed a great deal of concern and frustration over the fact that their facility incinerators could no longer meet federal air quality standards. They felt that EPA enforcement staff was simply not exercising enough discretion and flexibility to allow them to operate their incinerators on a variance, and they felt that the agency's failure to do so had tremendous repercussions for them and the communities they served. One of the two facilities had incinerated not only its own wastes, but also wastes for all of the area's village

clinics as well as wastes for other community entities (e.g., drugs seized by the local police department.) Loss of the use of these facility incinerators has resulted in a nearly overwhelming burden of costs for shipping wastes to licensed management facilities. (Two of the other facilities surveyed whose incinerators could also no longer meet federal air quality standards purchased autoclave units and now autoclave wastes they had been incinerating.)

Village/Community Clinic Waste Management Practices

A summary of the survey results of waste management practices for village and community clinics is contained in Table 1. Only one of these clinics—the clinic serving a community of nearly 2,300 people—employs a full-time facilities manager who is responsible for overseeing waste management. Responsibility for overseeing waste management at the remaining clinics surveyed is part of the duties of the clinics' health aides.

At the nine clinics where wastes are burned, two utilize burn barrels located at the clinics. Seven clinics burn wastes in a "burn pit" at the village landfill. Only one of the clinics surveyed—the clinic located in the community of 2,300—has an incinerator. However, this incinerator no longer meets federal air emission standards and has been de-commissioned. Upon de-commissioning the incinerator, the clinic applied for and received a grant to purchase an autoclave unit and now autoclaves wastes that are then taken to the community landfill.

All of the clinics that use burn barrels or burn pits to dispose of wastes are administered by Native regional health care corporations. When questioned about the prevalence of the use of burn barrels and burn pits by village clinics, a regional clinic administrator for one of the corporations acknowledged that this is a serious problem, but expressed frustration about the lack of viable solutions. He indicated that he had sought help from the Alaska Department of Environmental Conservation (ADEC) to resolve the problem (as well as the problem of disposing of household hazardous wastes in rural villages), but ADEC "didn't have any answers and tends to turn a blind eye to hazardous waste problems in rural areas."

Another regional facility administrator from one of the coastal communities in southeast Alaska served by ADEC's Community Clean-up Program expressed tremendous support for the program and indicated it should be expanded to serve other communities. The program includes a "con-ex" HAZMAT container that the agency currently transports to coastal communities in Prince William Sound and Southeast Alaska on a regular schedule (about every six months) and uses to collect hazardous household wastes from residents in each community. Wastes from community businesses (including health care facilities) are also accepted as long as the total amount delivered from each business is less than 200 pounds.

Mercury-containing instruments and materials. All of the Native health care corporations that manage the rural clinics surveyed have established policies that call for eliminating the use of mercury-containing instruments and materials. Ninety percent of the clinics surveyed do not have wastes containing mercury.

The clinic serving the community of 2,300 is in the process of phasing out the use of mercury-containing instruments and materials, but possesses some older pieces of equipment still in use that contain mercury. This equipment is being replaced as funds allow. When the equipment is ready to be de-commissioned, it is treated as hazardous material and stored until it can be delivered to ADEC's Community Clean-up Program HAZMAT container when it arrives in town.

Red bag wastes. Fifty percent of the clinics surveyed burn red bag wastes in either a burn barrel outside the clinic or in a burn pit at the village landfill. Clinic health aides take responsibility for overseeing the burning of these wastes. One of the health aides surveyed expressed concern that these burning methods were not thorough enough and wondered what residues remained in the ashes.

The remaining clinics surveyed ship their red bag wastes to regional health care facilities or to a waste management facility with which they or their regional health care corporation have a service contract, except one clinic which autoclaves its wastes and then disposes of them in the community landfill.

