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Vaccine

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Frequency and causes of vaccine wastage

Sabeena Setia ^a ... Bruce G Weniger ^a  

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Abstract

Assessing the frequency of vaccine wastage and the relative magnitude of its various causes may help to target efforts to reduce these losses and to husband funds for increasingly expensive vaccines. *Methods:* As a preliminary overview of wastage in the United States, 64 public-sector state and local health department immunization programs were polled in 1998 and 1999 for wastage recording practices. Actual wastage data were collected from a non-random subset of five states. Data on returns of wasted vaccine to manufacturers were analyzed from routine national biologics surveillance and from an ad-hoc survey. Excise tax credit requests for such returns between 1994 and 1999 were reviewed. *Results:* Rates of wastage among the five states ranged from about 1 to 5% in 1998, with an overall rate of 2.6% among 57 immunization programs in 1999. Categories of wastage used by the health departments varied widely, with overlapping classifications. The major causes appeared to be refrigeration (cold chain) lapses, followed by expiration. Overall rates of vaccine returns varied up to 8% by manufacturer, and from 1 to 50% by vaccine type, with higher return rates generally found for lesser used vaccines. *Conclusions:* If these wastage estimates of 1&5%

found for lesser-used vaccines. **CONCLUSIONS.** If these wastage estimates of 1%–5% applied nationally, in 1998 there would have been approximately US\$ 6–31 million worth of unused vaccine in the public sector alone. The two most common forms of wastage reveal the potential value of developing vaccines with improved heat stability and longer shelf lives. We propose six main classifications of vaccine wastage for use in routine monitoring and reporting.



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Keywords

Wastage; Cold chain; Expiration

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