



# Injection Practices in Albania: Rapid Assessment and Proposed Action Plan

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**June 24<sup>th</sup> – June 30<sup>th</sup>, 2000**

Those who don't like to get an injection when they go to the Doctor: Raise your hand!  
Reps, Albania, June 2000



## Executive Summary

### Background

As Albania is planning a mass measles/rubella vaccination campaign for November 2000, a rapid assessment of injection practices was conducted to propose a detailed, short-term injection safety plan for the campaign and key elements of a potential longer-term safe and appropriate use of injections initiative for Albania.

### Assessment methods

Meetings with key public health stakeholders were held to obtain information, facilitate problem recognition, and identify the role that each could play in a safe and appropriate use of injection initiative. In addition, 9 healthcare facilities were visited in 3 districts to observe practices and to collect semi-quantitative information from physicians, nurses, and patients.

### Results

Results of interviews of a convenience sample of 7 physicians in 4 healthcare facilities indicated that 31% of prescriptions included at least one injection (Mean number = 8 injections /prescription), suggesting a high frequency of injection use. Review of these prescriptions indicated that most therapeutic injections prescribed were unnecessary. Disposable injection equipment is almost universally used in Albania although use of sterilisable equipment was still observed. Introduction of auto-disable (AD) syringes has been limited. No direct or indirect evidence of re-use of injection equipment in the absence of sterilisation was found during the field visits. However, appropriate collection and disposal of sharps waste is uncommon and implementation of universal precautions is limited in hospitals.

### Recommendations

#### *Short term (Campaign)*

1. Initiate integrated communication activities for injection safety targeting physicians (supervision), nurses (injection administration and waste collection), and the population (consumer demand for safety) with a particular emphasis on nursing practices (use of professional groups, training adapted to the local context, job aids cards, posters flagging good and bad nursing practices);
2. Ensure use of AD syringes and sharps boxes purchased through "bundling";
3. Ensure appropriate sharps waste management;
4. Monitor effectiveness of injection safety efforts through a combination of (a) routine reporting by each vaccination centre and (b) an injection safety validation assessment during the vaccination campaign.

#### *Longer term*

- (1) Activities should be conducted to reduce the incidence of unnecessary injections, promote healthcare workers' protection, and implement universal precautions.
- (2) Supplying and financing mechanisms should be studied to ensure universal availability of sharps containers and consistent quality of injection equipment.
- (3) Policies and plans should be implemented to ensure comprehensive waste management from production to disposal; training at all levels; and choice of appropriate, affordable, and environment-friendly waste treatment options.

## Table of Content

Injection Practices in Albania: Rapid Assessment and Proposed Action Plan .....	1
Executive Summary.....	2
Background .....	2
Assessment methods .....	2
Results .....	2
Recommendations .....	2
Table of Content .....	3
Introduction.....	4
Methods .....	4
Key informant interviews .....	4
Visits in healthcare facilities .....	4
Review of documents.....	4
Results.....	4
Context .....	4
Injection use.....	5
Injection safety.....	6
Determinants of poor injection practices.....	9
Adverse effects of injections.....	9
Recommendations.....	9
Planing for the mass immunisation campaign in the short term .....	9
Planing for a longer term national strategy .....	11
References.....	12
Acknowledgements .....	13
Appendices.....	14
Appendix 1: Proposed framework for a strategy of communication for behaviour change ...	15
First participant group: Physicians .....	15
Second participant group: Nurses .....	17
Third participant group: Population .....	18
Appendix 2: Initiatives / projects of potential relevance to injection safety .....	19
Appendix 3: Data collection instruments used during this rapid assessment.....	21
Part 1. Interview of injection prescribers (e.g., Physicians) .....	21
Part 2. Interview of injection provider (e.g., Nurses) .....	22
Part 3. Interview of the general population .....	23
Part 4. Key informant interview .....	24
Appendix 4: Key informants met during this assessment .....	25

## Introduction

The Ministry of Health of Albania is planning a mass measles/rubella vaccination campaign for November 2000. However, unsafe injection practices that may lead to the occurrence of adverse events during the campaign in the absence of prevention activities have been reported in Albania. Thus, a rapid assessment of injection practices was conducted to:

- (1) Describe injection practices;
- (2) Propose a detailed, short-term injection safety plan for the planned immunisation campaign;
- (3) Propose key elements of a longer-term initiative to achieve safe and appropriate use of injections in Albania.

## Methods

### Key informant interviews

Interviews were conducted among key national and international informants from the Ministry of Health, the Institute of Public Health, UNICEF, WHO, and selected non-governmental organisations using standardised, open ended interview forms (Appendix 3). A list of the key informants met is provided in Appendix 4.

