



WHO Policy on Safe Injections and Safety Injection Equipment

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- **Injection Safety as a global problem**

History

What is injection safety?

Magnitude of the problem due to unsafe injections

- **WHO/SIGN tools and guidelines on safe injections**
 - **Making all injections safe – a new WHO policy to reduce unsafe injections**
 - **Safe injection devices**
 - **Resources**
-

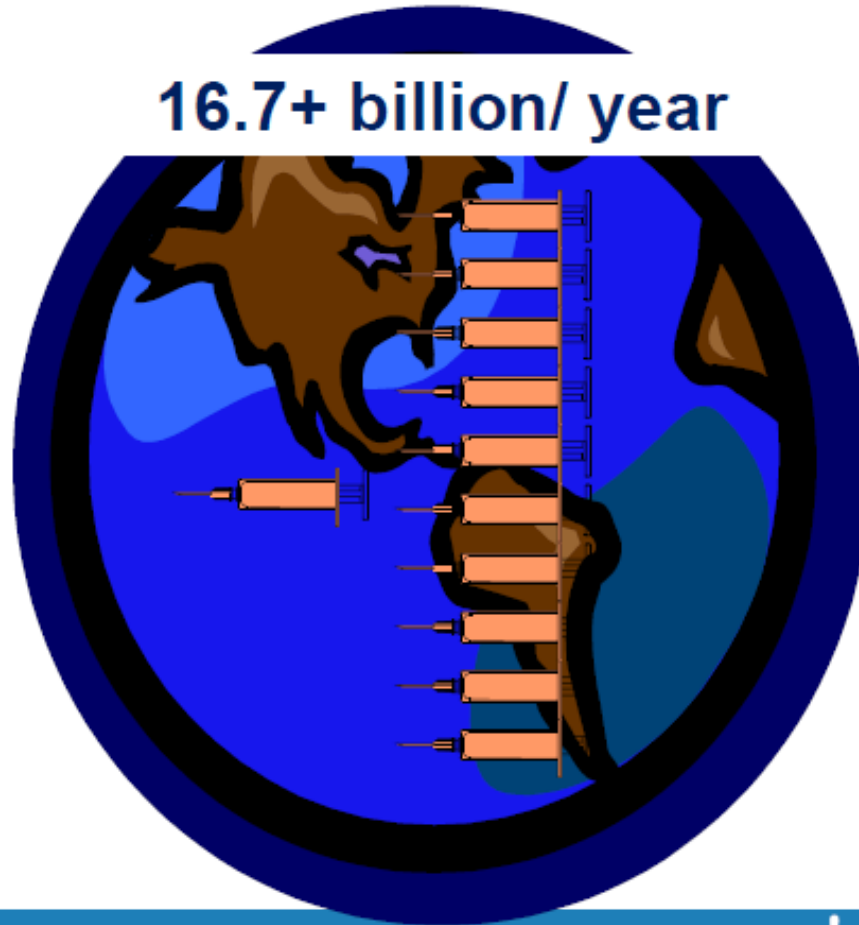
- Blood-borne pathogens recognized
>100 years later:
 - 1940's (Hepatitis B virus)
 - 1980's (HIV, Hepatitis C virus)
- Syringes and needles first introduced
around 1853
=> symbol of modern medicine