Polyvinyl chloride (PVC) plastics. None of the clinics surveyed make a distinction between contaminated and un-contaminated PVC plastics when disposing of these materials. This is due primarily to the fact that the village clinics do not provide advanced health care that would involve the use of blood bags, surgical tubing and fluid collection bags. Their use of PVC plastics is for the most part limited to saline bags and surgical gloves. In the case of the one large community clinic included in the survey which does provide more advanced care, all PVC plastic wastes are autoclaved and then deposited in the community landfill.

Seventy percent of the village clinics surveyed burn their PVC plastic wastes in either a burn barrel onsite or in the burn pit at the village landfill. Twenty percent ship them to regional health care facilities for disposal.

Sharps. Ninety percent of the village clinics surveyed send their used sharps to regional health care facilities or to licensed waste management facilities with which they (or their regional health care corporation) have a service contract. One clinic autoclaves its sharps (as well as sharps brought in by out-patients) and then disposes of them in the community landfill.

Pathological wastes. None of the village clinics surveyed provide surgical services or advanced health care. Pathological wastes are therefore limited to

residual tissue and fluids and the materials used to clean up these wastes. All clinics surveyed classified these as red bag wastes. Seventy percent of the clinics burn these wastes in a burn barrel or burn pit, and twenty percent include them with red bag wastes that are shipped to regional health care facilities or contracted waste management facilities. One autoclaves them with its red bag wastes.

Cardboard. Ninety percent of the village clinics surveyed either burn their cardboard wastes or take them to the village landfill. All make an effort to re-use cardboard boxes as much as possible to reduce volume of wastes, and one facility delivers its cardboard wastes to a recycling center in a larger neighboring community to which it has road access.

Non-infectious paper wastes. All the clinics surveyed either burn their paper wastes in a burn barrel or burn pit or deposit them directly in the village landfill.

Laboratory chemicals. For the most part, laboratory chemicals used at rural clinics are limited to isopropyl alcohol and antiseptic solutions. Ninety percent of the clinics indicated they ship opened and partially used chemical containers, together with expired pharmaceuticals, to either regional health care facilities, waste management facilities or back to the manufacturer. Ten percent indicated they diluted these chemicals and poured them down the drain. One clinic indicated it diluted and poured out those chemicals that could legally be disposed of in this manner, and stored those chemicals classified as hazardous until they could be delivered to the ADEC HAZMAT con-ex container when it came to town.

Chemotherapeutic wastes. Only one of the clinics surveyed has a cancer patient for whom they manage and administer chemotherapeutic treatments. The wastes from these treatments are stored until they can be delivered to the ADEC HAZMAT con-ex container.

Food wastes. Only three of the clinics surveyed have the capacity to provide overnight in-patient care that includes providing meals. All of these clinics take their food wastes to the village landfill where it is either dumped or burned in the landfill burn pit.

Regional Health Care Facilities Waste Management Practices

A summary of the survey results of waste management practices at regional health care is provided in Table 2. All the facilities surveyed employ full-time facility waste managers.

Five of the facilities surveyed incinerate a portion of their wastes, three in facility incinerators located onsite and two in incinerators belonging to in-state waste

management firms with which they have service contracts. Three of the facilities autoclave a portion of their wastes, and the remaining two ship a portion of their wastes to waste management firms with which they have service contracts. One of these firms is located in Anchorage and the other in the Pacific Northwest.

Eight of the facilities surveyed process wastes for other clinics and health care facilities. As indicated earlier, six of these facilities are administered by Native health care corporations and process wastes from the village clinics they manage. Of the remaining two, one has the only autoclave unit in the region where it is located, so local medical and dental clinics, local veterinary clinics, clinics in the surrounding villages and the state prison clinic located nearby all bring in their wastes for autoclaving. The other facility accepts wastes from local medical, dental and veterinary clinics for processing with its wastes.