### Visits in healthcare facilities

A small convenience sample of rural and urban healthcare facilities (in Tirana and two rural districts) were visited to interview healthcare workers and observe injection and healthcare waste management practices.

### *Interviews*

Interviews were conducted in a convenience sample of physicians and nurses using standardised data collection instruments containing close-ended and open-ended questions (Appendix 3).

In addition, a convenience sample of the general population, structured to include both genders and all age groups was interviewed in three visited field locations to estimate the frequency of injections and identify injection providers, using a standardised, close-ended questionnaire (Appendix 3).

### *Observations*

Observations were conducted in primary healthcare facilities, nurses' homes, and hospitals.

### Review of documents

Selected documents made available (see list in References, page 12) were reviewed for relevant information.

## Results

### Context

#### *Health system*

More than ten years into the post-communist transition marked by social unrest in 1997 and the Kosovo crisis in 1999, Albania is pursuing efforts to complete a health system reform. Key elements of the health system reform include: <sup>1</sup>

- (1) **Reforming regulation** through changing the role of the Ministry of Health, defining new roles for professional organisations, placing patients at the centre of the health system, and redefining the respective roles of the public and private health sectors;
- (2) **Reforming health financing and resource allocation** through ensuring sufficient and stable funding, combining solidarity and responsibility in health financing, ensuring

resource allocation according to health needs, reforming the system for paying hospitals, and reforming the system for paying healthcare professionals;

- (3) **Reforming health services production** through improving the quality of services, introducing general management within the system, introducing family medicine, and reshaping other important health services.

#### *Infection control*

There is little experience in the practice of infection control in Albania. The standard medical school curriculum does not include an infection control module. Although a unit was recently created in 1997 at the University Hospital of Tirana, a single person who does not have a budget and cannot run a basic surveillance system constitutes it. Thus, although an action plan was written, activities are limited to basic functions, including constitution of a functional infection control committee, provision of ad hoc advises, and distribution of educational material to promote hand washing and other key infection control practices.

#### *Rational use of drugs*

Initiatives for the rational use of drugs are recent, including the National Drug Policy proposed in the health system reform that is currently being developed with the support of WHO humanitarian office in Albania. <sup>1</sup>

#### Injection use

##### *Injection providers*

Key informants, physicians, and the population reported that nurses administer most injections in Albania. Physicians, midwives, and dentists were also identified as occasional injection providers. Few key informants provided undocumented reports of administration of injections by unqualified providers (e.g., vets) and by pharmacists.

Of the 16 persons interviewed in the convenience sample of the population who could remember the injection provider for the last injection they had received, 10 (63%) reported receiving it from a nurse, 3(19%) reported receiving it from a physician, and 3 (19%) reported receiving it from a dentist.

##### *Injection frequency*

Injection frequency was assessed through interviews of physicians, nurses, and the population.

**Interviews of physicians** were used to obtain a rapid estimate of the proportion of prescriptions that included at least an injection (referred to as WHO's OT8 indicator). The 7 physicians interviewed in 4 healthcare facilities reported an average of 120 outpatient visits per week of which 37 (31%) would result in the prescription of an injection (Mean number = 8 injections /prescription).

**Interviews of nurses** were used to obtain a rapid estimate of the proportion of therapeutic injections among all injections. The 9 nurses interviewed reported administrating an average of 80 injections per week, of which 7 (9%) given for immunisation purposes. Nurses often reported going to their patients' homes to administer injections. It is unclear, although probable, whether nurses charge a fee for services when they administer an injection at home.

**General population.** Finally, of 21 persons interviewed in a convenience sample of the general population (mean age = 27 years, proportion of female 52%), 5 (24%) reported receiving an injection in the last three months for a total of 11 injections (Projected ratio of injections per capita: 2.1 injections/ person / year. The median time interval since the last injection was 9 months (range (1-300).

### *Unnecessary injections*

Review of the injection registers in outpatient clinics indicated a overwhelming majority of unnecessary injections, with a predominance of association of antibiotics (e.g., penicillin and gentamycin for acute upper respiratory tract infection) and association of anti-inflammatory drugs and vitamin B complex given for arthritis or neuralgia. Other selected examples include:

- Use of penicillin associated with streptomycin in a six-years old child diagnosed with tonsillitis and bronchitis (Although the nurse thought she was injecting penicillin and gentamycin);
- Use of intravenous dexamethazone in a four years old child with urticaria.