Use of injections worldwide

16.7+ billion/ year

**Immunization
injections
5% to 10%**



**Therapeutic
injections
90 to 95%**

Risks Associated with Unsafe Injection Practices

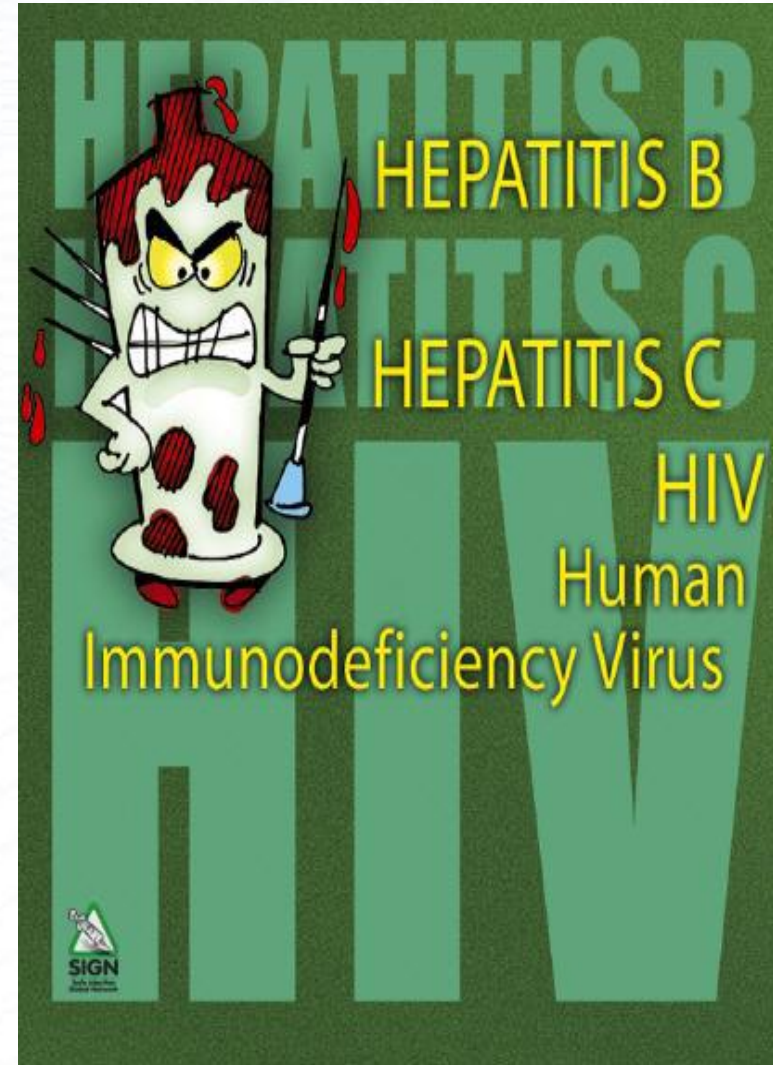
Transmission of infections:

- Viral
- Bacterial
- Fungal
- Parasitic

Injuries:

- Nerve damage
- Muscle damage
- Drug reactions

Drug reactions



Unsafe injections: Attributable Infections 2000 & 2010

2000*

■ Hepatitis B

- 21 million infections
- 30% of new cases

■ Hepatitis C

- 2 million infections
- 41% of new cases

■ HIV/AIDS

- 260 000 infections
- 5% of new cases

2010**

> 1.7 million infections

> 315 000 infections

> 33 800 infections

*WHO Global Burden of Disease study 2000 (Hauri AM et al. Int J STD and AIDS 2004;15: 7-16)

** Pépin J, Abou Chakra CN, Pépin E, Naultv, Valiquette L (2014) Evolution of the Global Burden of Viral Infections from Unsafe Medical Injections, 2000-2010. PLoS ONE 9(6):e99677. Doi:10.1371/journal.pone.0099677