Four of the facilities surveyed used to incinerate their wastes in onsite incinerators. But all of these incinerators were decommissioned because they could either no longer meet federal air emission standards or the surrounding community complained of the smoke and smell when the incinerators were in use. One of the facilities whose incinerator was decommissioned purchased an autoclave unit and now autoclaves wastes it once incinerated. The remaining three currently ship wastes they once incinerated to waste management facilities with which they have service contracts.

Mercury-containing instruments and materials. Fifty percent of the facilities surveyed are mercury-free. The remaining fifty percent are working to become mercury-free facilities. For the most part, the mercury-containing equipment they have is comprised of older equipment that is being replaced as funds allow.

Red Bag Wastes. Half the facilities surveyed incinerate red bag wastes, thirty percent at onsite facility incinerators. Thirty percent autoclave red bag wastes and then deposit them in community landfill, and the remainder ship their wastes to licensed waste management facilities.

Polyvinyl chloride (PVC) plastics. All the facilities surveyed make a distinction between contaminated and uncontaminated PVC plastic wastes. All classified as contaminated any PVC plastics that contained or had traces of human body fluids, and they included these in their red bag wastes. Fifty percent of the facilities incinerate contaminated PVC plastics, thirty percent autoclave and then dispose of them in the local landfill, and twenty percent ship them to licensed waste management facilities.

Twenty percent of the facilities surveyed incinerate uncontaminated PVC plastics, ten percent autoclave them and dispose of them in the local landfill, and seventy percent deposit them directly in the local landfill.

Sharps. Fifty percent of the facilities incinerate their sharps, thirty percent autoclave and then dispose of them in the local landfill, and twenty percent ship them to licensed waste management facilities. Three of the facilities surveyed indicate they have programs to encourage outpatients to bring their used sharps to their facilities for disposal.

Pathological Wastes. As with sharps and red bag wastes, fifty percent of the facilities surveyed incinerate pathological wastes, thirty percent autoclave and then dispose of them in the local landfill, and twenty percent ship them to licensed waste management facilities.

Cardboard. Seventy percent of the facilities surveyed deposit their cardboard wastes in the local landfill. Only thirty percent recycle their cardboard wastes. Two of the facilities indicated they were initiating recycling programs, and one indicated that it had been using the recycling center at a nearby military base until the new contractor selected by DOD to operate the facility made the decision to end the practice of accepting wastes from off-base locations. A number of those surveyed expressed frustration at the lack of viable recycling options in their region of the state (with cost of shipment to processing facilities being the major limiting factor.)

Non-infectious paper wastes. Sixty percent of the facilities surveyed deposit their wastes in the local landfill, and forty percent recycle paper wastes. One of the facilities surveyed indicated that it recycles its papers wastes by shredding it and delivering the shredded paper to a local pig farm to be used as bedding for the farm's livestock.

Laboratory chemicals. Nine of the ten facilities surveyed provided explanations for how their facilities manage laboratory chemical wastes. Of these, twenty two percent incinerate lab chemical wastes they classify as hazardous, sixty seven percent ship hazardous lab chemical wastes to licensed waste management facilities, and eleven percent dilute them and pour them down the drain.

Eleven percent of the facilities surveyed incinerate laboratory chemicals they classify as non-hazardous, thirty three percent ship them to licensed waste management facilities, eleven percent recycle them, and 45 percent dilute them and pour them down the drain.

One of the facilities surveyed indicated it has a recycling unit for xylenes and alcohols. Another indicated that hazardous chemicals like paint solvents and formaldehyde are stored until they can be delivered to the ADEC HAZMAT con-ex container when it comes to town. Most facilities mentioned that unused chemicals are returned to the manufacturer, as are expired pharmaceuticals.

Chemotherapeutic wastes. Only eight of the ten facilities surveyed handle chemotherapeutic wastes. Of these, thirty eight percent incinerate the wastes, twelve percent autoclave them, and the remaining fifty percent ship them to licensed waste management facilities.