A nurse who kept home supplies of injection equipment in case of emergencies among her patients presented a large cardboard box full of injectable medications. Reported usual use for these injectable medications suggested a predominance of unnecessary injections (Table 1).

**Table 1 Emergency medication supplies of a nurse in rural Albania and reported usual use, June 2000**

<b>Medication</b>	<b>Reported usual use</b>
40% dextrose	Diarrhoeal diseases (IV)
Prometazine	Allergies (IM)
Diazepam	Seizure (IM or intrarectal)
Furozemid	IM or IV, for acute hypertension
Vitamin C	IV, for diarrhoeal diseases
Luminal ®	IM, for seizures
Papaverine	IM or intradermal, for abdominal pain

### Injection safety

#### *Risk to the patient*

Key informants, physicians, nurses, and patients all reported that new, disposable injection equipment is almost universally used in Albania. Some of these reports were based upon frequent interactions and observations in multiple primary care facilities (e.g., The French Red Cross in the Skrapar district). Glass sterilisable syringes were observed to be used in the hospital of one rural district (Figure 1). Auto-disable (AD) syringes have not been introduced on a large scale. The hypothesis that re-use of syringes and / or needle in the absence of sterilisation is rare in Albania is supported by a number of elements, including:

- The observation of availability of disposable injection equipment in healthcare facilities and in pharmacies (Figure 2);
- The limited price of disposable injection equipment (approximately 7 to 10 US cents for a kit of a 2 or 5 ml syringe with its needle wrapped individually in a sterile sealed package);
- The knowledge regarding risks of hepatitis B virus and HIV transmission through re-use of injection equipment without sterilisation among interviewed physicians and nurses; \*
- A consumer demand for new, disposable equipment in the population fuelled by the fear of HIV and reported by interviewed physicians and nurses;
- The absence of observation of situations suggesting re-use of disposable equipment in the healthcare facilities visited (e.g., containers of tepid water containing disposable injection equipment).

Although re-use of injection equipment in the absence of sterilisation is probably rare in Albania, other breaks in infection control practices were commonly observed that may expose patients to infections, including:

- The use of cottons ball that have been macerated in disinfectant vials frequently contaminated by healthcare workers fingers to wipe the skin before injections; †

\* HCV was not reported as a potential injection-associated infection by any of the healthcare workers.

- Practices allowing for cross-contamination of clean, sterile equipment by contaminated equipment or surfaces;
- Preparation of injections in area potentially contaminated by blood or body fluids in hospitals;
- The use of 500 cc saline IV infusion bottles to dilute medications in one hospital;
- Preparation of injections with hands presenting bloody uncovered cuts following injuries caused by the opening of glass ampoules with bare hands (Figure 3).

**Figure 1: Sterilisable injection equipment in a hospital**



**Figure 2: Mother providing new, disposable injection equipment as she brings her child for an injection**



**Figure 3: Healthcare worker presenting with a cut following the opening of a glass ampoule**




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† On one instance, a nurse was observed to cut herself while opening a glass ampoule. To stop the bleeding, she dipped her finger in the glass container containing cotton balls to grab one and did not express concern over continuing using cotton balls from the same container for further skin disinfection of patients.

#### *Risk to the healthcare worker*

Key informants and nurses reported that sharps waste was not collected in puncture and liquid proof sharps containers. This hypothesis was supported by the absence of observation of puncture and liquid proof sharps containers in healthcare facilities.

In addition, observation of re-capped used syringes in waste baskets suggests that recapping occurs. (Figure 4) None of the 9 nurses interviewed reported having received hepatitis B vaccine.

**Figure 4: Sharps in a basket on an injection preparation table.**



#### *Risk to the community*

Key informants and nurses reported that in most cases, in the absence of a functional healthcare waste management system, sharps waste was discarded using the regular waste (Figure 5) disposal system, which expose people who scavenge domestic waste to accidental needlestick injuries. Nationally, 27% of hospitals separate healthcare waste in Albania. <sup>2</sup> However, none of the 21 persons in the convenience sample of the population reported having ever been accidentally stuck by a dirty needle left in the environment or in a garbage dump.

**Figure 5: Sharps discarded with regular waste**



Although some nurses reported disposing of sharps waste by supervised open burning in specific sites, these reports were inconsistently confirmed by the observation of incineration sites.

Only 12 incinerators dedicated to the incineration of healthcare waste are present in the country. The one in Tirana is in poor running condition. Most explain this situation by the absence of a national strategy, the absence of training, and the absence of equipment. Additional information on healthcare waste management in Albania is available from the report of Candace Chandra who participated in this rapid assessment.