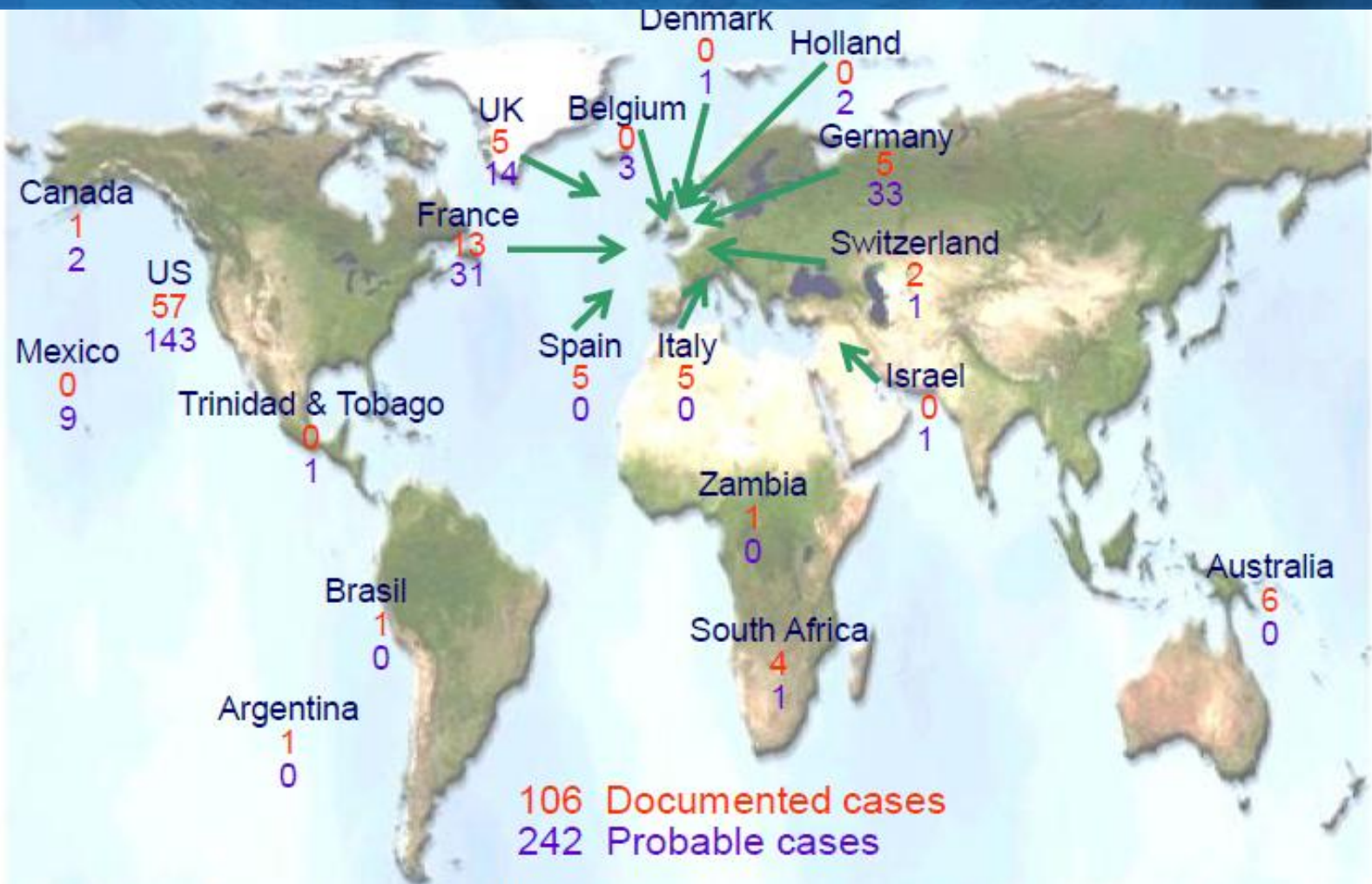
Sharps Injuries: an Occupational Hazard

- Sharps injuries are a hazard:
 - Increased risk for bloodborne virus transmission
 - Cost to workers and healthcare system
- Healthcare workforce worldwide- **35 million**
 - 2 million needlestick injuries in HCWs incur annually
- Resulting:
 - 40% of the hepatitis B and C infections
 - 2.5% of the HIV





Occupational HIV Infection: (US, through 2010* and outside US, through 2002**)



*CDC Surveillance of Occupationally Acquired HIV/AIDS in Healthcare Personnel
**Summary of Published Reports; Health Protection Agency Centre for Infections & Collaborators; 2005