Food Wastes. All of the facilities surveyed offer inpatient care and provide food service. All deposit their food wastes in the local landfill. For the facility located in the community that closed its landfill because it was full, the food wastes are delivered to a municipal transfer station where they are combined with other community wastes for shipment to Seattle.

SURVEY PARTICIPANTS AND THE H2E PROGRAM

None of the village and community clinics surveyed had heard of the Hospitals for a Health Environment program prior to the survey. Three of the four Native regional Native health care facilities surveyed were familiar with the program, but indicated they had not had time to really examine the program's structure and services.

In total, half of the regional health care facilities were familiar with the H2E program, and two of the facilities specifically mentioned they had been introduced to the program by ACAT staff. Only one facility indicated that it has been an active participant in H2E ("for a couple of years"), and it has an H2E working group. It gave high marks to the H2E list-serv, citing it as one of the most valuable components of the program.

Table 1. Disposal Methods by Waste Type - VILLAGE CLINICS

Disposal methods (%) for various waste types^{1,2} by village clinics

	Red Bag Waste	PVC Contaminated	PVC Uncontaminated	Sharps	Pathological Waste	Cardboard	Paper (non-infectious)	Lab Chemicals	Food Waste ³
Clinic Burn Barrel	20	10	10		20	10	10		
Village Landfill Burn Pit	30	60	60		50	60	70		33
Ship to Health Corp	30	20	20	60	10			60	
Ship to Contract Disposer	10			30	10			10	
Ship to Manufacturer								20	
Village Landfill						20	20		67
Autoclave and Landfill	10	10	10	10	10				
Recycled						10			
Diluted in Gray Water								10	

¹ Mercury wastes handled at only one clinic; shipped to contract disposer.

² Chemotherapy wastes handled at only one clinic; shipped to contract disposer.

³ Only three clinics provide food service and have food waste.

Table 2. Disposal Methods by Waste Type - REGIONAL FACILITIES

Disposal methods (%) for various waste types^{1,2} by regional facilities

	Red Bag Waste	PVC Contaminated	PVC Uncontaminated	Sharps	Pathological Waste	Cardboard	Paper (non-infectious)	Lab Chemicals Hazardous ³	Lab Chemicals Non-hazardous ³	Chemotherapy Waste ⁴	Mercury-containing Equipment and Materials ⁵
On-site Incinerator	30	30	10	30	30			11		25	
Ship to In-state Contract Incinerator	20	20	10	20	20			11	11	13	20
On-site Autoclave and Landfill	10	10	10	10	10					12	
Ship to In-state Contract Autoclave and Landfill	20	20		20	20						
Ship to Outside Contract Waste Mngmnt. Facility	20	20		20	20			67	33	50	80
Ship to Manufacturer											
Local Landfill			70			70	60				
Recycled						30	40		11		
Diluted in Gray Water								11	45		

¹ Eighty percent of all regional facilities process waste from other facilities.

² All regional facilities provide food service and dispose of food waste in local landfill.

³ Only nine of ten facilities responded on disposal of laboratory chemicals.

⁴ Only eight of ten facilities offer chemotherapy treatment.

⁵ Fifty percent of regional facilities are mercury-free.

CONCLUSIONS AND RECOMMENDATIONS

As noted earlier, the most obvious conclusions stemming from the survey are that the costs associated with waste management and the lack of viable options for waste management strategies are the biggest challenges facing rural clinics and regional health care facilities in Alaska. These challenges are in great part a result of the relatively isolated locations of many of the facilities surveyed, the nature of the state's transportation infrastructure, and the remoteness of Alaska from the rest of the country.