## Determinants of poor injection practices

### *Injection overuse*

Most physicians reported that patients - particularly older persons in rural areas - prefer injections for the treatment of common medical conditions. As in many other cultures, injections are probably popular in the Albanian population. However, a number of elements suggest that healthcare workers may also contribute to injection overuse. These include:

- The probable occurrence of under-the-table payment to nurses for the administration of injection at home; <sup>1</sup>
- The provision of rationalised, scientific explanations by physicians to justify their prescriptions;
- The limited implementation of standardised, evidence-based treatment protocols for the treatment of common illnesses;
- The persistence of inappropriate policies (e.g., use of intramuscular vitamin D supplementation in children);
- The reports of attitudes that may contribute to injection overuse among physicians of other former socialist economies of Eastern Europe (CDC, unpublished data).

Although under-the-table payments of physicians are being reported, <sup>1</sup> higher fees for service were not reported for outpatient visits that lead to the prescription of an injection.

### *Unsafe injection practices*

A lack of awareness regarding the risk of hepatitis B virus transmission in healthcare setting may explain a number of practices allowing for cross contamination that expose injection recipients to infections. The absence of supplies of sharps containers and the absence of a culture to promote healthcare worker protection may explain the practices that expose injection providers to the risk of needlestick injuries. Finally, a lack of concern for the management of healthcare waste associated with the absence of a waste treatment infrastructure may explain the practices that result in the presence of sharps waste in the environment.

## Adverse effects of injections

No data are available regarding the association between injections and infections. Because surveillance for viral hepatitis is based upon reporting of acute hepatitis of unspecified aetiology and because no risk factor information is collected, routine surveillance data cannot be used to assess the association between injections and infections. However, in the Albanian setting where hepatitis B virus infection has an intermediate endemicity profile and where injections are overused, the observed breaks in infection control practices may be sufficient to transmit HBV from patients to patients through injections, even in the absence of re-use of injection equipment without sterilisation.

## **Recommendations**

### Planing for the mass immunisation campaign in the short term

In a context where unsafe injection practices are reported, the mass immunisation campaign and its planned one million injections will create an acute problem that require pre-emptive action. Activities should be conducted to (1) promote safer practices and behaviour change, (2) provide sufficient quantities of appropriate auto-disable syringes and sharps containers, and (3) manage sharps waste appropriately.

As the provision of syringes and sharps container supplies will be ensure through the WHO/UNICEF/IFRC “bundling” policy that specifies that vaccine donors should also pay for auto-disable syringes and sharps containers, particular attention needs to be devoted to the promotion of safe injection practices and sharps waste management. Opportunities exist to broaden the Task Force alliance that was constituted to prepare the campaign to associate professional bodies (e.g., the newly formed Order of Physicians Medical Council and the

Direction of Nursing of the Ministry of Health). Because of the challenge represented by this campaign, its safety should be monitored by a combination of exhaustive routine reporting by all healthcare facilities and a validation survey conducted in a sample of healthcare facilities during the campaign. Finally, activities should be conducted so that results achieved and documented in the short term during the campaign will open possibilities of sustained prevention efforts.

#### *Behaviour change*

As provision of AD syringes and sharps boxes will not be sufficient to ensure consistent use in a setting where they are not routinely used, communication activities should be conducted among physicians, nurses, and in the population with the following behavioural objectives:

- (1) Appropriate use of AD syringes;
- (2) Appropriate sharps waste collection;
- (3) Appropriate sharps waste management.

Communication activities should be viewed in a perspective that goes beyond training and simple transfer of information. The goal is that each participant group want to play an active role, feel that they can make a difference, is able to identify the recommended behaviour, and is rewarded if engaging in the recommended behaviour. A potential framework for communication activities in the area of injection safety (to be integrated to other communication activities planned for the purpose of the campaign) is proposed in appendix 1. Of the three participant groups, nursing is of particular importance. Because of the absence of a strong local partner in the area of nursing and infection control practices, a local nursing working group may benefit from temporary assistance from an international expert in nursing, infection control practices, and nursing education to plan actions and prepare nurses' Information, Education, and Communication (IEC) documents. All communication strategies should be pre-tested before implementation.

#### *Provision of supplies*

AD syringes and puncture /liquid-proof containers for the collection of sharps should be made available through "bundling" during the campaign, as recommended by WHO, UNICEF, and the IFRC. However, because they are not widely used in Albania, their use should be promoted through the communication activities for behaviour change.

#### *Sharps waste management*

In the absence of an healthcare waste management system, disposal of sharps waste should be carefully planned. Potential waste treatment options in urban areas include burial pits, use of cement, and rehabilitation of incinerators. Potential waste treatment options in rural areas include use of cement and incineration in open pits. Training, supervision, as well as monitoring through a check and balance system will be required to monitor implementation.