Unsafe injections: Magnitude of the problem

- **The Cost of Unsafe Injections Worldwide**
 - 1.3 million early deaths
 - Loss of 26 million years of life
 - Annual burden of US\$ 535 million in direct medical costs
- **Over 70% of injections are unnecessary in some regions**



Rationale behind overuse of Injections

- **Wrong beliefs** that injections...
 - are more effective
 - act fast
 - cut short duration of therapy
-

Needle stick injury: the main driver of unsafe injections

- **DEFINITION:**
 - Wounds caused by contaminated needles that accidentally puncture the skin exposing the person to blood borne pathogens
- **HAPPENS DURING**
 - Recapping
 - Improper disposal
 - Administering injections
 - Drawing blood
 - Handling of waste & dirty linen



A SAFE INJECTION:

- ✓ *does not harm the recipient,*
- ✓ *does not expose the health care worker to any avoidable risk,*
- ✓ *does not result in any waste that is dangerous for the community*



WHO Injection Safety programme and SIGN:

- In 1999 WHO:
 - launched an Injection safety programme
 - decided to host the Secretariat of the Safe Injection Global Network (SIGN)
- With The Goal to:
 - Advocate for Injection Safety as a **BASIC** patient safety component
 - Ensure that injection safety is part of **minimum standards for health care delivery**
 - in all settings
 - In all parts of the world !





The 3 objectives of the WHO Injection Safety programme:

1. Patient Safety

- prevention of reuse of injection equipment
- reduction of unnecessary injections

2. Health Workers' Safety

- needle stick injury prevention (training, safety engineered devices, sharps boxes)
- hepatitis B vaccination,
- provision of Post Exposure Prophylaxis (PEP) in case of needle stick injury

3. Community Safety

- safe sharps waste management
-

- **Behavior change** among patients and health care workers to **decrease injection overuse and achieve injection safety**
- **Availability** of necessary and **of good quality** injection devices and supplies
- **Management** of sharps waste





WHO/SIGN tools and guidelines on safe injections

1. Policy:

- **Data for evidence-based decision making**
 - Assessment tools: injection safety, HCWM
 - GBD related to unsafe injections
- **Policy Management tools**
 - Aide memoires injection safety, Health care workers safety, Health care waste management, infection control
 - Managing an injection safety policy
 - Behaviors change strategy

2. Quality & Safety:

- **ISO standards / specifications for single use injection devices**
- **WHO pre-qualification scheme for injection devices and other technologies**
- **WHO Product Quality and Safety (PQS) standards for safety boxes, needle removers, cold chain equipment**



POLICY PAPER

World Health Organization

Safe health-care waste management

1. Introduction

2. Objectives and scope of the policy paper

3. Key messages

4. Recommendations

5. Conclusions

6. References

7. Annexes

8. Acknowledgements

Health care worker safety

AIDE-MEMOIRE

for a strategy to protect health workers from infections with bloodborne viruses

Checklist:

- Universal Precautions
 - High-vacuum sharps disposal container
 - No needle recapping
 - Safe sharps disposal
 - Sharps disposal containers
 - Washing and decontamination
 - Covering cuts and abrasions
 - Safe sharps disposal
 - Management of sharps disposal
 - Sharps disposal containers
 - Sharps disposal containers
- Personal protection
 - Gloves
 - Goggles
 - Gowns
 - Masks
 - Hand hygiene
 - Footwear
- Environmental hygiene
 - Disinfection
 - Waste management
 - Sharps disposal
 - Needle removal
 - Needle disposal

Words of caution:

- Seek and response in infection control committee
- Use appropriate disinfectants and procedures
- Infection control committee should have the authority to suspend the provision of services
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WHO/SIGN tools and guidelines on safe and appropriate use of injections

3. Access:

- Ensure continuous availability of injection equipment and safety boxes
- Stock management and financing mechanisms