When asked how the H2E program might assist them in addressing the waste management problems they face, survey participants offered the following recommendations:

- 1) ADEC's Community Clean-up program should be supported and encouraged to expand so it can serve more communities and handle larger volumes of small business wastes, including community health care facility wastes.
- 2) Provide information and assistance in helping communities identify grant programs that could be utilized to improve waste management (e.g., a grant to help a facility purchase an autoclave unit to replace its incinerator.)
- 3) Provide a contact person village health aides and rural clinic staff can call with questions about hazardous wastes.
- 4) Provide a waste management expert (not an enforcement officer) that could periodically visit rural clinics to survey waste management practices and offer suggestions and assistance in making improvements.
- 5) Help develop more economical ways for villages to transport wastes to appropriate facility for disposal.
- 6) Assist in finding funding to develop better wastes management systems for rural clinics' wastes (as well as other hazardous household wastes in rural villages.) "Smart ash" incinerators are used in larger communities, but there are problems with these. "We need to find better solutions."
- 7) Assist regional health care facilities in developing more cost-effective, safe and efficient strategies for managing wastes on-site. Shipping large volumes of wastes off-site is simply not a strategy that's sustainable. Regional facilities need ideas for how to manage wastes at their facilities, with very little shipped off-site. "We live in a vacuum up here and don't always know how to access information about the latest technologies. We could use some help on this."

- 8) Develop a rural outreach program for providing training in waste management to rural clinic staff who often lack knowledge about and understanding of what RCRA is and how it applies to them, what constitutes hazardous wastes and how these must be handled. RCRA training courses commonly have tuitions ranging from \$1,500-2,000 for a week of training in addition to travel costs. Participating in such a course just isn't feasible for village clinics and even many regional health care facilities.
- 9) Familiarize the Alaska Native Tribal Health Consortium with the H2E program and encourage them to become active participants. This is the organization that could best assist in determining how the H2E program can benefit rural clinics.
- 10) Assist in developing alternatives for waste management for facilities that have had to decommission their incinerators.
- 11) Help develop alternatives for wastes that don't fit into existing management strategies, e.g., small amounts of expired iodine, silver compounds, opened and expired pharmaceuticals and other compounds that ADEC won't take in their Community Clean-Up Program.

APPENDIX 2. Survey Questionnaire

Hospitals for a Healthy Environment Waste Management Survey for Alaska Health Care Facilities

Alaska Community Action on Toxics is currently working to promote a program called Hospitals for a Healthy Environment (H2E) in coordination with various hospitals and medical facilities around the state. A primary goal of the program is to provide hospitals and health care systems with enhanced tools for minimizing the volumes of waste generated and reducing the use of persistent, bioaccumulative and toxic chemicals.

Your facility has been selected to help us gather information on waste management across the broad spectrum of health care facilities in Alaska. Your participation in our survey is very much appreciated. We will contact you to discuss your answers to the following questions:

- 1. What entity/organization administers your health care facility?**
- 2. How does your facility manage the following types of waste?**
 - a. Mercury-containing instruments and materials**
 - b. Red bag wastes**
 - c. Polyvinyl chloride plastics (PVC), such as blood bags, tubing, gloves, fluid collection bags**
 - d. Sharps**
 - e. Pathological waste**
 - f. Cardboard**
 - g. Non-infectious paper waste**
 - h. Laboratory chemicals**
 - i. Chemotherapeutic waste**
 - j. Food wastes**
 - k. Any other wastes that you are addressing?**
- 3. Do you incinerate on site and if not, where do you send wastes for incineration? How did you choose an incineration facility?**
- 4. What wastes are incinerated?**
- 5. What wastes are sent to the landfill?**
- 6. What are some challenges related to waste management that may be unique to tribal or rural facilities?**

7. Have you heard about Hospitals for a Healthy Environment (H2E) and if so, how did you first learn about H2E?

- **Are there any issues that are not being addressed by H2E?**
- **Are there issues for which H2E-offered solutions would not work for you? If so, what are the issues, and why would the solutions not work?**

8. How can H2E best assist Tribal/Rural health care facilities?

- **Special discussion group dealing with these issues?**
- **Products/solutions that address special needs?**
- **Other suggestions?**