

SIGN 2009

Annual Meeting of the Safe Injection Global Network

Injection Safety In Light Of Primary Health Care Reforms

30 November to 2 December 2009

Executive Board Room, World Health Organization Headquarters
Geneva Switzerland





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The Rapporteur wishes to acknowledge and thank the SIGN 2009 meeting participants, presenters, session chairs and theme rapporteurs for their dedication and hard work to ensure that an accurate record of the meeting was produced. Many thanks to the meeting organizers for convening this productive meeting. We gratefully thank the staff at the WHO HQ Executive Board Room who made the working environment so productive.



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Introduction

The annual Meeting of the Safe Injection Global network was held at WHO Headquarters in Geneva Switzerland from 30 November to 2 December 2009.

More than 120 experts from 40 countries and SIGN member organizations worked to reach consensus in plenary, three thematic groups and two satellite sessions:

Theme 1: PHC oriented strategies to improve implementation and outcomes of injection safety and related infection control programmes at country level.

Theme 2: PHC oriented strategies to improve implementation and outcomes of healthcare workers safety strategies

Theme 3: PHC oriented strategies to improve implementation and outcomes of healthcare waste management strategies

Satellite Sessions

Session 1: Health Care Waste Management

Session 2: Occupational Health

The meeting consensus produced 39 recommendations to the WHO, to countries, to SIGN network members, to the medical device industry, and to the SIGN Secretariat to guide efforts towards increased injection safety through to 2011.

Day 1: Monday, 30 November 2009

Introduction to the SIGN 2009 Meeting

Dr. Steffen Groth, Director WHO HSS/Essential Health Technologies Department

For SIGN at 10 Years, we will review 10 years recommendations to the Secretariat, to Countries and to SIGN partners on how to ensure: Patient safety through safe and rational use of injections; Health care workers safety; Safe health care waste management; Evaluate what was achieved and what still needs to be done.

This meeting will look at Injection Safety from the perspective of the Primary Health Care Reforms and examine how to apply its principles in order to: Ensure universal access to safe injection practices and technologies to everybody, everywhere; Ensure health care workers' safety; Ensure the safety of the community through safe sharps waste management.

On day 1 in the morning session we will review 10 years recommendations to the Secretariat and have presentations of updates on injection safety and infection control strategies. In the afternoon session we will review injection safety in light of the PHC



reforms: Universal coverage; Service delivery; Public policy; Leadership; and community involvement

During the 2nd day morning session we will celebrate WORLD AIDS DAY and see how we can contribute to HIV prevention by ensuring safe injection practices; Review 10 years of recommendations to countries to implement safe injection programmes; To ensure health care workers safety; And to ensure safe health care waste management.

In the afternoon session we will participate in 3 parallel working sessions to discuss how to apply the PHC reforms to the three components of injection safety: Patient safety; Health care workers safety; Safe health care waste management; And have better results at country level

In our final day morning session we will review and agree on recommendations from the 3 working groups and close the 2009 SIGN annual meeting. This will be followed by satellite sessions on Health care waste management and on Health care workers safety.

Welcome and Opening Remarks

Dr Carissa Etienne, World Health Organization, Assistant Director-General - Health Systems and Services

Welcome everyone to this tenth anniversary meeting of the Safe Injection Global Network.

We acknowledge the participation of:

- Dr Halfdan Mahler, WHO Director General Emeritus
- His Excellency, Dr Tom Mboya Okeyo, Ambassador, Office of the Permanent Representative of the Republic of Kenya to the United Nations Office at Geneva
- Key SIGN funding partners: CDC, USAID, and GAVI
- Partners from industry
- Injection safety Regional Focal Points: AFRO, AMRO, EMRO, EURO, and WPRO.

Injection safety is a priority for us at WHO, and we are proud to have hosted the Safe Injection Global Network since its launch in 1999. In this meeting, we look forward to reviewing what we have achieved over the past ten years, and what needs to be done over the next decade. We will examine injection safety strategies in the context of moving towards universal health coverage, and ensuring that health services focus primarily on meeting the real needs of real people. This means having member states adopting safer injection practices and technologies. And it means involving communities. This, in turn, means raising awareness of the risks related to unsafe injection practices. We have a lot of work to do.

Back in 1999 injections were seriously overused: 70% of the 16 billion injections given were unnecessary and could have been given orally. Injections were unsafe: 40% were given with reused injection equipment. Injections were transmitting diseases: 33% of new hepatitis cases, 40% of new hepatitis C cases and around 2% of new HIV cases are transmitted by unsafe injections. Injections were killing patients: 1.3 million people were dying each year from diseases caused by unsafe injections. Ten years on, I wish I could tell you that we had halved the incidence of injection-transmitted diseases. But I can't. What I can say however is that:



Funds for safe injection programmes have increased. There is greater awareness of the need for safe injections in almost every country in the world. By 2008, two thirds of the 96 low and middle income countries for which we have information had implemented safe injection programs with guidance from SIGN.

SIGN guidelines on best practices for all injections including phlebotomy and lancet procedures - are now available. These will enable countries to establish safe phlebotomy services, train health care workers on best injection and phlebotomy practices and ensure that patients and health workers are safe when receiving or giving an injection or a phlebotomy. We have developed tools to assess injection practices and assist countries develop evidence based injection safety strategies. These have been used by 90 countries, which now all have the capacity to identify infection control breaches in injection practices and develop and implement the needed strategies to address the gaps.

SIGN has run capacity building programmes in several countries and trained more than 500,000 health care workers on best injection and related infection control practices. Injection safety reassessments in a few countries after the programmes were run showed a clear improvement in injection practices - especially a reduction in re-use of injection equipment and two hand recapping of used needles by health care workers. But enormous challenges remain.

New HIV infections continue to occur. New studies in Sub Saharan Africa show that between 12-17% of these are caused by unsafe injections. Maternal mortality rates are still unacceptably high. In Sub Saharan Africa, 25% of these deaths are directly due to hospital acquired infections.

And we have a global epidemic of hepatitis. By the end of last year, some 2,000 million people had been infected with hepatitis B virus worldwide. Unsafe injections are responsible for a third of this sad - and avoidable - state of affairs!

Some 130-170 million people are chronically infected with hepatitis C virus. Remember, in the early days, this is what we used to call the "syringe epidemic". Each year, more than 350,000 people die from hepatitis C related liver diseases. Unsafe injections are responsible for 40% of these cases. Investigations in the United States and other industrialized countries reveal just how common unsafe use of injection devices remains.

Many practitioners still believe that it is enough to change the needle without changing the syringe, for example in the hepatitis C outbreak which occurred in Nevada clinics in 2007 caused by multi dose vial contamination by only changing the needle to withdraw doses for patients. And we know all too little about the situation in middle and lower income countries. Last year's World Health Report described the lack of information on the extent of unsafe care in these countries as "Especially disquieting".

WHO Member States are so concerned about hepatitis and injection practices that they have put the issue on the agenda of the Executive Board meeting in January 2010. Meanwhile, at the World Health Assembly in May, we will discuss the progress we have all made on implementing this year's resolution on Primary health care including health system strengthening.

As we scale up efforts to move towards universal health coverage, and to put people at the centre of health service delivery, our goal at WHO is to ensure that all people, whoever they are and wherever they live, have access to safe injection practices and technologies.



This means ensuring that people only get injections if they really need them - if there is no alternative, and if they can be given under safe conditions. It also means making sure that people know why they're having the injection and what it's for. In this context WHO is continuing its efforts to raise global awareness - among health workers and their clients. So they know about the risks posed by unsafe injection practices and their share in the transmission of blood borne viruses. We are developing more policy guidance and technical tools to be used by Member States, so they can establish national programmes and strategies on injection safety and related infection control. We are providing technical support to countries to strengthen injection safety programmes

But if this work is to have lasting impact, we have to tighten our links with development partners, with industry partners, and with partners in countries. That's why this meeting is so important. It is a chance for us to strengthen our network and work even more closely together. As I see it, we need to set ourselves three clear targets within SIGN:

1. To seriously reduce over-use of injections. In some countries, the situation is as bad today as it was in 1999.
2. To identify innovative ways to bring safe injection technologies to everybody who needs it. I look forward to hearing from our industry partners about their latest ideas on this.
3. To make a real effort not just to improve injection practices but to scale up our work on ensuring safe phlebotomy practices as well.

My friends, with the knowledge we have, and the technologies that are available today, there should be no excuse for anyone to receive an unsafe injection. The fact that so many people do still become sick as a result of unsafe injections is shameful. It is up to us to consign unsafe injections to the history books.

Day 1: Session 1 Updates on Injection Safety and Infection Control Activities

Chair: Dr Hussain Amin Al Amiri, , Ministry of Health, Abu Dhabi, UAE

Rapporteur: Allan Bass, WHO Consultant

SIGN at 10: Report on 10 Years Recommendations to the SIGN Secretariat

Selma Khamassi, Coordinator, SIGN Secretariat, WHO/EHT

The Safe Injection Global Network is 10 years old: Report on 10 Years recommendations to the SIGN Secretariat

In the 1990s the news from the field was alarming. Reports indicated that injections were overused, unsafe, and transmitted bloodborne pathogens on a large scale. In October 1999, The Bulletin of the World Health Organization published two key articles on unsafe injections and BBP transmission in the developing world. In order to address the problems posed by unsafe injection practices, the WHO initiated the Injection Safety Programme in 1999. At the same time the Safe Injection Global Network was launched and its Secretariat hosted at the Essential Health Technologies Department at WHO.

SIGN is an international alliance of stakeholders working to achieve safe and appropriate use of injections worldwide. The members of the Network agreed to meet once a year to



review achievements and make recommendations on the way forward. In SIGN's ten years of existence, 316 consensus recommendations were made to guide the worldwide implementation of SIGN strategies for the safe and appropriate use of injections. The key elements of the strategy are the development of national injection safety policies and plans, ensuring quality, safety and equitable access to safe injection equipment, and the appropriate, rational and cost effective use of injections.

68% of key recommendations to the Secretariat were reported to have been achieved or partly achieved, while 24% were reported as in progress or ongoing. Recommendations calling on the Secretariat and the network to 'keep the focus on injection safety' were the most frequently repeated recommendations. Only 5 recommendations, mainly about including the private and informal sectors in SIGN activities (5%) were reported as not achieved.

From 1999 the SIGN Secretariat has defined a "*safe injection*" and has focused on collecting data, evidence and information, developing and implementing an ambitious program of operational research, the development of tools for assessment of injection practices including sharps waste management, the introduction and management of injection safety programmes in countries, the development of a behaviour change strategy and Information Education Communication materials, the development of tools and guidelines for *Health Worker Safety, Health Care Waste Management, Leadership and Guidance to Countries* using sector wide approaches.

The SIGNpost weekly newsletter and the www.injectionsafety.org website, the "*First Do No Harm*" Brochure and a SIGN CD ROM were produced to reach out to a larger audience. In order to decrease overuse of injections, National Essential Drug list reviews and studies, Interactional Group Discussion interventions were implemented in Indonesia, Cambodia, Tanzania, Pakistan and India, and the Monitoring Training Planning strategy implemented in Indonesia, China (2 provinces) and Bangladesh. A guide for AD Syringe and Safety boxes introduction, along with collaboration with Industry on Technology Transfer, contribution to development of ISO standard for auto disable syringes for immunization and curative injections and for syringes with reuse prevention features, Global Burden of Disease estimates and cost effectiveness studies on injection safety strategies. Advocacy for injection safety and the WHO testimony to the US Senate in July 2003 led to a wide scale project on injection safety and improved access to safe injection devices in countries

From 2004, the scope of SIGN was broadened to related infection control activities, and collaboration with other WHO departments working on injection safety and related infection control, collaboration on post exposure prophylaxis, blood exposure and sharps injury prevention and surveillance were initiated. WHO regional focal points and national SIGN coalitions were established, an assessment tool for IV lancet and phlebotomy procedures was developed in 2007, pilot tested in two countries and is now ready for use, more technical guidelines were developed: best practices for injections and related procedures toolkit, phlebotomy guidelines, collaboration on injection safety training modules, increased support to countries injection safety assessments and strategy implementation, in-country partnerships using SWAPs to implement recommendations, and increased funding for the secretariat and countries was achieved

SIGN has set the policy framework and engaged more than 90 countries with more than half of the world's population in addressing unsafe injections. Injection safety has gained visibility worldwide, with improved practices in countries.



We need now to implement large scale projects addressing the safety of all injections. We need to assist countries implement programmes to investigate suspected nosocomial infections to identify unsafe injection practices and stop further nosocomial transmission of HIV, and Hepatitis C and B

The SIGN Secretariat wishes to acknowledge and thank our many partners for their support: country partners, international organizations, supporting governments, non-governmental organizations, health care workers associations, universities and student organizations, industry and trade associations.

Unsafe Medical Injections: Worldwide Risks for Hepatitis B and C

Savanna Reid, School of Community Health Sciences, University of Nevada at Las Vegas

Exposure to blood when health workers reuse injection equipment causes more than one in three infections with hepatitis B and C in the developing world. Injection campaigns to treat major diseases have played a historic role in the blood borne virus epidemics in Africa and Asia. Where hepatitis B is most widespread, in sub-Saharan Africa, unsafe injections are clearly still a problem but have not yet been adequately investigated. In Latin America information on injection risks has never been pursued in the study of the spread of hepatitis B and hepatitis C, but patient safety is problematic in many areas.

Outbreak investigations now follow immediately when needle or syringe reuse is discovered in the U.S. or Europe. Today the focus should be on performing outbreak investigations in the developing world. Prevalence of hepatitis C in parts of Africa and Asia is devastatingly high, and in much of Africa virtually all adults have been infected with hepatitis B. These numbers should raise red flags, as chronic diseases like hepatitis B and hepatitis C are only rarely in evidence immediately after an outbreak, as happened in Gujarat, India with an acutely lethal strain of hepatitis B. The injection safety improvements that follow from outbreak investigations have the potential to end major epidemics.

Preventing Hepatitis B&C and HIV Transmission through Blood Transfusion Route

Neelam Dhingra, WHO EHT, Geneva, Switzerland

There is a risk of transmission of infections through (1) lack of safe blood donors, (2) lack of screening of blood and (3) gross misuse of blood. WHO modeled the incidence of infections attributable to blood transfusions on the basis of the prevalence of the infection in the population, the probability of transmission of the infection following a transfusion with infected blood, the proportion of the population susceptible, the probability of exposure to an infected transfusion and the average number of blood transfusions received by a person each year. In 2000, 90 million transfusions were received worldwide. Overall, 31% of all blood donations were not screened for one or more of the three viruses under study. In the year 2000, infected blood transfusions may have caused 78 000 HBV infections, 500 000 HCV infections and 10 000 HIV infections, accounting for 0.12% 10% and 0.22% of all new infections, respectively.



Under the “worse-case scenario” analysis assuming that countries overestimate the proportion of testing actually taking place, the number of new infections due to unsafe blood transfusions amounted to almost 800 000 for HBV, 1 200 000 for HCV and 135 000 for HIV, yielding attributable fractions of 1.2% for HBV, 22% for HCV and 2.8% for HIV. Despite the existence of effective measures to improve the safety of blood and blood products, the proportions of HIV, HBV and HCV infections due to unsafe blood transfusions remain substantial, especially in some developing regions.

The low incidence of transfusion-associated infections where effective measures to ensure safe blood are in place suggests that this burden is highly avoidable. Safe and appropriate use of blood, blood components and blood products should be achieved through nationally coordinated blood safety programme that implement three-pronged approaches based upon (1) recruitment of safe blood donors, (2) testing and processing of blood units and (3) appropriate clinical use of blood. WHO supports countries' efforts to achieve blood safety through four strategic objectives, including (1) support to the formulation of national blood safety policies, (2) quality and safety of blood transfusion services, (3) increasing access to safe blood and (4) appropriate clinical use of blood.

Setting the Global Agenda for Viral Hepatitis Prevention and Control: The Governance of WHO Tackles the Issues in 2010

Steven Wiersma, WHO Immunization, Vaccines and Biologicals, Geneva Switzerland

WHO does not have a Viral Hepatitis (VH) strategy, programme of work or team/department for viral hepatitis. WHO deals with aspects of viral hepatitis prevention and control in five clusters and many departments. In January 2009, Brazil made an intervention at the WHO Executive Board (EB) and asked that viral hepatitis be discussed at the May 2009 World Health Assembly (WHA). This was supported by Oman and China, among others. This agenda item was deferred to the 2010 EB due to the H1N1-shortened WHA.