4. Use:

- promote rational, cost effective and appropriate use of injections
- Injection safety standards:**

World Health Organization

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Injection safety

Injection safety

Newly published

WHO Guidelines on drawing blood: best practices in phlebotomy

Phlebotomy uses large, hollow needles to remove blood specimens for lab testing or blood donation. Each step in the process carries risks - both for patients and health workers. Patients may be bruised. Health workers may receive needle-stick injuries. Both can become infected with bloodborne organisms such as hepatitis B, HIV, syphilis or malaria. Moreover, each step affects the quality of the specimen and the diagnosis. A contaminated specimen will produce a misdiagnosis. Clinical errors can prove fatal.

The new WHO guidelines provide recommended steps for safe phlebotomy and reiterate accepted principles for drawing, collecting blood and transporting blood to laboratories/blood banks.

Full document

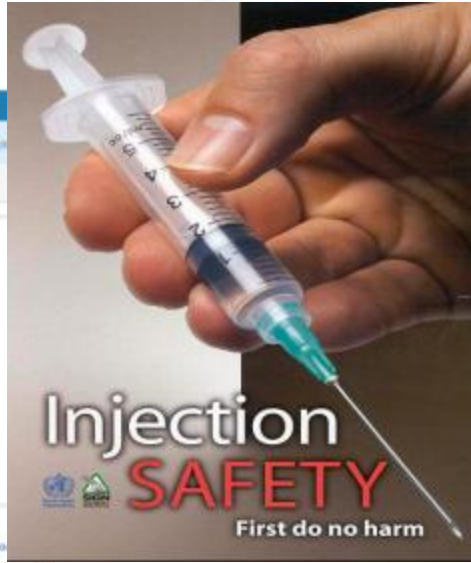
Job ads

WHAT'S NEW

SIGN 2010 meeting report

NEW DOCUMENTS

WHO Guidelines on drawing blood: best practices in phlebotomy



GUIDING PRINCIPLES TO ENSURE INJECTION DEVICE SECURITY

WORLD HEALTH ORGANIZATION

BACKGROUND

Injection safety is the most common health care practice worldwide. In developing and emerging countries, the use of unsafe injection devices is widespread. Each year, 10 million people die as a result of unsafe injections, with 1.5 million children under the age of five. Unsafe injections are a major cause of morbidity and mortality in low-income countries. The use of unsafe injection devices is a major public health problem. A safe injection device is one that is designed to be used in a way that minimizes the risk of infection and injury to the patient and health worker. The use of unsafe injection devices is a major public health problem. A safe injection device is one that is designed to be used in a way that minimizes the risk of infection and injury to the patient and health worker.

INJECTION DEVICE SECURITY

In order to use injection devices, users should follow the following guidelines:

- Use only sterile injection devices
- Do not reuse injection devices
- Do not use injection devices that are damaged
- Do not use injection devices that are expired

The use of unsafe injection devices is a major public health problem. A safe injection device is one that is designed to be used in a way that minimizes the risk of infection and injury to the patient and health worker.

RECOMMENDATION

WHO recommends that injection device security is achieved through safe practices, in line with the following principles:

- Use only safe injection devices
- Do not reuse injection devices
- Do not use injection devices that are damaged
- Do not use injection devices that are expired