#### *Monitoring and evaluation*

The safety of the injections that will be administered through the campaign should be monitored and evaluated through:

- (1) Compilation and analysis of exhaustive routine reports by field staff in vaccination centres to collect information on vaccine, syringes, and sharps container received, doses of vaccine administered, and sharps containers filled and destroyed;
- (2) Validation by an injection safety assessment conducted by a team in a representative sample of healthcare facilities. For this purpose, the Safe Injection Global Network (SIGN) tool to assess injection safety in healthcare facilities (available from the SIGN secretariat at WHO) may be used as a basis to develop a tool adapted to the mass vaccination campaign. Assistance from an international consultant may provide useful supervision to a national evaluation team for this purpose.

### Planing for a longer term national strategy

In view of the high level of injection use and the breaks in infection control practices, the Albanian Ministry of Health and its partners should consider a longer term national strategy for the safe appropriate use of injections after the vaccination campaign. Efforts to reduce injection overuse and to achieve injection safety would fit in the objectives of the health system reform as they represent key issues and critical indicators within the upcoming National Drug Policy and in the process of definition of standards of care for the purpose of accreditation and total quality management. Other ongoing initiatives from the Ministry of Health and its partners that could integrate components of a safe and appropriate use of injections initiative are listed in Appendix 2.

#### *Behaviour change*

Activities should be conducted to:

- (1) Reduce the incidence of unnecessary injections;
- (2) Promote healthcare worker protection (including use of hepatitis B vaccine);
- (3) Implement universal precautions in hospitals.

#### *Provision of supplies*

- (1) Study supplying and financing mechanisms to ensure universal and continuous availability of sharps containers in all healthcare facilities;
- (2) Ensure the quality of disposable injection equipment sold in Albania.

#### *Sharps waste management*

National policy and plans should be implemented to ensure:

- (1) A comprehensive management system from waste production to waste disposal;
- (2) Training at all level;
- (3) Choice of appropriate, affordable, and environment-friendly options.

#### *Monitoring and evaluation*

Process indicators of injection frequency and of injection safety should be combined with outcome indicators (the incidence of injection-associated infections).

## References

<sup>1</sup> Ministry of Health of Albania: Albanian Health System Reform. Position Paper on Policy and Strategies for the Albanian Health Sector Reform. Tirana, Albania, September 1999 (unpublished document).

<sup>2</sup> Albanian Ministry of Health, WHO, and Merlin: A review of the working conditions of the 41 hospitals in Albania. July-September 1999 (unpublished document).

## Acknowledgements

I wish to express thanks to all who made this assessment possible and fun, including:

- The healthcare workers interviewed in the field;
- The Ministry of Health of Albania as well as national and international key informants;
- Dr John Clements (WHO/VAB) and Candace Chandra (WHO/EURO) who participated in this assessment from an immunisation and waste management point of view, respectively;
- Dr Mariana Bukli (UNICEF Albania) who co-ordinated the mission.

## Appendices

1. Appendix 1: Proposed framework for a strategy
2. Appendix 2: Initiatives / projects of potential relevance to injection safety
3. Appendix 3: Data collection instruments
4. Appendix 4: Key informants met

## Appendix 1: Proposed framework for a strategy of communication for behaviour change

First participant group: Physicians

Expected Behaviour	Knowledge area	Messages	Activity / Channel
Provide accurate reference information and appropriate advice to all injection providers to ensure injection safety during the campaign	Only auto-disable (AD) syringes should be used to administer vaccine during the campaign	Re-use of syringes and needles transmit HBV, HCV, and HIV	<ol style="list-style-type: none"> <li>Letters / telegraph / Fax from the Ministry of Health to all Albanian physicians 4 months before the campaign (co-signed by the president of the order of physicians) to explain that physicians will have overall responsibility for the campaign and its safety.</li> <li>Information session at the weekly physician meeting of the district public health department 3 months before the campaign to provide details about what their role will be. Use of scientific background documents (e.g., WHO injection safety fact sheets) co-signed by Albanian opinion leaders (e.g., University professors) and the task force agencies.</li> <li>Training sessions at the weekly meeting of the district public health department 1 month before the meeting to rehearse / model supervision situations.</li> </ol>
		HBV is of particular concern because: <ul style="list-style-type: none"> <li>Albania has an intermediate endemicity pattern</li> <li>HBV is easily transmitted through unsafe injections</li> </ul>	
		AD syringes will ensure that no injection equipment is re-used	
		AD syringes are easy to use and will just require limited adaptation from the part of injection providers	
	Healthcare worker protection should be ensured to prevent needlestick injuries	Syringes and needles should never be recapped after injections as recapping increases the risk of accidental needlestick injuries	
		Injection equipment should be discarded in sharps and liquid proof containers immediately after use	
	Sharps waste should not expose the community to any risk	Disposal of injection equipment in the regular garbage leads to needlestick injuries among persons handling waste and waste scavengers	
		Specific disposal mechanisms are needed for sharps waste. Thus, during the campaign, sharps containers will be collected and appropriately disposed through special logistic arrangements	

