

Safety of injections

WHO-UNICEF policy statement for mass immunization campaigns

- 1 The reuse of standard single-use disposable syringes and needles places the general public at high risk of disease and death.
- 2 The auto-destruct syringe¹ presents the lowest risk of person-to-person transmission of bloodborne pathogens because it cannot be reused. The auto-destruct syringe is (a) the preferred type of disposable equipment for administering vaccines; and (b) the equipment of choice for conducting mass immunization campaigns.
- 3 "Safety boxes"², puncture-resistant containers for collecting and disposing of used disposable and auto-destruct syringes, needles and other injection materials reduce the risk posed to health staff and the general public by contaminated needles and syringes.
- 4 For all elective and emergency mass campaigns, vaccines must, as a rule, be systematically supplied together with auto-destruct syringes and safety boxes as a "bundle" (see box, page 2).
- 5 All donors supporting immunization campaigns are requested to finance not only the vaccines but **the safe administration of the vaccines** by planning and implementing the "bundling" strategy with each purchase.

WHO and UNICEF recommend that auto-destruct syringes and safety boxes are used in all elective and emergency mass immunization campaigns. Donors are requested to "bundle" the supplies: vaccine, auto-destruct syringes and safety boxes.



¹ Designed to give a single standard dose of vaccine after which the syringe blocks permanently, preventing further use of contaminated syringes. The needles are either fixed or standard, but non-detachable, to prevent re-use (WHO/EPI Standard Performance Specification E8/DS1).

² Designed to collect and transport syringes and needles (without caps) safely, to minimize the risk of accidental needle-stick. The safety boxes are supplied flat-packed for simple, one-step local assembly and should be incinerated with the load of contaminated syringes and needles (WHO Standard Performance Specification E10/IC.1 or E10/IC.2).



The term "bundling" has been chosen to define the concept of a theoretical "bundle" which must comprise each of the following items:

- Good quality vaccines
- Auto-destruct syringes
- Safety boxes.

The implication is that none of the component items can be considered alone; each component must be considered as part of a "bundle" which contains the other two. "Bundling" has no physical connotation and does not imply that items must be "packaged" together.

Background

Information reaching WHO and UNICEF consistently highlights the widespread occurrence of unsterile injection practices and points to insufficient supplies of syringes and needles as a major cause. Unsafe injections can result in the transmission of bloodborne pathogens from patient-to-patient, patient-to-health worker and, more rarely, health worker-to-patient. The community at large is also at risk when injection equipment is used and then not safely disposed of. In many instances, used equipment is reused, sold or recycled because of its commercial value.

During 1996, in the developing world, routine immunization of children under one year and immunization of women of childbearing age with tetanus toxoid (TT) accounted for nearly 800 million injections. In addition to routine immunization, emergency disease-outbreak control operations delivered more than 240 million injections in the same year.

As part of the drive to eliminate neonatal tetanus as a public health problem, 74 million women are being targeted in high-risk areas of developing countries. This will generate, by 1999, an estimated 220 million injections in special immunization activities.

By the turn of the century, hepatitis B vaccine should be in use worldwide and new vaccines should be in the process of being introduced into immunization programmes. Acceleration of special activities aiming at better measles control will be in progress. Elective mass immunization will potentially target about 3.1 billion children under 15 years of age by the year 2005.

These increases in immunization services, including elimination and eradication campaigns, offer an opportunity for improvement and make it imperative that injections are made safe for the people. Over the past years, WHO and UNICEF have launched a number of initiatives which aim to improve the safety of injections; these include the introduction of steam sterilizers, development of auto-destruct syringes, development of training materials and courses.

As part of an overall strategy to further improve the safety of immunization injections and emphasize the need for "one sterile syringe and one sterile needle for each injection", it is essential to prevent the reuse, within or outside the health sector, of large numbers of the syringes introduced into countries for mass campaigns.

WHO and UNICEF have agreed to implement a strategy to assure that special attention is paid to the safe administration of vaccines during mass immunization campaigns. The policy statement (*on page 1*) defines the position of WHO and UNICEF.

Costs

Indicative costs for the safe administration of vaccines most commonly used in immunization campaigns are listed below. Each estimate includes the cost of one dose of vaccine (in 20 or 50 dose vials), one auto-destruct syringe (about 10 cents), and a fraction of the cost of the safety box (less than US\$ 1.00 for 100 syringes).

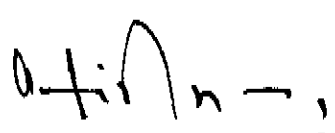
Vaccine	Cost of a safe administration (US \$)
TT	0.16
Measles	0.26
DTP	0.19
Td or DT	0.18
Yellow fever ¹	0.27-0.31
Meningitis ¹	0.31-0.41
Hepatitis B ²	0.65- 0.85

¹ Price range calculated from lowest and highest bids to UNICEF.


² The WHO/Expanded Programme on Immunization does not recommend campaigns with hepatitis B but some countries may decide to do catch-up campaigns for a target-age group after the introduction of the vaccine in the routine immunization programme.



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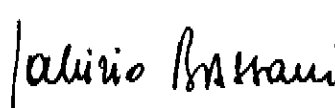
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Ordering code: WHO/EPI/LHIS/97.04

Printed: November 1997

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