This agenda item on viral hepatitis prevention and control is a call to action for WHO Governance which will set direction, priorities, and resources for a WHO programme of work. Resolutions by Member States may call for specific action by Member States, International Organizations, Financial Institutions and the Director General of WHO. This will entail a process of accountability for same through regular reporting to EB/WHA.

The background document for this discussion is posted at:

http://apps.who.int/gb/ebwha/pdf_files/EB126/B126_15-en.pdf and describes diseases and associated burden of viral hepatitis. It recalls previous WHA and WHO actions/activities and states opportunities for further prevention and control. It also outlines elements of a comprehensive approach including prevention of transmission, identification and treatment of people most at risk, and innovation for developing new vaccines and technologies for use in viral hepatitis prevention.

SIGN members should be aware of these important developments and use this as an advocacy opportunity by discussing this with official delegations to EB

http://www.who.int/governance/eb/eb_members/en/index.html and the WHA
http://apps.who.int/gb/ebwha/pdf_files/A62/A62_DIV1Rev1.pdf



The International Federation for Infection Control: Special Interest Group on Safe Injection Practices and Disposal

Jane Murphy, Connolly Hospital, Blanchardstown, Dublin Ireland (IFIC Board Member/Co-chair of SIPD)

Ed Kristiunas, WNW International, Burlington, Connecticut, USA (Co-chair of SIPD)

The International Federation of Infection Control is an umbrella organisation of societies and associations of healthcare professionals in infection control and related fields worldwide. The goal of IFIC is to minimise the risk of infection within the healthcare setting world-wide through the development of a network of infection control organisations for communication, consensus building, education and sharing expertise.

Membership in IFIC is extended to societies of healthcare professionals in infection control and related fields in countries throughout the world. Currently IFIC has 66 members from 51 countries. Individuals in countries without infection control societies or associations that are not formally constituted may become associate members of IFIC at a reduced membership fee.

The Safe Injection Practices and Disposal Special Interest Group (SIG) was formed three years ago spurred by interest from IFIC members looking to improve injection practices. The goal of the group is to assist in the planning, implementing and evaluating strategies for the safe and appropriate use of injections in developing countries. While the goal is not to reinvent the wheel as there is much current information available, rather, IFIC can be the conduit for dissemination of this information and for feedback from a diverse group of end users.

The Safe Injection and Disposal Practice Group will be inviting proposal for projects that can reduce the incidence of needle stick injuries among healthcare workers. As with another recent SIG project, the successful proposal will include a plan to bring infection control best practices to a low-resource setting and prove that these practices work.

Resource Mobilization for Effective Healthcare Waste Management

Ruma Tavorath, Sr. Environment Specialist, World Bank, New Delhi India

Effective resource mobilization is a critical component of successful and sustained healthcare waste management. The presentation focuses on the importance and necessity of estimating and allocating an accurate budgetary framework for implementing healthcare waste management and the roles and responsibilities of various stakeholders, both private and public. It details the components to be included within a budgetary framework and touches upon the alternative options available and related costs. Options for cost reductions and improved efficiency measures are detailed. The presentation is backed up by a case study of a World Bank supported Health reform program in India. The sustainability angle related to over-arching environment management issues, including greening of health facilities, are highlighted as the ultimate achievement of performance standards.



Sessions 2 and 3: Applying Primary Healthcare Reforms to Injection Safety

Chair: Dr Joe Perz, U.S. Centers for Disease Control and Prevention, Atlanta Georgia USA

Rapporteur: Allan Bass, WHO Consultant

Health Technologies as a Key Instrument to Implement PHC

Adriana Berumen Velazquez, WHO/EHT/DIM, WHO Geneva Switzerland

In WHO Essential Health Technologies department we are tasked to enable Primary Health Care Reforms through Health Technologies. The challenge is to identify and facilitate the development and use of needed health technologies. People want their health services to provide care that is patient centered, available, accessible, safe, reliable, effective, and equitable. Health technologies to support health care require human resources, functioning equipment and infrastructure. Medical technology can involve the following risks to patients: electrical, mechanical, environmental, and exposures to pathogens, and radiological materials and devices.

EHT is working with member states and partners to refocus health systems towards achieving universal coverage with syringes with reuse prevention features, e-health for information wherever you are, people centered care, and the use of less invasive technologies. EHT is working to achieve safety, leadership at all levels and the incorporation of health technologies in national health plans. At the global level, World Health Assembly resolution 60.29 on Health Technologies urges "*member states to draw up national or regional guidelines, for good manufacturing and regulatory practices, to establish, surveillance systems and other measures to ensure the quality, safety and efficacy of medical devices and where appropriate, participate in international harmonization*". WHA Resolution 62.12 on Primary health care includes health system strengthening and the use of health technologies. The recent WHO Executive Board resolution EB 126/15 on Viral Hepatitis includes major focuses on the safe use of devices and technologies.

EHT is active in the development and dissemination of health technology guidelines for good health technology management. We are also engaged in a search for innovative technologies.

ECSCA-HC Policy reforms in Revitalizing Primary Health Care and Strengthening Health Systems Including Ensuring Injection Safety

Sheillah Matinhure, East, Central and Southern African Health Community, Arusha Tanzania

Around the world 50% of HBV is transmitted through unsafe injections. The East, Central and Southern African Health Community (ECSCA-HC) attaches a lot of importance to the Safety of Injections Programme as a significant component of the prevention of HIV/AIDS and other BBP. Between 1997 and 2008, the highest policy making body of ECSCA-HC, the Conference of Health Ministers from Kenya, Lesotho, Malawi, Mauritius, Seychelles,



Swaziland, Tanzania, Uganda, Zambia and Zimbabwe, passed several resolutions on safe injection practices to guide member states in promoting & strengthening injection safety. Despite this, the problem still persists. This prompted the 48th Health Ministers Conference (HMC) March 2009 in Swaziland, to agree an all embracing resolution (ECSA/HMC48/R1) focusing on Health Systems Strengthening (HSS) and revitalizing Primary Health Care (PHC) as this was deemed cost effective.

The main objective of policy reforms was to address the problems of Injection safety and infection prevention and control through PHC and HSS. The resolution urges member states to strengthen health systems, including assessments of the health workforce, leadership and management, infrastructure, equipment, supplies (including injection equipment), sources of financing, and engagement of the private sector. Countries should ensure that PHC facilities provide a mix of integrated services in promotive, preventive, care treatment and rehabilitation and ensure injection safety through mechanisms such as outlawing re-usable needles and syringes in both public and private sector.

Member states were directed to use evidence from appropriate research to inform policies and actions that support PHC including sustainable funding. Countries were urged to establish and/or strengthen national drug regulatory authorities, to expedite access to quality pharmaceuticals (including injections) and also balanced investments in training, supportive supervision, health infrastructure, logistics and provision of equipment and supplies. The Secretariat was directed to conduct research into the effects of changes in policy on service delivery as it relates to revitalizing PHC and HSS, design evidence-based advocacy strategies and document successful and promising models of PHC practices. The 48th HMC resolution on HSS and PHC will guide countries policies to promote safe injection practices.

Community Involvement: Injection Safety: Time to Involve the Community !

Moses Okinyi, Safe Healthcare Africa, Kenya

Invasive procedures in healthcare are associated with the transmission of HCV, HIV, and other blood-borne viruses in Sub-Saharan Africa. Estimates of the level of unsafe injection and other unhygienic procedures in the region vary by the source of evidence, but suggest that unsafe health care is not uncommon. Very large proportions of Africans are unaware that HIV and other diseases can be transmitted through blood exposures such as unsafe injections.

Only a few interventions to promote oral medication and safe injection practices in sub-Saharan Africa have been evaluated, and most evaluations have not involved control groups. Nonetheless, evaluation results suggest that the programs increased patient knowledge about healthcare safety and the nature of blood-borne HIV transmission reduced the number of injections administered and improved injection safety.

There is an urgent need to develop multi-stranded educational interventions focused on the general public and healthcare providers.



Universal Coverage Reforms: Injection Safety in Western Africa

RIPAQS Activities on Improving Patient Safety and Injection Safety in Health Institutions in West and Africa

Prepared by Adeoti FM, Chanfreau B, Upham MG, Ndoye B.
Presented by Bernard Chanfreau, Université Bordeaux, France

Although injections are an important means of treatment, prevention and promotion in medical practice in Africa, the use of injections is often excessive and inappropriate. Providers of health care, patients receiving health care, medical waste handlers, facility visitors and the community are risk from poor injection practices. , Injection waste becomes a source of pollution and other serious adverse events that may cause death, disability, medical extra costs, and declining attendance of health services.

Faced with this situation, RIPAQS (International Network for planning and improving the quality and safety in health care in Africa) provides support to countries of west and central Africa by a process of overall improvement of quality of care, management of risks in care and patient safety through support for research, training and coaching for public and private institutions.

The overall objective is to protect patients, providers of health care and community against the spread of HIV / AIDS and other diseases transmitted by blood through the development of safe medical injections and promoting regional harmonization of national strategies for injection safety, waste management and medical risk management in health facilities in general.

Operationally, the RIPAQS conducted several activities during the past three years in collaboration with regional organizations in Africa engaged in the health sector (WAHO, ECCAS, WHO-AFRO), the national focal points on "patient safety and risk management", the national associations of patient care safety, and regional associations of civil societies (LIASEP, RACLIN, IGRIS and ACAQS).

These interventions have concerned the areas of harmonization of regulatory and institutional frameworks of safety and care for injection safety, development of methodological tools of prevention and fight against injection overuse, and development of a regional observatory on serious adverse events related to injection safety in Africa.

Building Sustainability of Injection Safety through Policy Development: The MMIS Experience in 11 Countries

Ousmane Dia, John Snow Incorporated (JSI) Arlington VA, USA

Over the past five years (2004-2009), the Making Medical Injections Safer Project (MMIS) implemented interventions in 11 countries in Africa and Haiti to create an environment where all injections provided are safe, necessary, and disposed of in a safe and appropriate manner. MMIS implemented an expanded World Health Organization/Safe Injection Global Network (WHO/SIGN) strategy which focused on policy environment, commodity



management and procurement, capacity building and training, behavior change and advocacy, and health care waste management (HCWM).

The MMIS strategic approach focuses on developing partnerships at the national, state, and local levels to ensure that policy and implementation plans are developed collaboratively and in a sustainable manner. MMIS worked with host governments and country level partners to develop or update injection safety and health care waste management policies and guidelines to provide a supporting policy framework for implementation of interventions. The project's approach to policy development including establishing baseline data in country, advocacy for national policies, building organized and sustainable partnerships, integrating injection safety and health care waste management into existing programs, and mobilizing resources. This created an enabling environment that supported the long-term implementation of injection safety and HCWM interventions.

Over five years of implementation, the project found that Ministry of Health support was essential to engage and coordinate stakeholders. Additionally, the existence of a policy does not translate immediately into implementation. Supporting guidelines and implementation of injection safety and HCWM interventions are key to bringing a policy into action. Integrating injection safety into other programs such as infection prevention and control, occupational safety, as well as into national training institution and association curriculums reinforces improved practices through interventions and reduces competing priorities for decision makers.

Universal Coverage Reforms: GAVI Evaluation of Injection Safety Support

Raj Kumar, GAVI Alliance Secretariat, Geneva Switzerland

Last year the GAVI Alliance commissioned an external evaluation of its injection safety (INS) support to evaluate how countries have been able to replace GAVI Injection Safety Support in a sustainable way and the impact, if any, on injection safety policies and practices within the larger health system.

GAVI is providing injection safety (INS) support (AD syringes and safety boxes). Support is catalytic and time-limited for 3 years. Some countries can apply for cash grant in lieu of supplies. Support ended in 58 countries as of end 2006. Little was known about financial sustainability when support has ended.

Sustainability of INS Recipients of AD Syringes and Safety Boxes in 44 out of 46 countries receiving INS support have continued to use AD syringes after GAVI funding ended. Over half of these (54%) of these countries are fully funding AD syringes and safety boxes. All 12 cash recipient countries continued to use AD syringes and Safety boxes. 42% were fully funding the AD syringes and safety boxes while the remaining 58% were partially or fully supported by donors.

Countries were more likely to be self-sufficient if they had planned well for replacement of GAVI support and had a strong immunization program. Factors affecting discontinuation or partial coverage of AD syringes were decentralized procurement or local production of standard syringes.



Over half of the countries have introduced some component of Injection Safety into the broader health program. 90% felt that GAVI INS support had influenced their introduction of IS into other services. 80% stated that GAVI INS support had been influential in the development of IS policies for the health sector.

Waste management of AD syringes and safety boxes remains a problem in many countries

Day 2: Tuesday 1 December 2009: Celebrating World AIDS Day

Session 4

Chair: Dr Tom Mboya Okeyo, Ambassador, Office of the Permanent Representative of the Republic of Kenya to the United Nations Office at Geneva

Rapporteur: Allan Bass, WHO Consultant

Unsafe Injections and the Spread of HIV Worldwide

Savanna Reid, School of Community Health Sciences, University of Nevada at Las Vegas

A systematic reappraisal of the peer reviewed literature supports a substantial role for unsafe injections in the spread of HIV in Africa. An influential review by Schmid and colleagues that posits a restricted role for injections in the epidemic emphasizes the importance of sexual transmission. However, an exhaustive appraisal of childhood prevalence data, a meta-analysis of laboratory simulations of injections and needle-stick accidents, and the findings of a recent injection safety investigation in South Africa provide evidence that unsafe injections also contribute to the scale of the AIDS epidemic.

Minimum infective dose of HIV and dose in an injection or accident

Estimated transmission probability in an unsafe medical injection, if equipment is rinsed between use and reuse.

Patient viral load is 300,000 copies/mL	Infective dose from needle stick accidents	Infective dose from infective titer dilutions	Infective dose from patient viral load
Intravenous injection (8.9 µL)	1.2%	5.1%	1.8% (95% CI 0.1-3.2%)
Intramuscular injection (3.8 µL)	0.5%	2.2%	0.8% (95% CI 0.1-1.4%)

The modelled contribution of unsafe injections to HIV transmission in this region has been estimated at 2.5%, but in a sensitivity analysis noting that the prevalence of HIV in a clinical setting is higher than in the population as a whole, the same model attributes 12-17% of transmission in 2007 to unsafe injections.

Recent outbreak investigations in Kazakhstan and Kyrgyzstan have shown that even indirect contamination of injection equipment is sufficient to transmit HIV. In Africa and in Asia, unsafe injections are still common, but investigations that trace infections through health care settings are few, leaving too much HIV transmission officially unexplained.

A culture of infection control will never take hold in these regions without outbreak investigations and public education about blood-borne HIV.

EMRO Regional Committee Resolution on Hepatitis Prevention and Control in the EMR Countries: Speeding Up Prevention & Control of Hepatitis B and C in the Eastern Mediterranean Region

Ezzeddine Mohsni, Regional Advisor Violence, Injury and prevention, WHO/EMRO

The presentation summarizes the paper submitted to the WHO Eastern Mediterranean Region Regional Committee during its 56th meeting, held in Fez, Morocco from 4 to 6 October 2009, as well as the resolution adopted by all member states Ministers of Health during that meeting.

The paper highlighted the regional burden of both hepatitis B and C, for which WHO estimates that each year around 4.3 million persons are infected with HBV and 800,000 persons with HCV in the EMR. In addition, 17 million persons are having chronic HCV infection. Studies indicate that >75% of cirrhosis and HCC in the EMR is attributable to hepatitis B virus (HBV) or hepatitis C virus (HCV) infection.

The cost of treating patients with chronic HBV or HCV infection will certainly outweigh the cost of implementing prevention programs. Based on current treatment guidelines for chronic hepatitis C, the cost to treat 50% of eligible patients in EMR is estimated to be > \$125 billion and is expected to increase over time as additional persons become infected.

Available information within the Region indicates that the major modes of transmission of both diseases include are health care-related, including:

Unsafe injections: WHO estimates the number of injections given every year in the region at 2.1 billion, most of them in the curative sector. Assessments done through the EPI programme showed that around 26% and 39% of injections provided in the immunization and in the curative sector respectively are unsafe. Several studies done in EMR member states on major Hepatitis B & C transmission factors found unsafe injection on the top of most likely transmission routes. WHO estimated that in 2000, unsafe injections in the Region were responsible for 2.5 million HepB infections and 600,000 Hepatitis C infections, representing 58% and 82% of HBV & HCV infections that occurred in the region that year.

Occupational exposures: WHO estimates 10,000 Hepatitis B infections and 3,500 Hepatitis C infections per year among health care workers in the Region and problems with screening in several countries. Unsafe transfusions and growing injecting drug use are among the major transmission factors in several countries in the Region.