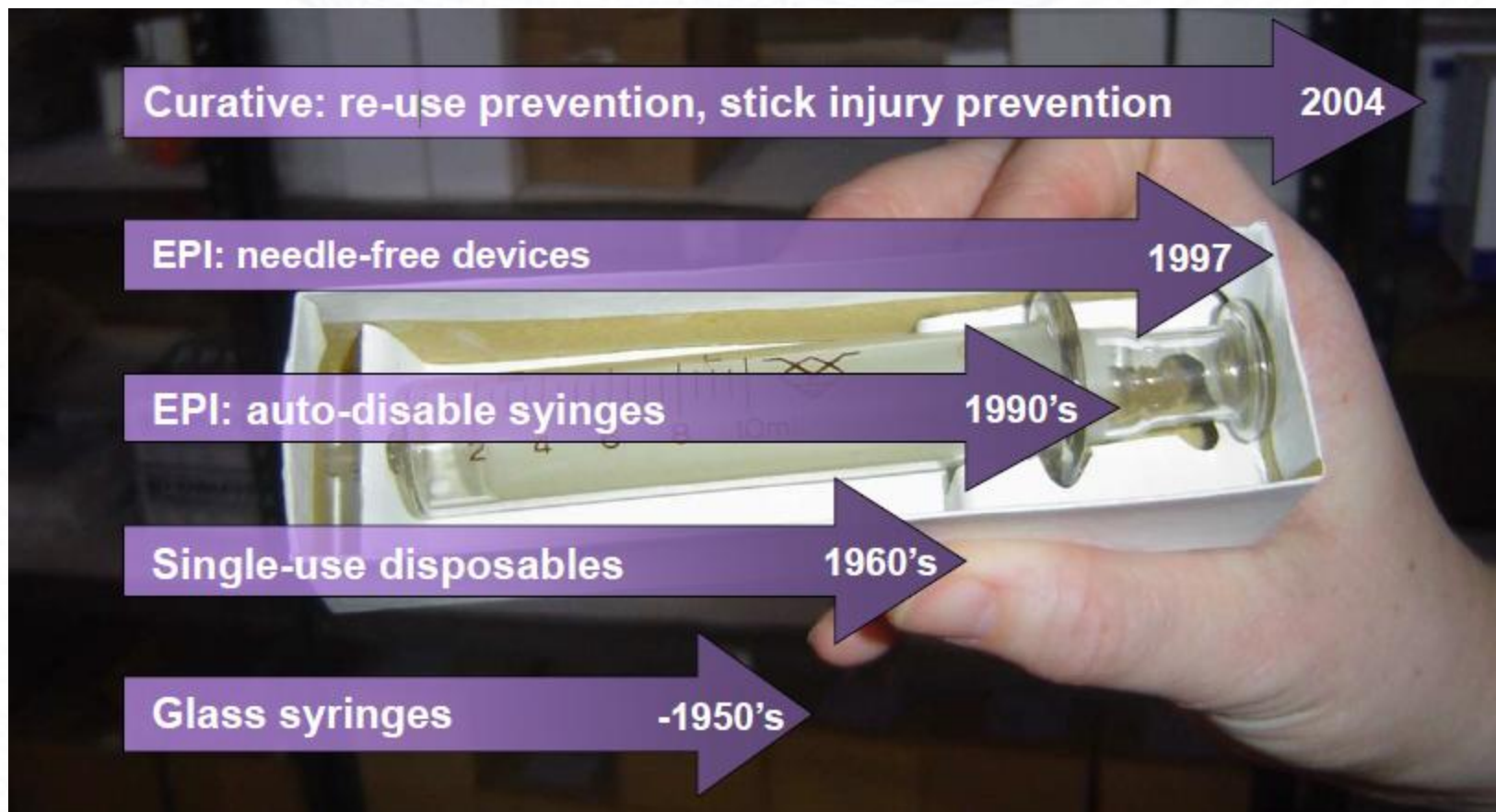


Making all injections safe

A new WHO
policy and
strategy
to reduce the
unsafe
therapeutic use of
Injections
(2015)

http://www.who.int/injection_safety/global-campaign/en/

History of progress: access to devices



Bundling immunization supplies:

- Vaccine
 - for vaccination
 - for reconstitution
- Adequate injection equipment
 - for vaccination
 - for reconstitution
- Equipment for safe disposal of used syringes

Safety of injections

WHO-UNICEF-UNFPA joint statement* on the use of auto-disable syringes in immunization services