First participant group: Physicians (Continued)

Expected Behaviour	Knowledge area	Messages	Activity / Channel
Take an active, leadership role in ensuring injection safety during the campaign	It is the physicians responsibility to ensure that the campaign	Physicians must ensure that sufficient stocks of AD syringes are available sufficiently before the campaign and that AD syringes are exclusively used during the campaign	-See above-
	Injection safety is not only a "nurses' issue"	Physicians must ensure that sufficient stocks of sharps containers are available sufficiently before the campaign, and that they are used for sharps collection without recapping	
	Physicians should keep track of the expected number of the sharps containers to be produced and sent for central disposal		

Second participant group: Nurses

Expected Behaviour	Knowledge area	Messages	Activity / Channel
<p>Respecting three keys rules while administering the vaccine:</p> <p>1) Use only AD syringes;</p> <p>2) Collect sharps immediately after the injection without recapping;</p> <p>3) Centralise sharps boxes for appropriate disposal.</p>	<p>No injection equipment should be re-used in the absence of sterilisation</p>	<p>Re-use of syringes and needles transmit HBV, HCV, and HIV</p>	<ol style="list-style-type: none"> <li>1. Constitution of a national nursing working group</li> <li>2. "Dear colleague" message from the director of nursing, MoH to all Albanian nurses 4 months before the campaign.</li> <li>3. Information session at the district level 3 months before the campaign to provide details about what the role of the nurses will be. Use of simple one page illustrated reference documents co-signed by the MoH direction of nursing and the task force agencies.</li> <li>4. Training sessions at the weekly meeting of the district public health department 1 month before the meeting to rehearse / model injection administration situations and flag good / bad practices.</li> <li>5. Poster to be placed above injection preparation tables summarising the rationale of key infection control practices and presenting photos of flagged good and bad practices.</li> <li>6. Card summarising the same message for the nurses' personal use.</li> </ol>
		<p>HBV is of particular concern because:</p> <ul style="list-style-type: none"> <li>• HBV is common in Albania</li> <li>• HBV is easily transmitted through unsafe injections</li> </ul>	
		<p>AD syringes will ensure that no injection equipment is re-used</p>	
	<p>Nurses should protect themselves to prevent needlestick injuries</p>	<p>AD syringes are easy to use and will just require limited adaptation from nurses.</p>	
	<p>Sharps waste should not expose the community to any risk</p>	<p>Syringes and needles should never be recapped after injections as recapping increases the risk of accidental needlestick injuries</p>	
		<p>Injection equipment should be discarded in a sharp and liquid proof containers immediately after use</p>	

Third participant group: Population

<b>Expected Behaviour</b>	<b>Knowledge area</b>	<b>Messages</b>	<b>Activities / Channel</b>
Trust the mass immunisation campaign because special care has been taken by the task force to ensure safety	Use of a safety (AD) syringe will guarantee that syringes and needles will not be re-used.	AD syringes will ensure that no injection equipment is re-used because it inactivates itself by plunger blocking after one single use	<ol style="list-style-type: none"> <li>1. Letters / telegraph / Fax from the Ministry of Health / to commune leaders 4 months before the campaign</li> <li>2. Letters / telegraph / Fax from the Ministry of education to schools when kids go back to school</li> <li>3. Kick off press conference with detailed background material for the press</li> <li>4. Video modelling a nice interaction between healthcare workers and child showing the safe aspects of the campaign</li> <li>5. Pamphlets in all healthcare facilities / distributed by nurses at home 2 months before the campaign</li> <li>6. Messages in the mass media one month before the campaign</li> <li>7. Template scenarios for teachers to organise discussion sessions in the classrooms 2 weeks before the campaign</li> </ol>
		AD syringes can be easily recognised because they have a metal clip in them *	
		AD syringes will be provided free of charge in healthcare facilities during the campaign. There will be no need to bring syringes and needles.	
	Syringes and needles will not strewn vaccination clinics during the campaign	Special safety boxes will be used to collect sharps in a safe fashion	
The campaign will be environment friendly		Collection boxes will be collected for organised disposal	
		The sharps waste produced by the campaign will not end up in the rivers or in the garbage dumps.	