Strategies and tools for prevention and control of transmission of such blood borne pathogens are available and proven to be effective wherever well implemented.

Unfortunately, implementation of these strategies is far from optimum in several countries of the EMR. Adopting a comprehensive strategy and scaling-up implementation of the currently available highly effective prevention and control measures is urgently needed to prevent transmission of these blood-borne pathogens.

The paper proposed that all countries adopt, as a regional target, the reduction of the prevalence of chronic hepatitis B virus infection to < 1% among children less than 5 years of age by the year 2015. It ends with a resolution that was adopted by all member states, requesting them to develop, implement, monitor and evaluate comprehensive Hepatitis B



and C control and prevention actions plans, and requests the Regional Director to extend the required support to countries to reach the Hepatitis B reduction target and to develop and implement these plans.

Promotion of Injection Safety through HIV Control Programs in Russia.

Alexey Bobrik, Open Health Institute, Moscow Russia

Over the last 8 years the Open Health Institute (OHI) has been the implementer of several AIDS control projects in Russia, including a US\$ 88 million Global Fund grant and substantial components of the National Priority Health Project. Through these projects, we gradually came to recognize that although sharps injuries in medical institutions are associated with the occupational transmission of blood-borne infections, the issues of injection safety and occupational health of project staff are often neglected. Several situational assessments in Russian health settings have repeatedly revealed high prevalence of risky practices, widespread noncompliance with universal precautions, poor injury surveillance system, outdated regulatory framework, and low use of safer devices, sharps containers and other necessary equipment.

In 2007 OHI launched a cross-cutting program on occupational and patient safety with the primary goal of preventing transmission of blood-borne infections and promoting safe working environments in partner healthcare institutions. The major topics of the OHI's program included sharps safety, hand hygiene, medical waste management, and strengthening injury surveillance. The approaches that appeared to be most effective were the revision of outdated guidelines, use of a computer program for tracking occupational exposures to body fluids, promotion of safety awareness, training and skill building in safer work practices, and the provision of appropriate equipment and supplies.

The acceptance of the program by health institutions was unexpectedly high. Many health workers and administrators said that this was the first time that somebody paid attention to their needs. Besides direct benefits for project staff, promoting occupational safety in AIDS programs had many positive externalities including improved corporate culture in health institutions, renewed clinician's interest in HIV/AIDS, involvement of general health services into AIDS field, and etc. The success of the OHI's program was demonstrated by the rapidly growing attention to the issue of injection safety in Russia and by the inclusion of the topic in the National Priority Health Project in 2009.

Russia is not unique in a sense that health workers are a crucial element for success of AIDS projects in many parts of the world, but often they are a forgotten group themselves. Injection and occupational safety can be radically improved by simple and inexpensive measures, therefore, should be considered as indispensable component of current ambitious HIV/AIDS projects, including those funded by the Global Fund elsewhere



Session 5: SIGN at 10 Years!

Chair: Shaheen Mehtar, IPC, Tygenberg Hospital and Stellenbosch University, Cape town, South Africa

Rapporteur: Allan Bass, WHO Consultant

Review of 10 Years Recommendations to Countries on Injection Safety Strategies

Victoria Masembe, Country Director, Making Medical Injections Safer, Kampala Uganda

Unsafe injection practices prevalent in resource-limited countries pose a risk of transmission of bloodborne pathogens to patients, health care workers and the community at large. Lack of policy, guidelines, coordination, knowledge among health workers and members of the community, inadequate funding for appropriate equipment and supplies for injection and sharps waste disposal all contributed to the problem.

SIGN provided guidance to countries to help achieve safe injection practices, and made several recommendations between 1999 and 2008 focusing on policy development, supporting facilities to adopt and promote safe injection practices among health workers and community members, and ensuring sufficient supply of appropriate injection equipment and supplies.

Based on evaluations conducted during 2007/2008 in 96 countries, 62% of the countries have an Injection safety (IS) policy and 13 countries have established SIGN coalitions. Many GAVI countries have policies on sharps waste disposal. Assessment tools on safe injection practices at facility and community level are in place and are being used; 62 countries used Tool C in their assessment while 10 countries performed Tool C re-assessments and seven countries used rapid assessment tools.

National capacity in IS was improved through regional training workshops in AFRO, EMRO and NIS regions. Operational level training in best practices was supported by several donors. Syringes with Re-Use Prevention (RUP or AD) features were introduced beyond immunization in over 30 countries through pooled procurement bringing down the cost of the devices by 50%. Additional new devices were evaluated for performance and results used in further decision making.

A lot of progress was made by countries in implementing the SIGN recommendations on injection safety. However, many issues included in recommendations are yet to be addressed including operationalizing injection safety policies, increasing awareness among communities, incorporating IS indicators in Health Management Information Systems (HMIS), eliminating stock outs, and bundling injectables with devices. SIGN should review factors affecting performance in these areas and suggest ways of overcoming the challenges.



Review of 10 Years Recommendations on Health Care Workers Safety Strategies

Ten Years of Progress through the Safe Injection Global Network (SIGN): From evidence to action

Susan Wilburn, WHO Occupational Health, Geneva Switzerland

The presentation reviews how the Safe Injection Global Network (SIGN) used the WHO research on the global burden of disease from sharps injuries to health workers to spur action to protect health workers and inclusion of health worker protection in the WHO Global Plan of Action on Workers Health and other policy initiatives. A brief summary of SIGN recommendations regarding health worker protection and a status report on their implementation will be provided.

The ten year history of the Safe Injection Global Network has stimulated and reflected the progress made in raising awareness of occupational risks to health workers and in the development and implementation of policy, programmes, tools and resources for their protection. While from its inception, SIGN defined a safe injection to be safe for the patient, the health worker, and the environment; initially, attention was focused on patient safety and not on preventable needlestick injuries.

In 2001, following a SIGN recommendation for its creation, the first ad hoc working group on health worker protection was formed among SIGN partners. Then in 2002, the World Health Report estimated the global burden of disease from sharps injuries to health workers demonstrating the attributable burden of HIV (4.4%) and hepatitis B (37%) and C (39%) infections among health workers as a result of workplace exposure. The working group, formed in 2002, developed an *Aide Memoire* on health worker safety which was published in 2003. Also in 2003, spurred by the report on the global burden of disease, WHO together with the International Council of Nurse (ICN) launched the project *Protecting Health Workers -- Preventing Needlestick Injuries* which was piloted in South Africa, Tanzania and Vietnam and resulted in the adaptation of the SIGN injection safety tool kit for use in occupational health programmes which was published in 2005. In 2005, ILO and WHO published joint guidelines for health services and HIV/AIDS, an important step forward for health worker protection and for the first time, the SIGN meeting was held in conjunction with a major international occupational health conference in Hanoi, Vietnam. The joint ILO/WHO guidelines emphasized the occupational health control hierarchy to prioritize the elimination of unnecessary injections and unnecessary sharps such as IV needleless systems over a strictly behavioural approach. In 2006 to coincide with the first SIGN meeting to be held in Latin America, the *Protecting Health Workers -- Preventing Needlestick Injuries* toolkit was adapted and translated into Spanish and implemented in Venezuela and Peru. The World Health Report in 2006 on Human Resources for Health highlighted the crisis in shortages of health workers globally especially in Africa and advocated for the "support and protection" of the health workforce. The Global Health Workforce Alliance was created by WHO and partners to fulfil this mandate.

Then in 2007, the World Health Assembly endorsed the *Global Plan of Action on Workers Health* (WHA60.26), a ten year plan, which included two components directed at the responsibility of member states and WHO to protect the health workforce.



SIGN health worker protection recommendations over the past decade have included recommendations regarding raising awareness of the risks to health workers, need for policy development, surveillance of blood exposures, and the involvement of health workers in the identification and control of hazards. The "*Protecting Health Workers -- Preventing Needlestick Injuries*" tool kit includes awareness raising exercises and trigger video, tools for involving health workers and health and safety committees in the identification and control of hazards as well as the use of surveillance data for preventive activities, and a policy checklist for the control of occupational exposure to bloodborne pathogens. The launch of pilot in Venezuela and scale-up in Latin America was followed with the 2008 Joint WHO/ILO PEP Guidelines publication and launch at ICASA in Senegal. In 2009 Needlestick injury and bloodborne exposure surveillance networks were established and with training in 20 countries

Integration of occupational health principles and practices into the SIGNplus network at WHO has resulted in health worker protection's inclusion as a key component of Tuberculosis infection prevention and control (IPC) and other IPC guidelines published in 2008-2009 by WHO.

The Way Forward: Protecting health workers and health systems strengthening. Using the 2010 Joint WHO/ILO Policy *Guidelines on Improving Health Worker Access to Prevention, Treatment and Care Services for HIV and TB* to focus on implementation; 2010 WHO global framework for national occupational health programmes for health workers; Integration of health worker protection into injection safety, human resources, health systems strengthening, health care waste management, Infection Prevention and Control, patient safety, HIV, TB, Influenza, Hepatitis (SIGNplus), etc; PEPFAR; GHWA: Positive practice environments (PPE), International Commission on Occupational Health, Public Services International.

www.who.int/occupational_health/activities/pnitoolkit/en/index.html

Review of 10 year's Recommendations on Health Care Waste Management

Yves Chartier, Water, Sanitation, Hygiene and Health, Department for Public Health and Environment, Geneva Switzerland

Healthcare waste is a by-product of healthcare that includes sharps, non-sharps, blood, body parts, chemicals, pharmaceuticals, medical devices and radioactive materials. Poor management of HCW exposes healthcare workers, waste handlers and the community to infections, toxic effects and injuries. Injection waste, in itself, is a small part of the large health care waste management task ahead.

There were 81 SIGN consensus HCWM recommendations. 52% (42) addressed the SIGN network, 36% (29) were guidance to countries, and 14% (11) for the SIGN secretariat. Many recommendations were holistic, integrating HCWM with other elements of injection safety, other sharps injury protection and health worker safety. There has been limited formal reporting on progress in health care waste management.

In 2006 a full time HCWM focal point was employed by the WHO Department for Public Health and Environment. A policy paper on health care waste management was developed with the SIGN Secretariat and approved for dissemination.



WHO Programme activities include developing technical guidance materials for assessing the quantities and types of waste produced in different facilities, creating national action plans, developing national healthcare waste management (HCWM) guidelines and building capacity at national level to enhance the way HCW is dealt with in low income countries.

The HCWM Focal Point at WHO has developed a comprehensive website, database, and tools to support action on HCWM. <http://www.healthcarewaste.org> The website covers basic aspects pertaining to waste definitions and classification, main actors, risks and ways of minimizing HCW as well as the international agreements that underlie the legislative and regulatory principles governing the way HCW should be handled. The website provides resources on management, training, regulatory, and technology for national level down to primary healthcare facilities. A set of five databases provide documents, website links, country information, case studies and technical options.

At the end of 2008 many GAVI countries had a policy on safe segregation, treatment and disposal of injection equipment. 52 % (37 / 72) of countries had a national plan to safely treat waste from injection activities. 22 % (16 / 72) of countries had a national plan under development. 26 % (19 / 72) of countries had no national plan to safely treat waste from injection activities. Continued support was provided to a number of countries. Despite support and safe waste disposal being a historically low priority in many countries with limited financial support from national budgets and in some extremely complex settings such as Somalia, good progress was reported. Implementation was reported to be variable with support and monitoring needed. We greatly thank our collaborating organizations.

Day 2: Tuesday 1 December 2009 : Parallel Sessions

Theme 1: PHC oriented strategies to improve implementation and outcomes of injection safety and related infection control programmes at country level.

Chair: Anthony Battersby, WHO Consultant

Rapporteur: Allan Bass, WHO Consultant

Safe Injection Practice and SIGN Campaign in Nepal

Mahesh Nakarmi, Saraswoti Thakuri, Health Care Waste Management, Health Care Foundation, Kathmandu Nepal

Many health care workers like medical doctors, health care professionals, and supporting staff are at high risk for occupational exposure to blood-borne pathogens through sharp injuries.

The study on needle stick injury recently carried out by HECAF in Pokhara shows that 70% of study participants had an experience of needle stick injury. This study also shows that 22% of injuries incurred during recapping while 11% occurred during waste disposal.

Unsafe injection practice and improper sharps management is a major problem in Nepal and the single major cause of needle stick injury. Many injuries go unreported due to the lack of a reporting system and the lack of awareness about potential exposure to blood borne pathogens via needle stick injury.



In this context, HECAF started several initiatives in 2009 including the Safe Injection campaign in some hospitals. The campaign included training and awareness raising for hospital staff who are directly involved in injection use. At the conclusion of training and awareness activity the participants expressed commitment to make injection safer in days to come. This campaign needs to continue and to be expanded to other hospitals.

Nigeria's Country Experience with Injection Safety and Medical Waste Management

Emmanuel Okechukwu, Action Family Foundation, Lagos Nigeria

The burden of infection control, injection safety and the management of medical waste (MW) is a recognized global challenge. But the problems are of heightened intensity in developing countries such as Nigeria where cases of nosocomial transmission of blood-borne pathogens have been reported. Country-specific data show escalating HIV (and invariably HBV and HCV) prevalence rates which urges for intensified efforts in targeted areas of interventions. One area marginally addressed by the mainstream programmes is infection control, patient safety and effective medical waste management (MWM). Improperly managed medical waste differentially endangers to women, babies receiving immunizations and children at play. Fear of contracting blood pathogens especially HIV invariably compromises the quality of patients' care, access and safety of services.

Action Family Foundation's interventions in infection control and MWM in Nigeria are motivated by the conviction that only empowered personnel will ensure safety in delivery of health care services. We work to reduce incidence of hospital spread of infections and environmental contamination through evidence-based activities in four states of Nigeria targeting health facility administrators, health care professionals and auxiliary staff with capacity building and behaviour change communication and community action strategies.

My presentation provides an overview of the achievements of Action Family Foundation in Nigeria since 2005 in raising awareness, stakeholder engagement, training and practical MWM activities. It concludes with the mission of the newly-formed Health Care Quality and Patient Safety Association of Nigeria in the coming years which are consistent with the goals of the SIGN network.

A Decade of Injection Safety in Pakistan

Arshad Altaf, HIV/AIDS Project, Sindh Aids Control, Karachi Pakistan

Pakistan's population is steadily increasing and has reached almost 170 million. Hepatitis B and C continue to be one of the most serious problems with HIV gaining stronghold as the country has progressed from nascent to concentrated level of the epidemic in two high risk groups. Unsafe injection practices in the therapeutic sector have been responsible for the majority of bloodborne infection transmissions. Efforts on injection safety started soon after SIGN was established at WHO/HQ. The purpose of this talk is to appraise the audience on progress and prevailing obstacles of injection safety in Pakistan.



Pakistan is one of the few countries where sound epidemiological research has been conducted in the area of injection safety and results have established a strong association between unsafe therapeutic injections and spread of hepatitis B and C in the community. An initial event on injection safety was organized jointly with SIGN in 2000 in Pakistan which led to a series of events with progress and hurdles in moving this agenda forward. The testing of tool "C" and the determinants of injections study took place in 2000-1.

Many advocacy events at national and provincial level were organized to highlight this issue, increase awareness and gain government's support but the breakthrough only came in 2004 when national seminar with the Ministry of Health, SIGN, EPI/GAVI and other stakeholders was organized. This led to the development of first draft of legislation on injection safety. In 2005 the National Hepatitis Control Programme was launched and although it provided treatment for many infected patients, key issues such as patients paying for PCR from their own pocket were not addressed.

The MOH and Pakistan Medical Research Council conducted the first national study in 2007 with a representative sample of 47,043 persons screened for HBV and HCV. The prevalence of HBV was 2.5% and HCV 4.9% - meaning that approximately 784,000 Pakistanis are infected with HCV. A strong association between reuse of injection equipment and diseases transmission was once again confirmed. Parallel to the national programme, provincial programmes in Sindh and Punjab provinces have been established and they are also focusing on treatment. Less than 10,000 patients may have received treatment to date. Another relevant issue is the HIV and HCV co-infected injection drug users (IDUs). The national prevalence of HIV is 20.8% among IDUs, HCV has been found to be above 80% and a significant proportion (41%) of IDUs are married. Before 2008 they were not entitled for ARVs but this has changed and those fulfilling the eligibility criteria are getting all three drugs (ARVs, interferon and ribavarin) but have to go to separate treatment centers and are given interferon without genotyping.