1. The reuse of standard single-use disposable syringes¹ and needles places the general public at high risk of disease and death.
2. The auto-disable syringe, which is now widely available at low cost, presents the lowest risk of person-to-person transmission of blood-borne pathogens (such as Hepatitis B or HIV) because it cannot be reused. The auto-disable syringe is the equipment of choice for administering vaccines, both in routine immunization and mass campaigns.
3. "Safety boxes", puncture-proof containers - for the collection and disposal of used disposable and auto-disable syringes, needles and other injection materials - reduce the risk posed to health staff and the general public by contaminated needles and syringes.
4.
 - WHO, UNICEF and UNFPA reaffirm the current policy that auto-disable syringes, vaccines and safety boxes should continue to be supplied as a "bundle" (see box, page 4) for all elective and emergency campaigns.
 - UNICEF reaffirms its current policy that UNICEF programme funds cannot be used to procure standard disposable syringes for any immunization purpose.
 - UNICEF announces that, as of 1 January 2001, no procurement service contracts² for standard disposable syringes will be entered into.
 - WHO, UNICEF and UNFPA urge that, by the end of 2001, all countries should use only auto-disable syringes or syringes which are designed to be sterilized. Standard disposable syringes should no longer be used for immunization.
 - WHO, UNICEF and UNFPA urge that, by the end of 2003, all countries should use only auto-disable syringes for immunization.
5. All partners of immunization services are requested to finance not only the vaccines, but also the safe administration of vaccines, auto-disable syringes and safe management of waste. Partners should do this by planning and implementing the above strategy, as well as by supporting related training, supervision and sensitisation activities.

*This joint policy statement revises and replaces the document WHO-UNICEF policy statement for mass immunization campaigns, WHO/EPI/HS/97.04 Rev.1. It is issued by the World Health Organization, Geneva, Switzerland (Department of Vaccines and Biologicals), the United Nations Children's Fund (UNICEF Programme Division, New York, USA) and UNICEF Supply Division, Copenhagen, Denmark) and the United Nations Population Fund, New York. This policy is also the adopted practice of the International Federation of Red Cross and Red Crescent Societies in their operations.



Main objective: to promote rational and safe use of injections in therapeutic settings

- **Reduce re-use of syringes**, especially in curative injections
 - **Reduce overuse of injections** and promote rational use
 - **Ensure sufficient supply** availability through procurement channels and improved planning
-



New WHO Policy: Key Elements

- ✓ **Transition to AD/RUP/SIP devices** for both immunization and therapeutic injections
 - ✓ Develop standards for **rational use and supply of standard disposable syringes** where they remain necessary
 - ✓ Call to partners to **fund procurement** of safety engineered injection devices in all projects
 - ✓ Call to **industry to switch** to "safe" syringes
 - ✓ Call to countries to develop **national policies and implementation strategies**, with special focus on curative settings
-

Safe injection devices for immunization injections

- **WHO recommends:**
 - Auto-disable (AD) syringes
 - Safety boxes
- **Overall Market Trends for Injection Devices**
 - Supply meets demand
 - Prices are generally decreasing
 - Increased competition from developing countries.
- **Are AD syringes an answer to all injection safety issues?**
 - **NO**, prevent reuse but **not needle stick injuries**
 - **Active disabling mechanisms allow syringe reuse**