† This characteristic may vary according to the manufacturer.

## Appendix 2: Initiatives / projects of potential relevance to injection safety

Institution	Project	Description	Relevance to safe and appropriate use of injections
Ministry of health / WHO liaison office	Health system reform	<ul style="list-style-type: none"> <li>Reforming regulation</li> <li>Reforming financing and resources allocations</li> <li>Reforming health services production</li> </ul>	<ul style="list-style-type: none"> <li>Accreditation and quality control of healthcare facilities</li> <li>Right and duties of professional organisations</li> <li>Set-up of a nursing association</li> <li>Clarification of healthcare workers remuneration</li> <li>National drug policy</li> </ul>
WHO humanitarian mission	Rational use of medications	<ul style="list-style-type: none"> <li>Promotion of rationale use of drugs</li> <li>Establishment of a national formulary</li> <li>Establishment of a drug therapy committee</li> <li>Formulation of standardised treatment guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of unnecessary injections</li> </ul>
	Infectious disease surveillance	<ul style="list-style-type: none"> <li>See institute of public health</li> </ul>	<ul style="list-style-type: none"> <li>See institute of public health</li> </ul>
	Tuberculosis control programme	<ul style="list-style-type: none"> <li>Treatment guidelines</li> <li>Directly observed therapy</li> <li>Laboratory rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of unnecessary use of IM streptomycin</li> </ul>
National blood transfusion service	Laboratory services	<ul style="list-style-type: none"> <li>Quality assurance and quality control in laboratory testing</li> </ul>	<ul style="list-style-type: none"> <li>Prevention of transfusion-associated infections</li> <li>Serological testing for surveillance for infections with bloodborne pathogens</li> <li>Infection control practices in blood transfusion services</li> </ul>

<b>Institution</b>	<b>Project</b>	<b>Description</b>	<b>Relevance to safe and appropriate use of injections</b>
UNICEF	Health	<ul style="list-style-type: none"> <li>• Acute respiratory infections case management</li> <li>• Control of diarrhoeal diseases</li> <li>• IMCI (Starting in 2001)</li> </ul>	<ul style="list-style-type: none"> <li>• Standardised case management, including reduction of inappropriate use of antibiotics and IV infusions</li> </ul>
Institute of Public Health	Infectious disease surveillance	<ul style="list-style-type: none"> <li>• Integrated surveillance for a selected short list of infectious diseases</li> </ul>	<ul style="list-style-type: none"> <li>• Surveillance for infections with bloodborne pathogens (e.g., viral hepatitis)</li> <li>• Monitoring and evaluation of the safety of the mass immunisation campaign</li> </ul>
	HIV/AIDS control program	<ul style="list-style-type: none"> <li>• Prevention of nosocomial infections</li> </ul>	<ul style="list-style-type: none"> <li>• IEC among patients and healthcare workers to implement universal precautions</li> <li>• KAP survey regarding knowledge of modes of HIV transmission (Completed)</li> </ul>
Environmental Centre for Administration of Technology (ECAT)	Healthcare waste management	Healthcare waste management	Healthcare waste management
Medical council of Albania	Establishment of the code of deontology	<ul style="list-style-type: none"> <li>• Increasing standards of training and practices</li> <li>• Protection of the patient</li> </ul>	<ul style="list-style-type: none"> <li>• Establishing physicians' responsibility towards nosocomial infection prevention</li> <li>• Promotion of the rational prescription of injections</li> <li>• Healthcare workers protection</li> </ul>
American Red Cross	Support to Albanian Red Cross	<ul style="list-style-type: none"> <li>• Community work</li> </ul>	<ul style="list-style-type: none"> <li>• Social mobilisation</li> </ul>
French Red cross	Activities in the Skrapar district	<ul style="list-style-type: none"> <li>• Training of nurses</li> </ul>	<ul style="list-style-type: none"> <li>• Promotion of appropriate infection control practices among nurses</li> </ul>
CISP	Healthcare workers protection	<ul style="list-style-type: none"> <li>• Healthcare workers protection</li> </ul>	<ul style="list-style-type: none"> <li>• Healthcare workers protection</li> </ul>
Merlin	Rehabilitation of laboratory services	<ul style="list-style-type: none"> <li>• Rehabilitation of laboratories</li> </ul>	<ul style="list-style-type: none"> <li>• Universal precautions in labs</li> </ul>



Part 2. Interview of injection provider (e.g., Nurses)