In the past ten years many progressive injection safety events have taken place in Pakistan but limited attention is still given to prevention. Federal and Provincial Hepatitis Control Programmes should urgently focus on prevention and interventions such as empowering patients to question the need of an injection and the quality of syringes used.

Keeping Workers and Communities Safe: Safe Needle Disposal Options for Diabetics in Guyana

Mandy La Fleur, Guyana Safer Injection Project, Georgetown Guyana

Used needles put patients, health workers and communities at risk; yet options for safe needle disposal present significant challenges in resource-poor settings. In 2007, the USAID-funded Guyana Safer Injection Project (GSIP) conducted an assessment of insulin home-use and needle disposal practices. It found that clients disposed of used syringes in household pits, latrines, municipal trash and neighbourhood canals, putting municipal workers and communities at risk. GSIP and the Ministry of Health pilot tested options for safe insulin needle disposal in three government hospitals and two private clinics from January 1 to June 30, 2008. Methods tested centered on home-use of sharps containers and return of containers to facilities for disposal. Disposal methods tested included: 2.5L safety boxes, needle clippers, empty tablet containers, and client-sourced containers. Providers were trained to counsel clients, dispense containers and safely handle full



containers at the facility. Facility waste handlers were trained to dispose of client-returned containers with sharps waste.

An evaluation of the pilot program conducted in July 2008 found that all disposal methods tested were effective and safe; however, used tablet and client-sourced containers were most cost effective and sustainable. Nurses, pharmacists and waste handlers felt safe handling the disposal containers; no incidents of damage, puncture or injury were observed or reported. Clients, health workers and waste handlers felt the system was safe and practical. As a result of this pilot, the Guyanese Ministry of Health is scaling up the system and is developing a national policy on insulin needle distribution and disposal.

Recent U.S. Outbreak Experiences: Uncovering Gaps and Improving Practices

Joseph Perz, U.S. Centers for Disease Control and Prevention, Division of Healthcare Quality Promotion, Atlanta Georgia USA

The contribution of unsafe injection practices to the transmission of infections is believed to be greatest in resource-poor countries where overt reuse of injection equipment remains an issue. However, increasing numbers of outbreaks in countries like the United States indicate that unsafe injections, particularly those involving intravenous administration, represent a more widespread problem.

The recent outbreak of hepatitis C virus infections in a Las Vegas, Nevada endoscopy clinic showed that even highly trained healthcare providers do not always understand or adhere to aseptic technique and safe injection practices. In that outbreak, healthcare personnel did not reuse syringes for multiple patients but did reuse them to withdraw additional doses of an anesthetic agent (propofol) from a vial that was then reused for subsequent patients. The impact of this outbreak was amplified by the resulting public health notification that advised tens of thousands of potentially exposed patients of the need to seek testing for HBV, HCV, and HIV.

During 2007-2008, at least a half dozen similar outbreaks and incidents involving syringe reuse have resulted in large patient notifications in the United States and other countries. The challenge of assuring safe therapeutic injections requires diverse strategies and approaches. Improvements in medical devices and medication packaging may reduce opportunities for reuse and cross-contamination of injection equipment and vials.

Public health surveillance and outbreak investigation are vital to recognize and contain transmission and to provide an evidence base to guide prevention activities. Healthcare provider education and training should be based on defined expectations and standards that protect both workers and patients from harm. For example, in the United States, Standard Precautions* includes safe injection practices and is intended as the foundation for infection prevention in any setting where medical care is delivered. Finally, oversight, licensing and public awareness are all needed to drive change, foster a culture of safety, and assure that safe practices are followed.

* Available at: http://www.cdc.gov/ncidod/dhqp/gl_isolation.html



Launch of the Infection Prevention and Control Africa Network- IPCAN

Presented by Shaheen Mehtar, Chair IPCAN on behalf of the IPCAN membership

IPCAN was launched in July 2008 at the WHO/AFRO Regional Workshop on Injection Safety in Ghana. It was an exciting moment when many of those working in the realm of injection safety and other aspects of Infection Prevention & Control (IPC) got together and set up the network. Driven by the enthusiasm and commitment of its members, IPCAN is a not-for-profit organisation and is the first of its kind in Africa.

The first IPCAN meeting was held in 2009 in Uganda, supported by, among others, the WHO, WHO/AFRO, International Federation of Infection Control, World Federation of Hospital Sterile Supplies, PATH and industry. While the attendance was small (120 people) it was a huge success both socially and scientifically.

Topics covered were injection safety, tuberculosis, H1N1 influenza, cost of IPC, hand hygiene, hospital design and health systems in IPC. There were several excellent scientific papers presented from Africa - these will grow in the future.

The substance of the conference supported the aims and objectives of IPCAN and future annual conferences will ensure that more research and science is presented at such meetings.

IPCAN is a significant conduit for training, research, capacity building, resource management and advocacy for Africa in IPC - these are reflected in its aims and objectives as well as the task teams set up in Uganda.

I welcome all of you to the 2nd IPCAN Joint Conference with IFIC at Spier, Stellenbosch from the 29th August to 1st September 2010 and look forward to active participation from all.

Injection Safety and Sharps Management in UNRWA Clinics

Hanan Halwani Takoush, United Nations Relief and work Agency for Palestine refugees
UNRWA

UNRWA health clinics are guided by the "manual on the principles of infection control at the primary level". The manual is comprehensive and it covers most of the issues related to infection prevention and control including injection safety and sharps management. In some centers there are an infection control committees. Clinics use AD syringes, and when electricity is available, needle destroyers are used.

Nurses have routine in-service training. Checklists are used by supervisors to evaluate performance and the implementation of the instructions. If a staff member sustains a needlestick injury, she or he immediately and repeatedly washes the area in soap and water and covers it with a plaster. Such an injury is reported to the doctor.

All dental clinics, laboratories, treatment rooms and MCH rooms are equipped with a mini-electrical needle destroyer. Used syringes, needles, scalpel blades empty or partially empty



vials and ampoules are disposed of in the *safety box* and not put directly into the waste bin. When full the *safety box* is sealed according to the instructions provided by the manufacturer and placed in a plastic garbage bag. This garbage bag is sealed and immediately disposed of in public garbage containers. Disposal of contaminated clinical waste is in waste bins lined with a plastic bin liner that is covered with black garbage sack. All waste material, contaminated and non-contaminated, must be collected in the black garbage sack inside the plastic bin liners. When the sack is full or at the end of the day, the sac is sealed and placed inside a public garbage container.

Medical Officers must write clearly the medication, dose, route of administration and duration of use, for all injections in the medical record. An injection-slip is used to write the order for the nurse. A weekly diary is used to maintain the appointment system for injections. The diary also serves as an attendance record for patients referred to the Treatment Room for injections. Check lists are used to evaluate performance

The practice of using cardboard boxes or kidney dishes to store used syringes and needles in order to count them is banned. The number of syringes used is accounted for through the use of the Treatment Diary and the tally sheets (in MCH). Staff do not accumulate syringes and needles for destruction at the end of the clinic session.

Refugees attending our clinics are highly aware of injection safety, they care about injection sterilization, proper wrapping, expiry date, cleansing of skin, and hand washing. Beneficiaries generally rely on the Doctor's decision for prescribing medications and still view injections as a good remedy for their serious problems

More work on involving refugees in decision making in respect to their health is needed. Research work is needed to explore whether we have overuse, whether we rely too much on giving injections, how many injections administered/year and their purpose. We need more work on identifying how many needle injuries occur annually, and to identify cost effective devices on the market. We need to update our manual on infection control and proper waste management and disposal. We need to raise community awareness and participation, and involve more health staff in sharps and health care waste management.

Injection Safety Programme in Senegal

Plan D'amélioration De La Sécurité Des Injections Dans Les Pays D'Afrique Subsaharienne : Exemple Du Sénégal

Babacar Ndoye (PRONALIN), Bernard Chanfreau (RIPAQS)

Les mauvaises pratiques d'injection continuent de poser des problèmes de santé publique dans les pays en développement en général et en Afrique subsaharienne en particulier. Le Sénégal a mis en place depuis 2004 un Programme National de Lutte contre les Infections Nosocomiales (PRONALIN).

Un cadre institutionnel et organisationnel à tous les niveaux de la pyramide sanitaire ainsi qu'un plan d'action pour une amélioration continue de la qualité et de la sécurité des soins est en place. Parallèlement, sous l'égide du Réseau International pour la Planification et l'Amélioration de la Qualité et de la Sécurité des Soins (RIPAQS), de nombreuses activités sont menées en Afrique pour une harmonisation des pratiques.



Les auteurs présentent l'exemple du Sénégal avec son plan d'action global en matière de sécurité et hygiène des soins et son objectif d'amélioration progressive des performances à partir d'indicateurs de structures qui sont pour le moment fondamentaux mais qui laisseront de plus en plus place aux indicateurs de processus actuellement axés sur l'hygiène de base.

Des recommandations sont données aux autres pays d'Afrique qui ont un système de santé comparable, ainsi qu'aux différentes institutions partenaires pour l'utilisation de ce cadre particulièrement favorable, pour la mise en œuvre d'un plan d'amélioration de la sécurité des injections.

Quantification of Safe Injection Equipment

Lisa Hedman, PATH, Seattle Washington USA

Procurement guidelines exist for the planning, quantification, and implementation of injection safety equipment in immunization. In 2004, auto-disable syringes and injection equipment with other safety features such as anti-needle stick devices became available for curative services and other program areas. Currently, specifications for the procurement of curative devices are developed on a program-by-program basis and appropriate quantification methods are challenging. This ad hoc approach leads to stock outs, acceptance of poor quality devices, and a lost opportunity to address safety in the curative setting where the majority of injections occur. Common methods of estimating requirements include the use of population, consumption and service statistics, but each are problematic when applied to curative services. Problems are compounded by a lack of historic data, behavioral factors, and lack of coordination across procurement and program functions. MMIS performed a consumption study that validates these concerns. Additional support to ensure that quantification is not limited to special programs or informal procurement systems is an ongoing and unmet need. Minor adjustments to cost recovery systems are a potential solution, as are engaging local private sector distributors.

Day 2: Tuesday 1 December 2009 Parallel Session

Theme 2: PHC oriented strategies to improve implementation and outcomes of healthcare workers safety strategies

Chair: Jules Milogo, Independent Consultant

Rapporteur: Angela Laramie, Occupational Health Surveillance, Massachusetts Department of Public Health, Boston USA

Global Framework for National Occupational Health Programmes for Health Workers

Susan Wilburn, WHO Occupational & Environmental Health, WHO Geneva

The World Health Assembly Resolution endorsing the *Global Plan of Action on Workers Health* (WHA 60.26 http://apps.who.int/gb/ebwha/pdf_files/WHA60/A60_R26-en.pdf) calls upon Member States to develop national occupational health programmes to protect health



workers. WHO, together with occupational health of health worker experts in the WHO global network of collaborating centres in occupational health developed a *Global Framework for National Occupational Health Programmes for Health Workers* to assist member countries to implement their agreements under the Global Plan of Action.

The framework is consistent with the International Labour Organization Conventions on Occupational Safety and Health (No. C-155), Promotional Framework for Occupational Safety and Health Convention, 2006 (No. C-187) and the Nursing Personnel Convention, 1977 (No. C-149).

The purpose of this Global Framework for National Occupational Health Programmes for Health Workers as directed by the WHO Global Plan of Action (GPA) on Workers' Health is to strengthen health systems and the design of healthcare settings with the goal of improving health worker health and safety; patient safety and quality of patient care; and ultimately support a healthy and sustainable community.

Ministries of Health should consult and work with other relevant Ministries such as the Ministry of Labour, Social Security, and other organizations responsible for the protection and promotion of health worker health and safety in the private as well as public sector on the development of the National Occupational Health Programme for Health Workers to:

1. Identify a responsible person with authority for occupational health at both the national and workplace levels.
2. Develop a written policy on safety, health and working conditions for health workforce protection at the national and workplace levels.
3. Establish and provide access to Occupational Health Services and allocate sufficient resources and budget to the program, and support occupational health professional services, and the procurement of the necessary personal protection equipment and supplies.
4. Create joint labour - management health and safety committees, with appropriate worker and management representation.
5. Provide ongoing or periodic education and training that is appropriate to all parties, including occupational health practitioners, senior executives, front-line managers, health and safety committees, front-line workers, and the general public.
6. Identify hazards and hazardous working conditions to prevent and control hazards and manage risks by applying the occupational hygiene hierarchy of controls, which prioritizes elimination or control at the source.
7. Provide immunization against hepatitis B and other vaccine preventable diseases at no cost to the employee and ensure all three doses of the hepatitis B immunization have been received by all workers at risk of blood exposure - including cleaners and waste handlers.
8. Promote exposure and incident reporting; eliminate barriers to reporting and providing a blame-free environment.
9. Promote health worker access to diagnosis, treatment, care and support for HIV, TB and hepatitis B and C.
10. Utilize appropriate information systems, to assist in the collection, tracking, analyzing, reporting and acting upon data to promote health and safety of the healthcare workplace and health workforce.
11. Ensure that health workers are provided with entitlement for compensation for work-related disability in accordance with national laws.



12. Promote research on OHS issues of concern to health workers, particularly with respect to combined exposures and applied intervention effectiveness research.

Prevalence of Hepatitis B and C among Health Care Workers: Preliminary Results

Shinee Enkhtsetseg, WHO/Mongolia

Health-care workers are at increased risk of infection due to occupational exposure to blood and other body fluids, contaminated sharps, and etc. There is limited data on the average number of sharp injuries among HCWs in Mongolia. Logez S. et al, 2004 performed rapid assessment of injection practices and reported 2.6 needle-stick injuries per year. Few sero-epidemiological data are available.

This study was conducted by Health Sciences University of Mongolia's (Central Research Laboratory, Department of Molecular Biology and Genetics and Department of Gastroenterology with support from WHO, Health Promotion Foundation, Ministry of Health and City health Department.

The goal of this study was to determine the prevalence of sharp injuries, and the prevalence of HBV, HCV and HIV infection among health care workers of Ulaanbaatar city and to develop recommendations.

Objectives: Determine prevalence of the sharp injuries among health care workers (define high risk group and type of injuries); Assess knowledge, attitude and practice among selected health care workers; Determine prevalence of HBV, HCV and HIV infection among target populations and causative factors; Assess quality of sterilization of reused instruments, materials and the risk of transmission blood borne pathogens.

A cross sectional descriptive study was carried out in Ulaanbaatar city and multi-staged selection procedure applied taking into consideration ethical issues.

Serological testing for detection of HCV, HBV, HDV, HIV's HBsAg, anti-HBs, anti-HBc, HBeAg and bacteriological analysis for determination of sterilization quality were conducted. In addition, a questionnaire survey and individual and focus group discussions were held. Data processing and analysis were made using SPSS 17.

Preliminary findings of study of 255 participants were presented. 70.2% of doctors, 95% of nurses, laboratory technicians, obstetrician, 86.8% of workers, somehow, were injured by sharps, and after the injury 28.6% of doctors, 26.7% of nurses, laboratory technicians, obstetricians, 30.2% of workers were informed about their injury state. 11 % doctors, 7.1% of nurses, laboratory technicians, obstetricians, 18% of care assistants and workers were vaccinated against HBV.

Preliminary data of serological testing showed that the overall positive rates of HBsAg 8.5% (17/199), anti-HBs were 36% (73/199), anti-HBc 80% (161/199), HBeAg 0.5% (1/199) and Anti-HCV 76.9% (439/571) respectively. The final report will be available by the end of 2009 and clear recommendations on occupational health, prevention of sharps injuries and injection safety will be developed.



Session 2: Integration of occupational health into related programmes

Policy Guidelines on Improving Health Care Workers Access to Prevention, Treatments and Care Services for HIV and TB (TREAT Policy)

Eileen Petit-Mshana, Department of HIV/AIDS, WHO/Geneva

As part of its efforts to deal with the crisis in human resources for health and support the response to HIV and TB, WHO in collaboration with ILO has engaged in formal consultations with the stakeholders and partners towards developing policy to improve health workers' access to HIV and TB services.

The initiative originates from the Treat, Train, and Retain strategy (TTR) that was jointly launched in 2006 by the World Health Organization (WHO), International Labour Organization (ILO) and International Organization for Migration (IOM), to support delivery of HIV/AIDS services towards Universal Access Goal and address the impact of HIV on the health workforce. WHO, ILO and IOM, acknowledge that, "although health workers are at the frontline of national HIV/AIDS programmes, they often do not have adequate access to HIV/AIDS services themselves". <http://www.who.int/hiv/pub/meetingreports/ttr/en/>

Apart from looking into the issues of health care worker access to services, TTR strategy is also an important component of WHO efforts in promoting comprehensive national strategies for human resources for health development, which is an integral part of health systems strengthening within PHC renewal context.