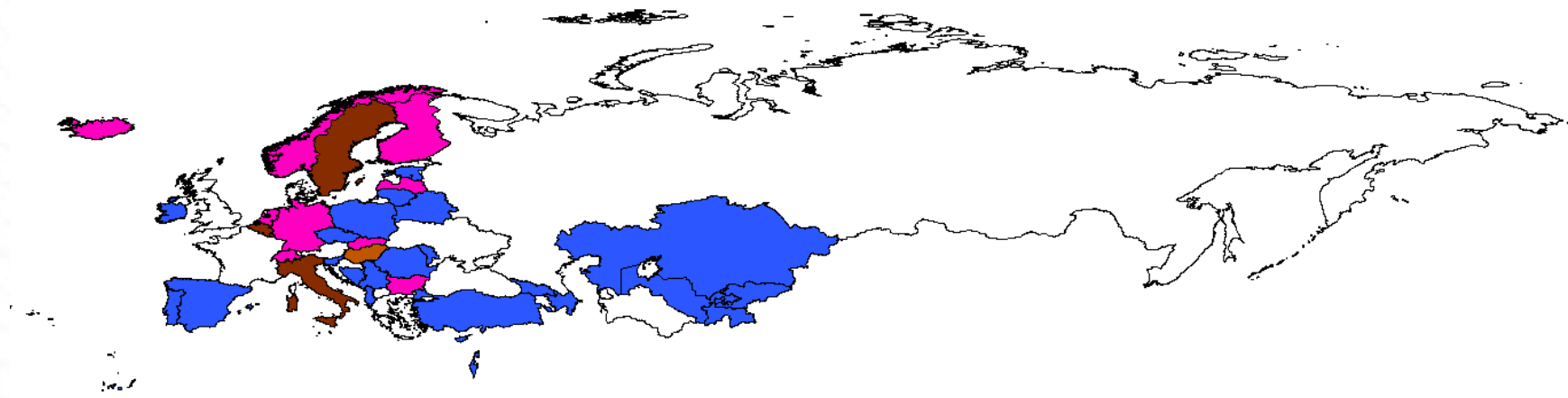
Safe injection devices:

- Over 20 WHO approved AD syringes
 - (Belgium, China, Denmark, Germany, India, Indonesia, Italy, Korea, Malaysia, N. Ireland, Singapore, Spain, UAE, USA, Vietnam)



Auto-disable (AD) syringes were used for routine immunization in 2010

- Yes = 18 (35%) countries
- No = 17 (33%)



UV Legend - C_6520
■ No
■ Yes
■ HULL
■ HR



Re-use prevention syringes (RUP) & Sharps injury protection syringes (SIP)



ISO definitions	Description
<p>ISO 7886 “Sterile hypodermic syringes for single use Part 3: Auto-disable syringes for fixed-dose immunization (AD).”</p>	<p>include syringes that deliver fixed-doses, most have non-removable needles Typically 0.1 – 0.5 and 1.0 ml in size</p>
<p>Part 4: “Sterile Hypodermic syringes for single use with a reuse prevention feature (RUP).”</p>	<p>Include flexible dosing amounts & removable needles Type A – activated following a single aspiration and injection Type B - allows multiple plunger aspirations Typically 2.0 – 10.0 ml in size.</p>
<p>ISO 23908: “Sterile hypodermic syringes with a sharps injury protection feature (SIPs</p>	<p>SIPs cover AD and RUP syringes that have an additional feature to prevent sharps injury,</p>

Stakeholders:

- ✓ global policymakers
- ✓ international donors
- ✓ ministries of health
- ✓ regulatory agencies
- ✓ NGOs
- ✓ manufacturers
- ✓ healthcare workers
- ✓ patients
- ✓ disease programs



Web resources:

- http://www.who.int/injection_safety/global-campaign/injection_safety_brochure.pdf
- http://www.who.int/injection_safety/global-campaign/injection_safety_guidline.pdf
- www.who.int/immunization_safety/en/
- www.healthcarewaste.org/en/115_overview.htm
- www.who.int/injection_safety/en/index.html
- www.brightoncollaboration.org/internet/en/index
- www.who.int/injection_safety/sign
- www.who.int/patientsafety/en/
- www.who-umc.org/
- www.cioms.ch/

WHO/HIS/SDS/2015.5

WHO guideline on the use of safety-engineered syringes for intramuscular, intradermal and subcutaneous injections in health-care settings



World Health Organization

WHO best practices for injections and related procedures toolkit



Making all injections safe

World Health Organization



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1