

EXECUTIVE SUMMARY

The Alameda County Safe Medication Disposal Initiative was founded in response to a growing need for preventative strategies that address substance abuse in seniors citizens in 2007. Focus groups, organized by Community Prevention of Alcohol & Drug Related Program (COMMPRE), revealed that a leading issue is the challenge of the mix of prescription drugs and alcohol. A workgroup was established devoted to preventative public health solutions. These entailed access to safe medication disposal sites and a sustainable funding mechanism. The Safe MEDS Workgroup brought together over 30 diverse stakeholders to establish and implement program goals. This report summarizes the work from 2007-2014 on this initiative. Also included are an assessment of the results and recommendations for ongoing improvement.

In 2009, once the Alameda County Safe Medication Workgroup (Safe MEDS Workgroup) clarified the emergence of safe medicine disposal as the primary issue, the workgroup then turned to the task of identifying locations for take-back sites and coordinating a countywide effort. At that time, only 10 sites were operating within the Safe MEDS Workgroup jurisdiction. As of 2014, 31 take-back sites are currently in operation in the county, fiscally overseen by 11 local agencies. These take-back sites include pharmacies, household hazardous waste centers, medical clinics, hospitals, senior centers, recycling centers, fire stations, police stations, office buildings, and a public works center. Six medical waste disposal companies are responsible for collecting the medicines accumulated in the take-back bins and safely transporting this waste for disposal in approved incinerators.

In terms of total volume of medicines collected and disposed, in 2009 just 473 pounds were reported from one site. By 2013, the most recent year accounted for, 12,564 pounds were collected and disposed, with an average of 449 pounds per site. Since not all sites report total pounds collected, this average weight per site was used to extrapolate the total collection weight, 13,919 pounds for the program in 2013. The largest collection sites are the Alameda County Sheriff's Station (1100 pounds), Eden Medical Center (1036 pounds), Washington Hospital (960 pounds) and Ted's Pharmacy (936 pounds). The sites reporting the smallest weight collected were the City of San Leandro Public Works (56 lbs) and Medical Arts Pharmacy (169 lbs). Total costs of disposal grew annually as larger accumulations of medicine were collected. In 2013, the extrapolated costs of disposal are \$27,838, with an average costs per pound of \$2.00, down from \$2.51 per pound in 2009.

Educational outreach was assessed through a survey and follow-up phone calls. As more sites opened, program operators provided consumers with announcements and direct mailing outreach. On-going promotion relies heavily on website listings with occasional annual notification in newsletters inserted in monthly bills mailed to local residents.

In an effort to assess who is using the program, a voluntary survey was completed by site users. With 62 responses to the survey received from nine sites, the take-back participants identified by age as this: 20% aged 26 and 40, 40% aged 41 to 65, and 40% over 65. 65% of respondents were women, 22% male and 13% declined to identify their gender. Household annual income was reported as 28% earned under \$30,000; 21% earned income between \$31,000 and \$50,000; 4% reported earning an annual household income between \$51,000 and \$70,000; 28% earned between \$71,000 and \$105,000; and 19% of users earned an annual income above \$105,000. 98% of respondents currently have health insurance.

Another survey result indicated how many persons are represented in relations to the medicine delivered in a single return. 56% of the respondents were returning medicine for only one person; 27% were returning medicine for two people; 15% were returning for three persons; and 7% were returning for four or more than four persons. The number of persons in the household returning medicine was as follows: 24% with a single person household; 29% for two persons household; 8% have three persons in the household; and 10% have four members in their household. The percentage of respondents returning for a deceased person was 23%.

Other program deliverables included two educational conference events, one in 2011 and another in 2013. In 2012, the Alameda County Safe Medicine Disposal Ordinance was adopted by the Alameda County Board of Supervisors, which became law in May 2014. While a legal challenge is pending in the United States Court of Appeals 9th Circuit, currently approximately 180 pharmaceutical manufacturers have adopted the newly formed Pharmaceutical Product Stewardship Work Group (PPSWG) as the agency responsible for working with the Alameda County Environmental Health Department to create and implement a stewardship plan that complies with the regulatory framework developed for the Alameda County Safe Medicine Disposal Ordinance.

The overall assessment offers the following of the key insights and recommendations:

- Establishing one centralized agency to oversee a countywide program would minimize operational overlap and thus improve collection efficiency.
- With roughly 51% of the county citizens within close proximity to a take-back site, new sites are necessary for residents that lack easy access to take-back sites.
- Establishing new sites in larger medical institutions, such as hospitals, would likely provide the most efficient and effective results.
- Educating pharmacists would likely improve collection rates in pharmacies and educating health executives, health professionals in primary care and end-of-life caregivers will likely improve program outcomes.
- Centralizing management would simplify the waste collection system and drive cost of disposal down.

In keeping with on-going transition in national regulatory agencies, including the United States Drug Enforcement Agency and the United States Environmental Protection Agency, there will likely be modifications to the current design and implementation of the Alameda County Safe Medicine Disposal Program. Whether the Alameda County Safe Medicine Disposal Ordinance is upheld or overturned, it is likely that the results of total medicine collected and safely disposed will continue to climb. While great progress now shows in the fact that roughly 50% of citizens of the county live in close proximity to a take-back location, continued development of new take-back locations is necessary, to continue this welcome trend toward increased collection quantities of unused and unwanted household pharmaceutical waste. Costs of disposal too will likely continue to trend downward.

In summary, overall, the Alameda County Safe Medication Disposal Initiative and the Safe MEDS Workgroup together have successfully brought about an innovative public health service that continues to remove unwanted medicine waste from households with the benefit of reducing accumulations of unused medicines in homes throughout the county. This initiative, program, and ordinance serves as a model for grass-root efforts to further develop public health policy in other municipalities.