Evidence show that HIV and TB together account for a high percentage of the mortality and morbidity experienced by health workers in high burden countries. Loss of health workers due to HIV/AIDS and TB is becoming urgent and hitting hardest in countries that are already severely affected by the global human resources for health crisis and negatively affecting the goal of universal access to HIV/AIDS services.

A situational analysis that was conducted in 5 African countries in 2007, as well as a recent (2009) country survey on policy practices conducted in 17 countries covering all WHO regions show considerable gaps in the implementation of current policies, especially with respect to health workers' entitlements, rights, and access to HIV/TB prevention, testing and care. These studies show that even when good policies exist at the national level, they do not always percolate to facility level as a consequence of lack of information, lack of resources for implementation, and unclear or absent allocation of responsibility. In addition, the studies show that health workers are poorly protected against both sexual and occupational transmission of HIV. For example, in some SSA countries up to 68% of health workers report inadequate supplies of gloves, soap, water and safety boxes. Staff report generally good access to ART (less for family members, and less frequently free), but HIV testing remains a critical stumbling block on account of lack of confidentiality, stigma and fear of discrimination by management. Post Exposure Prophylaxis (PEP) is far from universally available, is not well understood, and avoided for fear of compulsory HIV testing. Stigma issues are greater for testing than for access to ART.



TREAT policy guidelines advise all employers of health workers to establish or extend effective comprehensive workplace and out of work programmes to provide prevention and treatment, care and support services for health workers with HIV and TB. The ultimate goal is to contribute to the improved health of health workers and to retain them in the workforce.

There is a critical need to have in place policy implementation strategies and programmes integrated with and supported by existing national HRH plans and financing mechanisms such as MTEF/LTEF, SWAp and other related processes.

Core Components of infection Prevention and Control Programmes

Carmem Pessoa, WHO/BDP (Biorisk Reduction for Dangerous Pathogens), Geneva Switzerland

Health care-associated infections (HAI) are an important public health problem because they occur frequently, cause morbidity and mortality and represent a significant burden among patients, health-care workers and health systems. HAI occur worldwide and affect all countries, irrespective of their degree of development. A considerable proportion of the burden of disease attributable to HAI is preventable and many interventions that have been proven to be effective are of low cost. In addition, if outbreaks hit health care settings without a culture of safe practices, the risk of disruption to health care systems can be high. Among many important lessons derived from the SARS epidemics, being prepared and having a culture of safe health care practices is key to coping with outbreak situations.

Countries and health-care facilities that have established Infection Prevention and Control programmes will be better able to contribute to the prevention of endemic infections associated with health care and to the better management of outbreaks that cause high morbidity, mortality and economic burden to patients and institutions. Therefore, establishing and strengthening infection prevention and control programmes at national level and in every health facility is essential for a successful response to epidemics and reducing the burden of endemic infections associated with health care.

A huge gap still exists between the knowledge accumulated over the past decades and implementation of infection control practices. This gap is even deeper in resource poor settings with devastating consequences, and breaches in infection control measures undermine every advance and investment in health care.

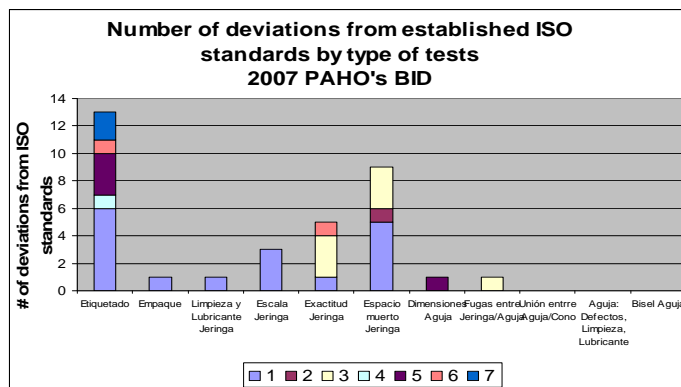
Progress on Injection Safety in National Immunization Programs in the Americas

Nora Lucia Rodriguez, Regional Advisor, WHO/AMRO, Washington DC USA

PAHO's immunization safety initiative is one of the fundamental components of the injection safety program and requires the use of safe and quality syringes. To implement the initiative, PAHO developed a regional plan for accomplishing the objectives of the initiative. Since 2004, the Unit of Immunization and the Unit of Essential Medicines, Vaccines, and Health Technology have developed a Regional Plan to verify the quality and safety of

syringes. The plan was originally based on compliance with international ISO regulations (specific to AD and disposable syringes and needles). This program was extended to include the whole product life cycle, from procurement, storage, distribution, and safe use to its final disposal. The objectives of the plan includes injection safety, the development of capacity at national level, the organization and establishment of laboratory capacity to verify the quality of syringes, and strengthen national immunization programs and the transferring of the accumulated knowledge, infrastructure and expertise on syringe management to countries and strength National Regulatory Authorities.

In 2007 40 samples provided to PAHO by manufacturers were evaluated by PAHO's reference laboratory (WHO/PAHO collaborating center). The testing revealed that 5 manufacturers had syringes with deviations and nonconformities with reference to ISO standards related to proper labelling. In addition, three manufacturers had syringes that did not meet the standards for 'accuracy' and three manufacturers had syringes with nonconformity in relation to dead space.



In order to improve the capacity for verification of the conformity of syringes efforts are under way with the national regulatory authorities to establish quality control laboratories in six countries. In November 2009 a Workshop on good laboratory practice (GLP) on syringe assays and preparation on ISO/IEC 17025 for accreditation was carried out in Nicaragua.

A notification system and database have been set up to register and monitor incidents reported by countries in relation to the quality and safety of syringes. Documentation of such problems allow for follow up, research activities and posting of alerts based on the results.

Injection Safety workshops were held in Nicaragua and Honduras in July 2008 and November 2008 respectively. Funds for workshops were provided by GAVI and technical collaboration for the workshops was provided by the WHO, the US Centers for Disease Control (CDC) and the US NIOSH.

During the 2009 Regional Immunization Week many countries targeted health care workers for protection against vaccine preventable diseases. Nearly 27,675 health workers were vaccinated against measles, rubella, hepatitis B, and yellow fever in Bolivia, El Salvador, Dominican Republic and Suriname. Dominica complemented their vaccination week campaigns by training health care workers on occupational health and infection control measures.



Taking advantage of the introduction of the H1N1 influenza pandemic vaccine in the Region, training activities made special efforts to remind participants to follow safe injection practices as part of preparedness planning for vaccinating the target populations.

Sustaining investments in the areas of supervision and training underpin the Regional plan to protect the health care worker from occupational health risks. Likewise improving the safe collection, transport and final waste disposal of used injection equipment, as well as ensuring the availability of safe technology and personal protection equipment (PPE) will require continuous investments by the governments

Each country should develop regulations and codes to govern the management of health care waste and to support best practices for Injection Safety. Investment will be required to support the establishment of the required infrastructure (logistics, land fills, incineration equipment & human resources), to develop and maintain the required processes to support the infrastructure, and to train and update health care workers. Evaluation and monitoring activities will be critical for measuring compliance and for documenting the impact as well as indispensable for achieving and protecting the gains.

Innovative Partnership Model for Preventing Occupational Bloodborne Pathogens Infections among Health Care Workers

Dr. María Sofia Lioce-Mata, Assistant Coordinator of NIOSH Global Collaboration Program, Atlanta Georgia USA

In Latin America the attributable fraction of infections among health care workers due to sharps injuries reaches about 80% for Hepatitis B, 53% for Hepatitis C, and 2.5% for Human Immunodeficiency Virus. In 2005, the World Health Organization (WHO), the Pan American Health Organization (PAHO) and U.S. National Institute for Occupational Safety and Health (NIOSH) and Latin-American partners developed a model project for the Region. Venezuela agreed to conduct the pilot project. The WHO toolkit "*Protecting Healthcare Workers: Preventing Needlestick Injuries*" was culturally and linguistically adapted to Latin American audiences.

In 2007, international, national and state partners participated in national and train-the-trainer workshops. The partners agreed to have Aragua State as a model for the country. The key partners in Venezuela who have been working in the implementation of the needlestick project are Institute of Public Health Advanced Studies Dr. Arnoldo Gabaldon (IAES) the highest scientific institute of the Ministry of Health, CORPOSALUD the autonomous health institute attached to the Governor of State, PDVSA, Petróleos de Venezuela, S.A. the Venezuelan state-owned petroleum company, and IVSS the Venezuelan Institute of Social Security.

The key tools used were Train-the-Trainer Program (WHO CD Toolkit) - prepares leaders in healthcare (frontline workers, occupational safety and health committees, and management and worker representatives) to prevent exposure to bloodborne infections, a surveillance system for needlestick injuries using the EPINet Program, a tool for the evaluation of sharps with safety devices, and healthcare workers Hepatitis B immunization campaigns.

The approach seeks to achieve sustainable expertise within academic institutions, employers, frontline workers, and ministries. The pilot project started in 4 hospitals in Aragua State, Venezuela in 2007. Today, this Train-the-Trainer Program has reached an



estimated 30,000 healthcare workers, 210 healthcare facilities and 8 universities in 15 states. Recently, a surveillance system using EPINet has been implemented. In 2008, the project was implemented in Peru jointly with a national campaign to provide Hepatitis B immunizations to healthcare workers. To date, about 1,200 healthcare workers have been trained. About 75% of the 300,000 healthcare workers are immunized. In September 2009 the "*First Regional Encounter for Latin America and the Caribbean: Health Protection of Health Care Workers*" was held in Venezuela. International representatives from Brazil, Canada, Cuba, Colombia, Ecuador, United States, Guatemala, Jamaica, Peru, Dominican Republic, and Trinidad & Tobago attended the meeting.

Session 3: Safer Needle Devices to protect health workers - Efficacy and progress in implementation

User-based criteria for evaluation and selection of safer devices

Presented by June M. Fisher, MD Director, TDICT Project, San Francisco USA

User-based Criteria for Evaluation and Selection of Safer Devices

The Training for Development of Innovative Control Technology Project (TDICT) is a 20 year collaboration of frontline healthcare workers, industrial hygienists and product design engineers whose original mission was to promote the development and use of engineering controls to prevent occupational exposure to blood. Several project outcomes include a series of user based instruments to assist frontline health care workers in systematic evaluation and selection of safer devices to prevent sharps injuries.

The overall scheme for such systematic assessment consists of three major steps: 1. Task analysis; 2. Preliminary screening of all available devices in a single category; and 3. Simulation studies with preferred devices selected in step 2. Assessment tools are provided for each of these steps. For this presentation, the sequence and tools for assessment of safety syringes and safety IV access devices will be presented.

The utility of such a systematic approach as perceived by both frontline healthcare workers and senior staff responsible for device procurement will be discussed. This will be based on the report from the WHO/PAHO, NIOSH and IAES regional workshop for Latin America and Caribbean countries in Maracay, Venezuela and a follow up training conducted in Merida, Venezuela by frontline workers who attended the workshop.



Sharps Injuries among Massachusetts Hospital Workers: Findings from the Massachusetts Sharps Injuries Surveillance System, 2002-2007

Angela K. Laramie, MPH; Vivian Pun, MPH; Letitia K Davis, ScD, MPH

Massachusetts Sharps Injury Surveillance Project, Occupational Health Surveillance Program, Massachusetts Department of Public Health

Sharps injuries are a serious hazard faced by anyone working in the healthcare setting. It affects not only clinicians, but also housekeeping staff and others working in the facility. In Massachusetts, there are approximately 10 such injuries reported in hospital settings each day.

Data on injuries from contaminated sharps are collected each year from all acute and non-acute care hospitals, as well as any satellite units (e.g., community health centers) licensed by the Massachusetts Department of Public Health. All individuals providing care or working in these settings are included in the population under surveillance.

More than 3,000 injuries have been reported each year among workers in Massachusetts hospitals since the inception of the program. While the number of sharps injuries has remained relatively steady, rates per 100 licensed beds have consistently decreased over time. In addition, rates for specific devices have decreased over time as the adoption of devices with sharps injury prevention features has increased. However, for some devices such as hypodermic needles / syringes, just under half of the injuries involve devices lacking sharps injury prevention features. This is of particular concern, as safer devices have been on the market for more than a decade.

There is continued need for the adoption of devices with sharps injury prevention features. Barriers in the procurement process need to be identified and addressed. In addition, research needs to move beyond comparisons of devices with sharps injury prevention features to those without, with a focus on the various mechanisms of sharps injury prevention features. The proportion of injuries involving devices with sharps injury prevention features raises the question of whether additional training on the use of devices, or better device design is needed.

New Legislation and Regulation for Safer Needle Devices: Brazil

Cristiane Rapparini, Coordinator, Project Riscobiologico, Innovative Control Technologies, Rio de Janeiro Brazil

Healthcare workers (HCW) frequently face the risk of occupational infection from bloodborne pathogens following exposure to blood and body fluids. Brazil has implemented different efforts and policy initiatives to reduce the risk of infection related to these exposures during recent years.

Hepatitis B vaccine has been available free of charge, provided by the Ministry of Health, for all HCW since the nineties and antiretroviral drugs for occupational exposures to HIV are widely available since 1996 when the first US PEP for HIV Guidelines were published.



Epidemiological data on exposures to blood are essential for targeting and evaluating interventions at the local and national levels. Until very recently, there was no national surveillance system of occupational exposures to bloodborne pathogens among HCWs. In 2004, the Ministry of Health passed a law mandating the reporting of these exposures, which are a reportable condition.

In 2005 the Ministry of Health passed a law, *Norma Regulamentadora NR32*, which had a tripartite regulatory system and addressed several issues regarding the occupational health and safety of HCW, including exposures to blood and bodily fluids. It required healthcare employers to implement the use of safety-engineered sharps devices in order to reduce employees' occupational exposure to bloodborne pathogens.

For the national implementation of safety devices, some important questions have been addressed by the Committee of NR32, such as which safety devices were available in Brazil, what costs were involved and what was the lead time from customer order to delivery.

The strategy adopted by the committee to address all those pending and very important questions was to convene two associations – one representing the manufacturers of medical and dental products and the other representing importers of medical equipment, products and supplies. They represent the most important companies in the healthcare-medical equipment sector in Brazil.

After the data was collected and analyzed, a complementary Law, *Portaria MTE N.º 939 November 11th, 2008*, was passed and amended with the citation of safety devices article of NR32, establishing the deadline for compliance. Employers must promote the use of safer devices in no more than 24 months (October 2010), with an interval of 6 months to disseminate and train, with 18 months for implementation and market adjustment.

Additional efforts have also been implemented by the Ministry of Social Security, such as tax benefits for facilities that implement prevention programs and are able to reduce the incidence of exposures.

The Role of Health Worker Trade Unions and Professional Representatives in Negotiating Safer Needle Devices

By Dr. Jorge Mancillas, Public Services International, France

In 2008, Public Services International, a global federation which includes 231 health workers unions in 154 countries, launched a campaign to promote the switch to safe devices in health care settings. A centrepiece of the campaign has been the promotion of retractable syringes as a device which offers protection from needlestick injuries for health workers and waste handlers and protection for patients from reuse of contaminated syringes. One objective of this coordinated global effort is to reduce the price differential between standard and retractable syringes by creating economies of scale.

Health worker unions affiliated to PSI used a variety of strategies, ranging from advocacy before their Ministries of Health or provincial health authorities, negotiating agreements with organizations of employers or individual employers, inclusion of the issue while negotiating collective bargaining agreements, advocating for legislation at the state or national level and advocating for financing for the purchase of such devices by international financial institutions. In the pursuit of this campaign, PSI affiliates have collaborated with



WHO departments, organizations which provide technical expertise, NGO's and device manufacturers.

Examples of success include a decree by the government of the Democratic Republic of Congo making the use of retractable syringes mandatory in all settings. This move provides protection for over 54,300 health workers and their patients in a country with high incidence of diseases caused by blood-borne pathogens, like HIV, Ebola, and Malaria. In addition, it is estimated that the high volume of purchases being generated will reduce the global average price of retractables by one cent.

In Guatemala, the Ministry of Health agreed to a clause in the collective bargaining agreement with the health workers union committing to switch to retractable syringes. Significant advances were also obtained through legislation, negotiation and advocacy in South Africa, Nigeria, Angola, Costa Rica and states in Brazil and the United States.

