METHODS

Goals
To help address the alarming results from the survey and other feedback, the program developed a plan intended to achieve:
- Increased awareness of disposal methods,
- Increased availability of disposal equipment and materials,
- Increased community-based partnerships, and
- Decreased unused or expired medications in the home environment.

The Plan
1. Determine disposal knowledge, attitudes, and behaviors
   - EPHS #2-Diagnose and investigate health problems and health hazards in the community
2. Educate on available disposal options and proper procedures
   - EPHS #3-Inform, educate, and empower people about health issues
3. Determine new or improved options to increase the disposal of unused or expired medications
   - EPHS #10-Research for new insights and innovative solutions to health problems
4. Establish partnerships with state and local health programs to connect tribes with disposal equipment and material
   - EPHS #1-Link people to needed personal health services and assure the provision of health care when otherwise unavailable
5. Partner with community-based health programs to design and implement new or improved Rx disposal processes
   - EPHS #5-Develop policies and plans that support individual and community health efforts
6. Design and distribute program evaluation tools for the new or improved processes.
   - EPHS #6-Evaluate effectiveness, accessibility, and quality of personal and population-based health services.

RESULTS

The program developed several partnerships between tribes and state and local health programs to implement pilot interventions based on the interview feedback.

Drug de-activation pouches
When used properly, medications can be disposed of safely in the clinic or home environment using de-activation pouches. Medications can be placed into these pouches with warm water and then discarded in the domestic trash. The pouches use water activated carbon powder that neutralizes the medications and makes the contents environmentally friendly to dispose of in the domestic waste stream. Through state partnerships, over 1,700 pouches have been obtained for tribes.

Medication drop boxes
These drop boxes are collection receptacles with pre-paid ship-back liners designed for DEA licensed facilities. These drop boxes are collection receptacles with pre-paid ship-back liners designed for DEA licensed facilities. Patients can drop their expired or unused medications into these boxes similar to a mailbox. Three facilities have installed drop boxes.

DISCUSSION

Program costs
- There are many variations of the products used for this project available through GSA or open market.
  - Drug de-activation pouches can typically be purchased for $10 ea. One large pouch can deactivate ~90 pills.

- Medication drop boxes can be purchased through GSA. The average start-up cost is ~$1500. The annual maintenance costs, which includes shipping and disposal of discarded medications is ~$300-$500 per year.

Conclusions
We have seen a great response from our tribal communities interested in learning more about the various methods to improve safe medication disposal. This project delivered a heightened awareness of medication disposal options to community-based health workers and those they serve.

Next Steps
We are continuing to expand the partnerships to build on early successes in Arizona and Nevada as we work with California and Utah public health programs to extend our outreach to more tribal communities in need.

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- IHS Division of Environmental Health Services staff