[Suggested word of introduction] *Greetings! As we are working here to understand how injections are used, I would like to observe how you give injections and to ask you a few questions. Please feel free not to answer if you don't wish or to give additional information if you want. The information collected will be recorded anonymously and I will not write your name on this form.*

<i>Observation of an injection:</i>		
1. Use of new disposable syringe and / or needle or sterile sterilisable syringe	1. Yes	2. No
<i>Comments:</i>		
2. Immediate discarding of sharps in a sharps box	1. Yes	2. No
<i>Comments:</i>		
3. Appropriate disposal of sharps	1. Yes	2. No
<i>Comments:</i>		
4. How many injections do you give in one week?	___ Vaccinations	___ Others
5. Could you name three diseases that may be transmitted through unsafe injections? (Circle when spontaneously mentioned)		
1. HIV	2. HCV	3. HBV
6. Of the pathogens mentioned, which are the one that can be transmitted most easily through injections (assign ranking number ranging from 1= easiest to transmit 3= least easy to transmit, 9 for pathogens not spontaneously mentioned)		
1. HIV	2. HCV	3. HBV
<i>Comments:</i>		
7. How many needlestick injuries have you had during the last 12 months?	___ Injuries	
<i>Comments:</i>		
8. How many doses of hepatitis B vaccine have you ever received?	___ Doses	
9. Do you have sufficient quantities of injection equipment to apply the one syringe and needle/ one injection rule?		
1- Yes	2- No	3- Don't know
<i>Comments:</i>		
10. Do you have access to a sharps waste disposal facility to dispose of your sharps waste	1. Yes	2. No
1- Yes	2- No	3- Don't know
<i>Comments:</i>		



#### Part 4. Key informant interview

1. Could you please describe your activities in the field of healthcare and public health?
2. Who administer injections in Albania?
3. Is injection safety a problem in Albania?
  - Is yes, what happens?
4. Are injections overused in Albania?
  - If yes, what are the attitudes among patients that cause that?
  - What are the attitudes among healthcare workers that cause that?
5. Are syringes and needles re-used without sterilisation in Albania?
  - If yes, what are the attitudes among patients that cause that?
  - What are the attitudes among healthcare workers that cause that?
  - What are the lacks of supplies that cause that?
  - What are the waste management problems that cause that?
6. Are syringes and needles immediately discarded in a sharps box in Albania?
  - What are the attitudes among healthcare workers that cause that?
  - What are the lacks of supplies that cause that?
7. Are syringes and needles appropriately disposed of in Albania?
  - If yes, what are the attitudes that cause that?
  - What are the lacks of equipment that cause that?
8. What activity do you conduct in the area of injection safety?
9. What do you think should be done to ensure the safety of the upcoming campaign?
10. Who should be involved in this effort? To do what?
11. What could be your role in a national initiative for the safe and appropriate use of injections?

## Appendix 4: Key informants met during this assessment

### *Ministry of Health, Albania*

Dr Leonard Solis, Minister  
Reme Bujar, engeneer, environmental health unit  
Dr Jorgo Kosta, environmental health unit  
Dr Fatmir Brahimi, Director of Hospital Services  
Dr Petrit Vasili, Director of Primary Health Care

### *Institute of Public Health, Tirana*

Dr Fejzi Hizmo, Deputy Director  
Dr Eduard Kakarriqi, Epidemiology unit  
Dr Miriam Xibinaku, Coordinator, national measles/rubella campaign  
Dr Memo Boci, Manager and Epidemiologist  
Dr Erion Dasho, Coordinator

### *World Health Organization, Liaison office, Ministry of Health, Albania*

Dr Vasil Miho, Liaison officer

### *World Health Organization, Humanitarian Office, Tirana*

Dr Panayiotis A. Ellinas, Public Health Officer  
Mechtild Huelsmann, MScCHHM

### *World Health Organization, EURO, Environmental Health, Rome, Italy*

Dr Philip Rushbrook, Regional adviser  
Candace Chandra, Technical Officer

### *UNICEF, Albania*

Dr Mariana Bukli, Health Officer

### *University Hospital, Tirana*

Svetllana Bitinka, Infection control unit  
Dr Eli Foto, Deputy Director  
Dr Kristo Pano, Chief of Infectious Diseases Unit

### *American Red Cross, Tirana, Albania*

Kathie Fazekas, Delegate

### *Physicians' order of Albania, National Council*

Dr Din Abazaj, President  
Dr Apollon Gjebre, President of the Tirana region

### *National Blood Transfusion Service*

Vjollc Duro, Head of the QA / QC laboratory