Another positive development is the signing of a framework agreement by the European Federation of Public Services Union (PSI's regional organization for Europe) and the European Hospital Employers organization, HOSPEEM.

In conclusion, health worker unions can be a significant force in successfully advocating for policies and practices promoting safe injections. They are also an indispensable element in the successful implementation of those practices and the effective use of those devices.

Surveillance Data on Safety Devices from a French Hospital Network

Elisabeth Bouvet, Infectious Diseases Department, Bichat University Hospital – Paris, and Chair of GERES (Research Group for the prevention of Occupational Infections in HCWs), Paris, France

In France, 14 documented and 34 possible occupationally acquired HIV infections had been notified since the beginning of AIDS epidemic. 13 of the documented cases were due to NSIs by hollow-bore needles, of which 10 were used for venous blood sampling, and 7 could have been prevented by application of standard precautions. As in other European countries, the law made employers responsible for assessing risks and preventing them. In 1998 they were called to implement a «*Blood Exposure Prevention Program*» including training, providing safety-engineered devices (SEDs) and surveillance.

To assess the impact of preventive measures implemented, the GERES conducted in 2000, ten years after a first multicenter prospective study, a new survey with the same methods and in a similar hospital network. The mean NSI rate for all relevant nursing procedures was found to be 4.72 per 100,000 procedures, with a 75% decrease since 1990 ($p < 0.01$). Decreases in the NSI rates for each procedure were strongly correlated with SEDs use ($r^2 = 0.77$; $p < 0.02$). Particularly, the use of SEDs during phlebotomy procedures was associated with a 74% risk reduction.

The GERES therefore conducted in 2005-2006 an observational multicenter survey to assess the efficacy of different types of SEDs. Device-specific NSI rates were compared using Poisson approximation. The 95% confidence interval was used to define statistical significance. The overall low NSI rate of 2.05 /105 devices demonstrated the efficacy of SEDs. We found that some SEDs were more effective than others in preventing NSIs. Passive devices were associated with the lowest NSI incidence rate. Among active devices, those with a semi-automatic safety feature were more effective than those with a manually



activated toppling shield (usually requiring a one-handed activation), which in turn were more effective than those with a manually activated sliding shield (usually requiring a two-handed activation). The same gradient of SED efficacy was observed when the type of procedure was taken into account.

GERES surveys demonstrated in France the key role of SEDs in the risk reduction and showed passive devices to be the most effective. Risk factors of transmission are well known and NSIs from hollow needles placed in veins or arteries must be targeted in prevention policies. There is nonetheless still considerable room for improvement in reducing injuries in all countries, and above all in developing countries where access to SEDs to address safety issues associated with phlebotomy must be given top priority.

Theme 3: PHC oriented strategies to improve implementation and outcomes of healthcare waste management strategies

Chair and Rapporteur: Edward Krisiunas, WNWN International, Connecticut USA

Assessment and Formulation of Strategy on Healthcare Waste Management

Ute Pieper, ETLog Health, Berlin, Germany

National agencies responsible for the issue of health care waste should be fully aware of current levels of waste production and of national waste management practices. A comprehensive assessment is essential for planning an effective waste management programme. The results of this assessment are part of a national strategy, which is the framework for the implementation of the national policy into reality. This presentation outlines the needs and contents of the assessment and the strategy through the example of Azerbaijan.

Non-Incineration Medical Waste Treatment Pilot Project at Bagamoyo District Hospital, Tanzania

Ruth Stringer, Health Care Without Harm, Jamal Kiama, AGENDA, Jorge Emmanuel, UNDP GEF Project, Fabian Magoma JSI, Ernest Chenya, JSI, Jamidu Katima, University of Dar es Salaam

Historically, in low and middle income countries, the prevalent treatment method for medical waste has been small-scale incineration. However, these installations are highly polluting and regarded only as an interim treatment method by the World Health Organization. The Stockholm Convention on Persistent Organic Pollutants recommends that technologies that do not generate dioxins be given priority. To demonstrate the use of small-scale steam-based technology, an Indian manufactured autoclave and shredder were installed in Bagamoyo District Hospital, Tanzania by implementing partners HCWH, AGENDA, JSI and the UNDP/GEF with help from Toxics Link in India. A series of experiments ascertained the most effective run parameters for the autoclave, achieving level III disinfection and higher; and made sure that cardboard safety boxes could be



autoclaved without losing integrity. Segregation equipment and personal protective equipment were also provided and the staff trained in segregation and technology operation.

Since the commercial autoclave and shredder were designed for different purposes (sterilization of medical instruments and shredding of plastics respectively), the demonstration provided engineers with information for future equipment designs specific to medical waste. The setup was monitored for twelve months with interventions as necessary to solve problems as they arose. Initially, there was some corrosion of the welds at the bottom of the unit. The cause was the high salinity in the well water used by the hospital, which was located near the ocean. Switching to piped water prevented a recurrence.

The proportion of waste classified as infectious was reduced from 62% at the start of the project to 25% at the conclusion as a result of better segregation. Sterile kidney dishes provided on the treatment trolleys allowed the nurses somewhere to put used dressings, swabs, packaging, etc. and so prevented them from filling the sharps boxes with materials that could jam the shredder.

The stainless steel needles of the syringes did blunt the blades of the shredders, but this had been anticipated and a spare set bought. It was a simple procedure to install new blades and sharpen the blunt ones at the University of Dar es Salaam. The motor failed one occasion because of irregularities in the electricity supply, but a local repair shop was able to make the repairs.

At the end of the 12 month monitoring period, the hospital authorities were pleased with the operation of the system and the government of Tanzania is considering replicating it in all 229 of their district hospitals. The University of Dar es Salaam and the UNDP/GEF project are now working on the design of low-cost autoclaves and shredders which will be more efficient, as robust and low maintenance as possible, and can be manufactured in Africa. Lessons learned from the project have been incorporated into the designs and prototypes will be produced by the end of 2010.

Development and Implementation of a National Training Programme: Mali Experience on Training

Boubacar Maiga, Direction Nationale de la Santé Division Hygiène publique et Salubrité
Bamako, Mali

Mali has an area of 1,241,000 Km², a population of 12,958,391 served by 5 national hospitals, 8 regional hospitals, 59 district health Centers, 873 community health centers and 723 private health centers. We have conducted an assessment of health care waste management (HCWM), developed a national plan of action on HCWM, and have a working group and a steering committee for HCWM. The major difficulty and constraint is the lack of legislation and a regulatory framework.

We are looking at the opportunities for action on HCWM with funding through the multi-sectoral AIDS project (World Bank, Global Fund), the national budget, and the GAVI special project on waste management.

Mali's national HCWM training programme began with the assessment of staff skills in managing biomedical waste in various studies using the WHO rapid assessment tools. We



developed a training document and procedures manual, a draft IEC message and a poster, developed pre-test and validation materials, and disseminated these educational materials. All participants were provided with training documents, procedures manual and educational materials

Training is conducted using a cascade approach, with a national training workshop for trainers on the GDBM comprised of: tThe heads of the Public Health Division - The Regional Directorates of Health; A doctor and the health technician from each of the Regional and National Hospitals; The Association of Private Structures; The Directorate of Health Services of Armed Forces. At the regional level training workshops involved CSREF (District Health Centers) , CSCom (Community Health Centers) , private facilities, health services of the Army (ranging from 1 to 3 Health workers). HCWM is included in integrated supervision.

Constraints include the slow replication of the training to other team members after the training sessions, low ownership of best management practices by the HCF team executives

Alternatively, district level in situ training with the development of micro-plans for HCWM was done using a participatory approach involving all actors at the CSRef (*District Health Centers of Baraouéli an Ségou*) with all unit heads, the head of CSCom, and Health workers of private structures in training sessions at the CSREF with the help of national and regional staff. This had the advantage of fast replication of the training to other team members after the training sessions and high ownership of best management practices by the HCF team executives District.

Electronic Monitoring Tool for Health Care Waste Management

Nancy Muller, PATH, Seattle Washington USA

Progress toward achieving good health care waste management practices can be difficult to measure without costly and time-consuming field evaluations. To effectively allocate resources, country governments and donors must be able to quickly and easily assess key indicators of progress without consuming valuable resources. WHO supported PATH to develop a simple, efficient monitoring tool to measure national-level progress toward achieving key health care waste management (HCWM) indicators—the *Electronic Monitoring Tool* (EMT) for HCWM.

This tool captures data at the national and regional levels using a short online survey that provides a quick update of country progress in HCWM. The monitoring tool is intended to be administered in multiple countries simultaneously in an entirely electronic - and telephone - based data collection process, led by a WHO coordinator. Because the online data collection can be managed by a coordinator from a central office, it minimizes time and staff requirements and therefore can be re-administered at regular intervals to chart progress over time.

The tool comprises an online survey used to collect data from stakeholders within each country, and a spreadsheet, which is preformatted to automatically calculate a progress score once country data are entered. Progress is measured on 8 indicators that assess policy and planning at the national level and demonstrate the “trickle-down effect” to regional- and facility-level implementation. Survey responses are automatically weighted according to the priority of the associated question. This tool is expected to provide



valuable feedback that will assist policy-makers, planners, and donors in determining programmatic resource allocation.

Monitoring Tool on Healthcare Waste Activities in WHO EURO countries

Ute Pieper, ETLog Health, Berlin, Germany

Within the GAVI activities on injection safety, several successful activities were carried out to improve injection safety and healthcare waste management, ranging from assessments, the development of national healthcare waste management plans, and the start of pilot projects. While some countries are already in an advanced stage, other countries are planning initial steps.

The presentation describes the monitoring guide and the tools developed for the WHO EURO region focused on the special needs of low income countries. This guide, the questionnaires and evaluation sheets enable the monitoring of progress on healthcare waste activities in the target GAVI countries.



Day 3: Wednesday, 2 December 2009

Reports and Recommendations of Parallel Sessions

Plenary- Executive Board Room

Chair: Anthony Battersby, WHO Consultant Rapporteur: Allan Bass, WHO Consultant

SIGN 2009 Recommendations to Countries [9]

These nine recommendations to countries acknowledge the tremendous progress made in countries that have taken action on injection safety and related infection control, while recognizing the tremendous need for action in countries that have not.

SN	To	Recommendations	Key Topics
1	Countries	Countries should legislate for injection safety and blood collection safety as a key component of infection prevention and control.	Regulation
2	Countries	Countries should respond to all cases of unexplained HIV, HBV or HCV infections with investigations of suspected nosocomial transmission, and call on partners to provide technical assistance.	Investigation of suspected nosocomial infection Response
3	Countries	Countries should include injection safety and blood collection safety as an integral part of the Essential Activities of their Primary Health Care Systems and involve health workers and community associations in their implementation	PHC
4	Countries	All countries should conduct periodic injection safety and blood collection safety assessments. Considering the limited data on injection safety in middle income countries, the latter should conduct these as a priority.	Assessment
5	Countries	Countries should budget for and implement the injection safety, blood collection safety, health worker safety, and health care waste management resolutions agreed by regional institutions and organizations (i.e. The East, Central and Southern African Health Community and similar), and should submit funding proposals under the health system strengthening component of Country Coordinating Mechanisms for the GFATM and GAVI.	HCWM Funding
6	Countries	Countries should implement systems to prevent the reuse of discarded parenteral products and injection devices	HCWM
7	Countries Network	Countries and resource persons and institutions from the SIGN network should apply the Primary Health Care principle of universal coverage to injection safety and, taking task shifting into consideration, develop safe injection tools and materials for community health workers, community volunteers and lay patient groups.	Human Resources Civil Society Tools Training

SN	To	Recommendations	Key Topics
8	Countries	Countries should strengthen monitoring and evaluation of health care waste management by collecting, analyzing, using data on essential HCWM practice. Countries should implement tracking and auditing systems to ensure that healthcare waste has been rendered safe for reprocessing or destroyed in an environmentally sound manner.	HCWM
9	Countries	Countries should make injection safety an essential step to accomplish the MDGs and introduce resolutions into the Executive Board/World Health Assembly meetings accordingly.	MDGs

Recommendations to Industry [4]

These four consensus recommendations acknowledge the key role of the medical device and health care waste management industries and the progress made in safety engineered devices (SED) and improved sharps waste disposal options, while recognizing that SEDs and HCWM, to be effective, must operate in an environment with effective injection safety and related infection control policies, monitoring and surveillance, management, training, and practices. Technical and environmental innovation and open competition is encouraged.

SN	To	Recommendations	Key Topics
10	Industry	The medical device industry should design injection and phlebotomy devices combining sharps injury and re-use prevention features, protecting patients, health care workers, waste handlers and the community.	Devices
11	Industry Network	Industry should collaborate with the entire SIGN network in developing advocacy and communication tools aimed at encouraging the universal use of medical devices equipped with reuse prevention and needle-stick injury prevention features.	Devices IEC
12	Industry	The industry should make device design choices which minimize materials use and waste, low carbon emissions in production and disposal, and enable materials recovery.	Devices Environment
13	Industry	The HCWM technology industry should concentrate on the development of appropriate and affordable technologies.	HCWM

Recommendations to the SIGN Network [10]

Acknowledging the tremendous role and achievement of SIGN network members in supporting countries and the wider network, while recognizing the tremendous scale of the problem and the needs to be addressed, these ten consensus recommendations are made.

SN	To	Recommendations	Key Topics
14	Network	SIGN 2009 meeting participants and all SIGN network members should provide information on injection safety and health care waste management program implementation lessons learned, successes, challenges, solutions, and plans for action ahead of the SIGN 2010 meeting on achievements during the year to allow reporting during the meeting	Monitoring IS HCWM
15	Network	WHO EMRO should report on progress on the injection safety component of regional Hepatitis B and C, prevention programmes, and report on implementation progress on the EMRO regional committee resolution.	Monitoring
16	Network	All SIGN network partners should include injection safety in their infection control programmes and activities. SIGN members should encourage and support countries to develop injection safety and health care waste management policy as a key component of their National Infection Prevention and Control policies.	IPC Injection Safety HCWM
17	Network	The SIGN network should advocate for the adoption of occupational health policies and programs that involve frontline workers in development and implementation.	Health Worker Safety
18	Network	The SIGN network should advocate for the use of technologies that enable the safe and environmentally acceptable recovery of healthcare waste materials.	Advocacy HCWM Environment
19	Network	The SIGN network should provide support for community based interventions and organizations in countries and recruit advocates from health care associations, consumer organizations, and other community based organizations.	PHC SWAP
20	Network	The SIGN network should be strengthened through improved collaboration between all stakeholders (HCWs unions, patient organizations, nongovernmental organizations, employers, experts, government institutions, manufacturers, and other private sector organizations) to facilitate the more rapid transition to safe injection devices, procedures and practices.	SWAp
21	Network	IPCAN, RIPAQS, SOI and other civil society organizations should take steps to include injection safety programmes in community based initiatives. WHO AFRO in collaboration with RIPAQS will strength injection safety activities for in Francophone countries.	Civil Society SWAp

SN	To	Recommendations	Key Topics
22	Network	SIGN 2009 meeting participants and participant organizations should share information within their own organizations on progress and process at SIGN meetings.	IEC Advocacy
23	Network	SIGN working groups should provide information on progress and achievements to the Secretariat on a regular basis.	Monitoring

Recommendations to the SIGN Secretariat [16]

Recognizing the tremendous breadth, complexity, and scale of the global injection safety and related infection control problem and the minimal direct resources available, and acknowledging the key role and tremendous achievement of the SIGN secretariat, these sixteen consensus recommendations are made.

SN	To	Recommendations	Key Topics
27	Secretariat	The SIGN secretariat, in collaboration with experts from the network, should prepare guidelines for investigations of suspected injection transmitted blood borne pathogens.	Nosocomial Infections Response
26	Secretariat	The SIGN secretariat should provide warning notices to countries on the inappropriate use of shared parenteral medications and clear advice on proper device use.	Injection safety
24	Secretariat	The SIGN secretariat should develop a clear message regarding the role of injection safety and blood collection safety as a component of health systems development, including primary health care.	IEC
31	Secretariat	SIGN Secretariat should encourage partners and countries to introduce injection and blood drawing devices combining sharps injury and re-use prevention features, protecting patients, health care workers, waste handlers and the community.	Advocacy Devices IS HWS
25	Secretariat	The SIGN secretariat should develop multi-stranded educational interventions focused on the general public and health care providers to involve the whole community, making use of peer education to empower patients and communities with knowledge.	IEC Behavior Change
28	Secretariat	The SIGN Secretariat and network partners should collaborate on mapping all potential groups and partners to accelerate transition to safer injection devices, procedures and practices.	SWAps
29	Secretariat	The SIGN Secretariat and network partners should strengthen surveillance systems to assist countries and hospitals with tracking sharps injuries and the circumstances surrounding those injuries. Product safety field data should be shared with WHO/IVB/QSS PQS.	Surveillance Technical Assistance



SN	To	Recommendations	Key Topics
30	Secretariat Network	The SIGN Secretariat and network should inform, support and advocate for Executive Board/World Health Assembly resolutions specifically on injection safety and blood collection safety to prevent the transmission of Hepatitis viruses or HIV in healthcare.	Framework Advocacy
32	Secretariat Network	SIGN secretariat and SIGN Network should encourage country demand for appropriate and safe healthcare waste management technologies.	HCWM Advocacy
33	Secretariat	The SIGN secretariat should convene a working group to develop, compile and maintain an easily accessible information data base of previous experience in injection safety related issues.	IEC Working Group
34	Secretariat	The SIGN Secretariat should convene a working group to develop a strategy for active community involvement and participation in injection safety and conduct a pilot test in one country or more during 2010.	PHC Working Group
35	Secretariat Network	The Secretariat, in collaboration with the SIGN network, should establish working groups to organize key activities such as fundraising, advocacy, community participation and World Health Assembly involvement to accelerate the global transition to safer injection devices, procedures and practices.	Resources Working Group
36	Secretariat Network	SIGN Secretariat and Network should support Patient Observed Sterile Treatment (POST) placing special emphasis on injection safety.	Advocacy IEC IS
37	Secretariat Network	The Secretariat, SIGN Network and countries should strive to place injection safety high on the list of necessary actions to achieve the Millennium Development Goals.	Advocacy MDGs
38	Secretariat	The SIGN Secretariat should develop an action plan to reduce unsafe injections worldwide by 50% by 2015.	Management IS
39	Secretariat	The SIGN Secretariat should collaborate with the WHO/IVB/QSS/PQS in the development of prequalification standards on injection products and healthcare waste management that affect patients, healthcare workers and communities.	Devices Standards



Day 3: Wednesday, 2 December 2009

Afternoon: Satellite Sessions

Satellite Session 1 Health Care Waste Management: Research, Development and updates

Chair: Yves Chartier, WHO/WSH/PHE

Rapporteur: Ed Krisiunas, WNWN International

Update on the autoclave to treat syringes in Nepal

Mahesh Nakarmi, Saraswoti Thakuri, Health Care Waste Management, Health Care Foundation, Kathmandu Nepal

Health care waste is a serious problem in many developing countries. The unsafe disposal of health care waste poses immense public health risks.

Like other developing countries, Nepal also faces many problems regarding health care waste. Health Care Foundation Nepal (HECAF) is an NGO promoting safe health care waste management via the use of non burn technologies. In this regard HECAF has been successful inaugurating waste autoclaving in an ever growing number of hospitals. A very particular challenge is how to promote waste autoclaving in remote rural areas of Nepal with little or no access to electricity. In this context, we designed an autoclave unit built around a common kitchen pressure cooker.

The prototype as designed used a 5 litre pressure cooker unit commonly available in the markets of Kathmandu or anywhere. After some experimentation we determined that 1 liter of water for each five litres of Pressure cooker volume was sufficient to create a pressure of 15 psi. 15 psi and 121 degree Celsius sustained for 15 – 20 minutes proved successful with autoclave indicator tape which turned black, indicating that the contents were acceptably disinfected following common autoclave practice. The fuel that we used in our tests was kerosene, butane, and common firewood in different locations. In fact any fuel which generates sufficient heat is acceptable

In our particular test trials we were disinfecting used syringes before disposal but the system can be used to disinfect any infectious waste such as contaminated gauze, bandages etc.

This low tech approach is appropriate for developing countries during immunization campaigns and health camps conducted in remote areas. This technology can help to manage disinfecting syringes and infectious waste.

It is very cost effective with low initial investment and low operating cost.



RAT assessment in the Seychelles: Results and lesson learned

Ute Pieper, ETLog Health, Berlin, Germany

There is a growing concern in the Health sector and among the population in Seychelles about healthcare waste. Seychelles being small has only one final disposal site where health care waste is incinerated using a liquefied petroleum gas incinerator. There is no policy on health care waste disposal.

To identify potential weak-points and to create a baseline for a future waste policy and national healthcare waste management plan, a rapid assessment based on the Rapid Assessment Tool (RAT) was carried out. The usage of the RAT-Tool in the special conditions of Seychelles (Small, medium income country) discovered short comings. Based on the experience in a second country, the tool will be updated by the end of the year.

WHO's Blue Book- an update

Ute Pieper, ETLog Health, Berlin, Germany

The presentation provides an insight into the current status of the review of the WHO Blue Book "*Safe management of wastes from health care activities.*" It has been ten years since publication of the first edition. During the intervening period the requirements on generators of healthcare wastes have evolved and new methods have become available. As a consequence the WHO recognized that it was an appropriate time to update the original text. The purpose of the second edition is to expand and update the practical information in the original publication.

PATH Update on Health Care Waste Management—Systems, Technologies, Advocacy, and Partnership

Nancy Muller, PATH, Seattle Washington, USA

PATH's work in health care waste management (HCWM) focuses on working with partners to strengthen systems, advance appropriate technologies, raise awareness, and advocate for HCWM funding. PATH has provided technical assistance to counterparts in 11 countries through the PEPFAR-funded Making Medical Injections Safer project. This has involved support for improved waste management practices in the curative sector including assisting country partners with the development of policies, guidelines, and standards.

PATH's work to advance technologies has included improving the quality of locally manufactured safety boxes, demonstrating improved final disposal options, strengthening technical capacity, and supporting evaluations and sharing information on low-cost treatment technologies. PATH is transferring the technology for a low-cost needle popper and scissors device and has worked with manufacturers to strengthen local production of safety boxes.



PATH works to reduce the burden of waste management and improve the safety of injections by advancing technologies to such as needle-free injection devices and non-sharp reconstitution syringes. Technical, planning, training, and advocacy resources developed by PATH are shared with countries and programs to support planning and decision-making and to improve HCWM. PATH has developed advocacy resources for increased HCWM funding and awareness targeted for donors as well as programs that generate infectious waste.

Developments in health care waste management in Mongolia

Shinee Enkhtsetseg, WHO/Mongolia

This presentation provides an update on activities, achievements, lessons learnt and further strategies for improving health care waste management in Mongolia.

Intensive advocacy activities were carried out for stakeholders, national and local level staff on sound health care waste management and dissemination of WHO policy documents and international conventions.

The *National Strategy & Action Plan on Improvement of HCWM* was developed and approved in September 2009 and its dissemination to decision makers, stakeholders, health personnel is underway. Over the last three years a number of activities such as the WHO Regional Workshop on Healthcare waste management planning and implementation, situation analysis of HCWM in Mongolia, baseline survey on mercury in healthcare, national and local trainings, workshops, and introduction of distance learning programme of Indira Gandhi Open University, India have been carried out successfully in the country in close collaboration with WHO. A study tour was organized to India to learn healthcare waste handling practices, HCWM financing experiences, in the urban and rural health facilities, healthcare waste treatment and disposal technologies. Pilot projects on safe waste handling practices are being implemented in Darkhan-Uul and Khovd provinces. The introduction of WHO Essential environmental health standards for health care settings and inclusion of HCWM criterion into hospital accreditation procedures have been initiated.

Achievements: Commitment of MOH to adopt and implement the National HCWM strategy and plan and allocation of funds from the state budget for 2009 and 2010, promotion of non-incineration technology and the building of common treatment facility for healthcare wastes in the capital city.

We learnt that national and local government commitment and support, organizational stability and the continuity of government services were important for awareness raising, policy and plan development and to ensure the sustainability of HCWM activities.

The national plan outlines the following strategic areas including improvement of administrative structure and establishment of a functional multi-sectoral coordination mechanism on HCWM; creation of a sustainable financing mechanism; building human resource capacity through strengthening under and post graduate training, promoting distance learning and in-service training; selection of an appropriate environmentally friendly technology and training of engineers/technicians for proper equipment maintenance, integration of HCWM with infection control, patient safety and injection safety activities and improvement of liquid wastes management in health care facilities.



Waste in Immunization Campaigns

Yves Chartier, Water, Sanitation, Hygiene and Health, Department for Public Health and Environment, Geneva Switzerland

The inadequate management of wastes generated by immunization activities such as sharps and infectious non-sharp wastes can cause direct negative health impacts on the community and the personnel working during and after the campaign. In addition, pollution due to inadequate treatment and disposal of these wastes can cause indirect health effects in the community and impact the environment.

Immunization activities generate wastes and require practical guidelines for planners, managers of health-care facilities or mobile vaccine team leaders to improve planning and coordination at the central level as well as waste management practices at the local level where immunization activities are conducted.

The essential elements of a strategy for the safe management of wastes from immunization activities are:

- A chronological management plan structured in checklist format which recapitulates basic actions that have to be taken in order to cope with waste created during immunization activities at both central and local levels
- Specific recommendations for practical waste management procedures as well as a set of tools to assist users in the planning, follow up and monitoring of the management of wastes during the campaigns

Day 3: Wednesday, 2 December 2009

Satellite Session 2 Health Care Workers Safety

A working session to develop implementation strategies for the global framework for occupational health of health workers was held. This group of experts provided draft recommendations for inclusion in the final consensus recommendations.



Programme of Work

**ANNUAL MEETING OF THE SAFE INJECTION GLOBAL NETWORK (SIGN)
INJECTION SAFETY IN LIGHT OF PRIMARY HEALTH CARE REFORMS
30 November to 2 December 2009, WHO/HQ, Geneva**

Day 1: 30 November 2009	Day 2: 1 December 2009	Day 3: 2 December 2009
Plenary- EB Room	Plenary- EB Room	Plenary- EB Room
Opening Session	Session 4 : Celebrating World AIDS Day Session 5. SIGN 10 Years: 1. Review of 10 year's recommendations on and implementation status of injection safety activities in countries 2 Review of 10 year's recommendations on and implementation status of healthcare workers safety strategies 3. Review of 10 year's recommendations on and implementation status of healthcare waste management strategies	Session 6: Summary reports and recommendations of Parallel Sessions: Theme 1 Theme 2 Theme 3
Session 1: Updates on injection safety and infection control initiatives		Conclusions of the meeting
Plenary- EB Room	Parallel sessions	Plenary- EB Room
Session 2: Applying Primary Health Care Reforms to Injection Safety	Theme 1 : Salle G PHC oriented strategies to improve implementation and outcomes of injection safety and related infection control programmes at country level.	Closing Session
	Theme 2 : Salle C PHC oriented strategies to improve implementation and outcomes of healthcare workers safety strategies	
Session 3: Discussion of main recommendations from sessions 1 and 2	Theme 3 : Salle D PHC oriented strategies to improve implementation and outcomes of healthcare waste management strategies	Satellite sessions Session 1: Health Care Waste Management Session 2 : Occupational Health
Welcome Reception hosted by WHO		



Day 1: Monday, 30 November 2009

Plenary- Executive Board Room

08:00-09:00	Registration	
09:00-09:45	Welcome and opening remarks - Dr Carissa Etienne - Dr Steffen Groth ➤ Objectives of the meeting ➤ Adoption of programme of work ➤ Election of Chair	ADG/HSS Director/EHT
09:45-10:00	Meeting context and report on 10 Year recommendations to the SIGN Secretariat	Selma Khamassi, SIGN Secretariat
10:15-10:30	Discussion	
10:30-11:00	Coffee break	
Session 1	Updates on Injection safety and Infection Control activities	Chair:
11:00-11:15	Unsafe Medical Injections: Worldwide Risks for Hepatitis B and C	Savanna Reid
11:15-11:30	Preventing Hepatitis B&C and HIV transmission through blood transfusion route	Neelam Dhingra
11:30-11:45	Setting the Global Agenda for Viral Hepatitis Prevention and Control: The Governance of WHO Tackles the Issues in 2010	Steve Wiersma
11:45-12:15	Discussion	
12:15-12:30	The International Federation for Infection Control " Special Interest Group on safe Injection Practices"	Ed Krisiunas
12:30-12:45	Resource Mobilization for Health Care Waste Management	Ruma Tavorath
12:45-13:00	Discussion	
13:00-14:00	Lunch Break	
Session 2	Applying Primary Healthcare Reforms to Injection Safety	Chair:
14:00-14:15	Health Technologies as a key instrument to implement PHC	Adriana Berumen Velazquez
14:15-14:30	Leadership reforms: The East, Central and Southern African Health Community Resolution ECSA/HMC48/R1 on Revitalizing Primary Health care and Strengthening Health Systems including ensuring injection safety	Sheillah Matinhure
14:30-14:45	Discussion	
14:45-15:00	Universal Coverage Reforms: 1 GAVI evaluation of Injection Safety support	Raj Kumar
15:00-15:15	2. Injection Safety in Western Africa	Bernard Chanfreau
15:15-15:30	Discussion	
15:30-16:00	Coffee break	
16:00-16:15	Public Policy Reforms: Building Sustainability of Injection Safety : the MMIS experience in 11 countries"	Ousmane Dia
16:15-16:30	Discussion	
16:30-16:45	Community Involvement: Injection Safety : Time to involve the Community !	Moses Okinyi
16:45-17:00	Discussion	

Session 3 Discussion of main recommendations from Sessions 1 and 2 Chair:		
17:00-17:15	Presentation of main recommendations from Session 1 and 2	Meeting Rapporteur
17:15-17:30	Discussion	
17:30-18:00	Introduction to parallel sessions work	Selma Khamassi
18:00-20:00	Welcome reception hosted by WHO	All participants

Day 2 : Tuesday 1 December 2009

Morning: Plenary Executive Board Room

Session 4 Celebrating World AIDS Day Chair:		
09:00-09:15	Unsafe Injections and the Spread of HIV worldwide	Savanna Reid
09:15-09:30	Discussion	
09:30-09:45	EMRO Regional Committee Resolution on Hepatitis Prevention and Control in the EMR countries	Ezzeddine Mohsni
09:45-10:00	Discussion	
10:00-10:15	Promotion of Injection Safety through HIV Control Programs: the Russian Experience	Alexey Bobrik
10:15-10:30	Discussion	
10:30-11:00	Coffee break	
Session 5 SIGN 10 Years ! Chair:		
11:00-11:15	Review of 10 year's recommendations to Countries on Injection Safety strategies	Victoria Masembe
11:15-11:30	Discussion	
11:30-11:45	Review of 10 year's recommendations on Health Care Workers Safety strategies	Susan Willburn
11:45-12:00	Discussion	
12:00-12:15	Review of 10 year's recommendations on Health Care Waste Management	Yves Chartier
12:15-12:30	Discussion	
12:30-13:30	Lunch Break	

Day 2: Tuesday 1 December 2009 Afternoon : Group work Salle G

Theme 1: PHC oriented strategies to improve implementation and outcomes of injection safety and related infection control programmes at country level.

Chair:		
13:30-13:45	Safe Injection Practices and SIGN activities in Nepal	Saraswoti Thakuri
13:45-14:00	Nigeria's Country experience with Injection Safety & Medical Waste Management	Emmanuel Okechukwu
14:00-14:15	A decade of Injection Safety in Pakistan	Arshad Altaf
14:15-14:30	Discussion	
14:30-14:45	Keeping Workers and the Communities Safe: Safe Needle Disposal Options for Diabetics in Guyana	Mandy La Fleur
14:45-15:00	Discussion	

15:00-15:15	Outbreak investigation to uncover gaps and improve practices: the example of the USA	Joe Perz
15:15-15:30	Discussion	
15:30- 16:00	Coffee break	
16:00-16:15	Injection Safety and sharps management in UNRWA areas of operation	Hanan Takoush
16:15-16:30	Discussion	
16:30-16:45	Launch of the Infection Prevention and Control Africa Network IPCAN	Shaheen Mehtar
16:45- 17:00	Discussion	
17:00-17:15	Injection safety programme in Senegal	Babacar Ndoye
17:30- 17:45	Discussion	
17:45- 18:30	Group discussion and preparation of recommendations	Group participants
18:30 - 20:30	IPCAN Board meeting	Salle G

Day 2: Tuesday 1 December 2009 Afternoon: Group work Salle C

Theme 2 : PHC oriented strategies to improve implementation and outcomes of healthcare workers safety strategies

Chair:		
Session 1		
13:30- 14:00	Global framework for occupational health of health workers - report of health worker workshop	TBD
	Implementation of health worker occupational health	TBD
	Discussion	
Session 2	Integration of occupational health into related programmes (Immunizations, HIV, IPC,)	
14:00-14:15	Guidelines for health worker access to HIV/TB prevention and care	Eileen Petit-Mshana
14:15-14:30	Core components of infection prevention and control programmes,	Carmem Pessoa
14:30-14:45	Progress on Injection Safety in National Immunization Programs in the America's	Nora Lucia Rodriguez
14:45-15:00	Advances in Venezuela towards protecting health workers from NSI and immunization against hepatitis B	Maria Lioce-Mata
Session 3	Safer Needle Devices to protect health workers - Efficacy and progress in implementation	
15:00-15:15	User-based criteria for evaluation and selection of safer devices.	June Fisher, TDICT
15:15-15:30	Sharps Injuries among Hospital Workers in Massachusetts in specific device categories, 2006.	Angela Laramie
15:30-15:45	New legislation and regulation for safer needle devices: Brazil, DRC, China.	Cristiane Rapparini
15:45-16:00	Coffee Break	
16:00-16:15	The role of health worker trade unions and professional representatives in negotiating safer needle devices.	Jorge Mancillas
16:15-16:30	Universal precautions compared with safety devices in Botswana	TBD
16:30-16:45	Surveillance data on safety devices from twenty-one hospitals	Dominique Abiteboul



	in France	
16:45-17:00	Discussion	
17:00-18:00	Group discussion and preparation of recommendations	
18:00	Meeting adjourn	

Day 2: Tuesday , 1 December 2009 Afternoon: Group work Salle D

Theme 3 : PHC oriented strategies to improve implementation and outcomes of healthcare waste management strategies

Chair: Yves Chartier		
13:30-13:45	Policy and Regulatory framework for healthcare waste management	Ruma Tavorath
13:45-14:00	Discussion	
14:00-14:15	Assessment and formulation of strategy on healthcare waste management	Ute Pieper
14:15-14:30	Discussion	
14:30-15:00	Develop and implement common treatment policies - Model incinerator for campaign - Alternative Non-Incineration Treatment Pilot Project at Bagamoyo District Hospital, Tanzania	Terry Hart Ruth Stringer
15:00-15:15	Discussion	
15:00-15:15	Development and implementation of a national training programme: Mali experience on training	Boubacar Maiga
15:15-15:30	Discussion	
15:30-16:00	Coffee break	
16:00-16:30	Review the implemented national programme : - Monitoring and evaluation tool: - Monitoring Tool on Healthcare Waste Activities in WHO URO countries	Nancy Muller Ute Pieper
16:30-17:00	Discussion	
17:00-18:30	Group discussion and preparation of recommendations	Group participants
18:30 - 20:00	Informal evening meeting on how to fund HCWM	

Day 3: Wednesday, 2 December 2009 Plenary- Executive Board Room

Chair:		
Summary Reports and Recommendations of Parallel Sessions		
09:00-09:15	Summary report and Recommendations Theme 1	Group rapporteur
09:15-09:45	Discussion	
09:45-10:00	Summary report and Recommendations Theme 2	Group rapporteur
10:00-10:30	Discussion	
10:30-11:00	Coffee/Tea Break	
11:00-11:15	Summary report and Recommendations Theme 3	Group rapporteur
11:15-12:00	Discussion	
12:00-12:30	Conclusions of the meeting	
12:30-13:00	Closing session	



Satellite Sessions : 14:00 - 18:00

Satellite Session 1	Health Care Waste Management: Research, Development and updates	Ruma Tavorath
14:00-18:00	Update on the autoclave to treat syringes in Nepal	Mahesh Nakarmi
	RAT assessment in the Seychelles (Results and lesson learned)	Ute Pieper
	WHO's Blue Book- an update	Ute Pieper
	MMIS update	Ousmane Dia
	Update on PATH activities	Nancy Muller
	Update on national development in Mongolia	Shinee Enkhtsetseg
	Mass immunization campaign strategy	Yves Chartier
	Preliminary results of the HCWM assessment in Gambia including new vaccine introduction	Ousmane Dia
	Wrap up	All

Satellite Session 2	Health Care Workers Safety	Susan Wilburn
14:00-18:00	Working session to develop implementation strategies for the global framework for occupational health of health workers	

List of Participants

10th Annual Meeting of the Safe Injection Global Network (SIGN) Injection Safety and Infection Prevention and Control 30 November-2 December 2009, Geneva, Switzerland

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- | | | |
|----------------------|---|--|
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Annual Meeting of the Safe Injection Global Network
Injection Safety In Light Of Primary Health Care Reforms



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Annual Meeting of the Safe Injection Global Network
Injection Safety In Light Of Primary Health Care Reforms



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Annual Meeting of the Safe Injection Global Network
Injection Safety In Light Of Primary Health Care Reforms



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The Annexes: Viral Hepatitis, EM Call For Action

1. Viral hepatitis, Report by the Secretariat

WHO EXECUTIVE BOARD EB126/15

126th Session, 12 November 2009

Provisional agenda item 4.12

2. The growing threats of hepatitis B and C in the Eastern Mediterranean Region: a call for action

WHO REGIONAL COMMITTEE FOR THE EASTERN MEDITERRANEAN

EM/RC56/R.5

Fifty-sixth Session, October 2009

Agenda item 6 (a)

Viral hepatitis

Report by the Secretariat

THE DISEASES AND BURDEN

1. The group of viruses (hepatitis A, B, C, D and E) that cause acute and/or chronic infection and inflammation of the liver gives rise to a major public health problem globally. Hepatitis B and C viruses are major causes of severe illness and death. The global burden of disease due to acute hepatitis B and C and to cancer and cirrhosis of the liver is high (about 2.7% of all deaths) and is forecast to become a higher ranked cause of death over the next two decades. An estimated 57% of cases of liver cirrhosis and 78% of cases of primary liver cancer result from hepatitis B or C virus infection. About 2000 million people have been infected with hepatitis B virus worldwide, of whom more than 350 million are chronically infected, and between 500 000 and 700 000 people die annually as a result of hepatitis B virus infection. Some 130–170 million people are chronically infected with hepatitis C virus, and more than 350 000 people are estimated to die from hepatitis C-related liver diseases each year.
2. Because hepatitis A, B, C, D and E viruses differ in their global distribution and routes of transmission, prevention strategies need to be tailored. Hepatitis B virus infection early in life is associated with the highest risk of chronic infection, and people with chronic infection risk progression to cirrhosis of the liver and primary liver cancer. About 90% of infants infected with hepatitis B virus around the time of birth, 30% of children infected in early childhood and 6% of those infected after five years of age will develop chronic hepatitis B virus infection. The likelihood of progression to chronic infection is the same whether infection is symptomatic or asymptomatic. People with chronic hepatitis B virus infection have a 15% to 25% risk of dying prematurely from hepatitis B virus-related cirrhosis and liver cancer. People with chronic hepatitis C virus infection are also at high risk for developing cirrhosis and liver cancer. Both superinfection by, and coinfection with, hepatitis D virus in hepatitis B virus-infected patients result in worse outcomes than infection with hepatitis B virus alone; these include a higher rate of liver failure in acute infections and a greater likelihood of developing liver cancer in chronic infections.
3. Exposure to blood through injections with nonsterile equipment or transfusion of contaminated blood products is a common and preventable cause of hepatitis B and C virus infections. Unsafe injection practices are estimated to be responsible for 21 million new hepatitis B virus infections and two million new hepatitis C virus infections a year. A significant proportion of the blood supply is either not screened for hepatitis B or C virus or not screened properly. The probability of transmission of hepatitis B and C viruses through transfusion of unsafe blood can be as high as about 70% and 92%, respectively, depending on the volume transfused and the concentration of virus. In many countries,

injecting drug use represents the highest risk for hepatitis C virus infection, with prevalence rates in people reporting this behaviour ranging between 30% and 60%.

4. It is estimated that about 1.4 million new hepatitis A virus infections occur globally each year. Infection is usually by the fecal-oral route either through person-to-person contact or ingestion of contaminated food or water. Paradoxically, as water and sanitation systems improve in developing countries, infections occur later in life, when the risk for severe disease from hepatitis A is greatest. This shifting epidemiology is responsible for increased numbers of cases in some countries and the emergence of community-wide outbreaks of hepatitis A.

5. Hepatitis E virus infection occurs both sporadically and in large epidemics, causing significant morbidity and mortality, especially deaths in pregnant women. It is estimated that one third of the world's population has been infected with hepatitis E virus. However, the true burden of hepatitis E is unknown.

6. Foodborne and waterborne transmission of hepatitis A and E viruses is common; indeed, hepatitis A virus is one of the most frequent causes of foodborne infections. Outbreaks of hepatitis A and E affecting up to more than 100 000 people and causing significant morbidity, mortality and disruption of trade and tourism have been documented. Foodborne contamination may be the result of infected food handlers unknowingly contaminating food. Hepatitis A and E viruses persist in the environment and can resist food-production processes routinely used to inactivate and/or control bacterial pathogens.

7. Hepatitis B virus/HIV and hepatitis C virus/HIV coinfections are an increasing problem in countries with concentrated HIV epidemics and among injecting drug users. For those coinfecting persons who are being treated with antiviral medicines, underlying viral hepatitis is becoming a major cause of death.

PREVIOUS HEALTH ASSEMBLY ACTION AND SECRETARIAT ACTIVITIES

8. The Health Assembly has considered specific aspects of hepatitis prevention in past resolutions. First, in 1992, in resolution WHA45.17 on immunization and vaccine quality it urged Member States to integrate cost-effective new vaccines, such as hepatitis B vaccine, into national immunization programmes in countries where it is feasible. The Secretariat acted on this resolution by recommending that all countries integrate hepatitis B vaccine into national immunization programmes by 1997. Support from the GAVI Alliance for the introduction of hepatitis B vaccine has resulted in great increases in vaccination coverage in the past decade. As of 2007, more than 88% of Member States have introduced hepatitis B vaccine; overall coverage with three doses of vaccine was 65%, and globally 27% of newborn infants received the birth dose of hepatitis B vaccine. Secondly, in 2005, in resolution WHA58.22 on cancer prevention and control the Health Assembly called for including reduction in hepatitis B virus infection among the outcome objectives of national cancer control programmes; implementation of this resolution and its monitoring are still in progress. Thirdly, as part of the Global plan of action on workers' health 2008–2017, endorsed by the Health Assembly in 2007 in resolution WHA60.26, the Secretariat's activities would include working with Member States for immunization of health-care workers against hepatitis B. Little progress has been made in the short time since the resolution endorsing the plan was adopted. In addition, the Health Assembly has

considered several hepatitis prevention issues relating to immunization,¹ safe blood supply,² food safety³ and safe injections.⁴

9. In 1998 the WHO-cosponsored Conference Regarding Disease Elimination and Eradication as Public Health Strategies (Atlanta, Georgia, United States of America, 23–25 February 1998) concluded that hepatitis B is “a primary candidate for elimination or eradication”. In 1999, WHO joined UNICEF and UNFPA to recommend the exclusive use of auto-disable syringes for all immunization injections by the year 2003.⁵ Much progress has been made with the support of the GAVI Alliance for the procurement of non-reusable syringes for immunization. WHO has issued position papers on hepatitis B vaccines (2009)⁶ and hepatitis A vaccine (2000).⁷ In 2005, the Western Pacific Region set a goal of reducing chronic hepatitis B virus infection rates to less than 2% among five-year-old children by 2012. In 2008, WHO with FAO convened an expert meeting on viruses in foods in order to provide scientific advice in support of risk-management activities. Recently, the European Region has developed clinical protocols for the management of hepatitis B virus/HIV coinfection, hepatitis C virus/HIV coinfection, and prevention of hepatitis A, B and C virus infections in people living with HIV. In November 2008, WHO’s Strategic Advisory Group of Experts on immunization recommended that “all regions and associated countries develop goals for hepatitis B control appropriate to their epidemiologic situations”. The Regional Committee for the Eastern Mediterranean adopted a resolution (EM/RC56/R.5) for hepatitis B and C control and set a target for reduction of the prevalence of chronic hepatitis B to less than 1% among children below five years of age by 2015 at its fifty-sixth session (Cairo, 3–6 October 2009). Several countries have established national goals for the elimination of transmission of hepatitis B virus.

OPPORTUNITIES FOR PREVENTION AND CONTROL

10. Coordinating programmes for the prevention and control of hepatitis with other related programmes will contribute to the strengthening of health systems in all countries. To date, prevention and control efforts have been successful but fragmented. WHO does not have a comprehensive strategy for viral hepatitis. Thus, the time is right to create new opportunities for prevention, including establishing goals and strategies for disease control, increasing education and promoting screening and treatment of the 500 million or so people already infected with hepatitis B and C viruses. The impact of these efforts on mortality and morbidity will be significant because of the tremendous burden of disease.

¹ Resolutions WHA44.33 on World Summit on Children: follow-up action, WHA53.12 on Global Alliance for Vaccines and Immunization, and WHA61.15 on Global immunization strategy.

² Resolutions WHA28.72 on utilization and supply of human blood and blood products and WHA58.13 on blood safety: proposal to establish World Blood Donor Day.

³ Resolutions WHA53.15 on food safety, WHA56.23 on joint FAO/WHO evaluation of the work of the Codex Alimentarius Commission, and WHA58.32 on infant and young child nutrition.

⁴ Resolution WHA55.18 on quality of care: patient safety.

⁵ Document WHO/V&B/99.25.

⁶ *Weekly Epidemiological Record*, 2009; **84**:405-419.

⁷ *Weekly Epidemiological Record*, 2000; **75**:38-44.

11. Progress has been made in preventing hepatitis B virus infection through immunization of infants. Despite this, coverage with hepatitis B vaccine has not yet reached the goal set by the Global Immunization Vision and Strategy 2006–2015 of 90% national vaccination coverage by 2010 and lags behind global coverage levels for vaccination against diphtheria, tetanus and pertussis. Vaccination of infants at birth, a safe and effective means of preventing perinatal infections that are associated with the worst health outcomes, remains low and is an important element in strengthening health systems as part of efforts to provide services to mother and child around the time of pregnancy. Health-care workers are still not being vaccinated against hepatitis B in most developing countries and vaccination coverage levels are not monitored. Elimination of hepatitis B virus transmission is feasible for future generations, but vaccines are too late to protect those 350 million who already have chronic hepatitis B virus infections.

12. Many new and effective treatments that can significantly delay progression of liver disease, prevent the onset of liver cancer, and reduce deaths are available for the more than 500 million people living with hepatitis B and C virus infection. The challenge remains to ensure that these people have timely access to testing, care and effective treatments, especially in resource-limited settings.

13. Demand for hepatitis A vaccine is increasing in large parts of the world that are experiencing an increase in symptomatic cases and more frequent epidemics because of changing epidemiology. Effective candidate vaccines for hepatitis E prevention exist. Some progress has been shown in developing candidate vaccines against hepatitis C. Further development and increased access to these vaccines for those who would benefit most should be a high priority.

14. Because unsafe health-care practices remain common in many parts of the world, all countries need to make concerted efforts to implement strategies to prevent hepatitis in health-care settings based on safe blood supply and safe injections. Safe injections cause no harm to the recipient, do not expose the provider to any avoidable risk and do not result in any dangerous waste. The primary means of preventing transmission of hepatitis viruses in blood donations is the collection of blood from voluntary, unpaid blood donors who are at low risk of infection. The second means of prevention in blood product transmission is quality-assured screening of all donated blood for hepatitis B and C virus markers. The third strategy is the rational use of blood in order to minimize unnecessary transfusions. Implementation of these strategies needs strengthening. Safe injection devices that are not reusable and have features to prevent needlestick injuries need to be used universally, and the training of all health-care providers on best injection practices, including proper sharps waste management, should be strengthened.

15. WHO is in a position to provide coordinated global support and leadership in the development of a comprehensive approach to prevention and control of viral hepatitis. Elements of this approach apply across the health system.

To prevent the transmission of hepatitis virus through safe and effective public health strategies:

- (a) Immunization against hepatitis B virus infections
 - (i) protecting all persons against infection with hepatitis B virus through full immunization as early in life as possible, beginning with the first dose of hepatitis B vaccine within 24 hours of birth as part of routine maternal and child health services;

- (ii) increasing coverage of hepatitis B vaccination among health-care workers, travellers and other most at-risk persons and ensuring access to post-exposure prophylaxis for blood-borne pathogens;
 - (iii) setting and achieving national goals for hepatitis B control appropriate to the epidemiologic situation.
- (b) Safe health care to prevent transmission of hepatitis B and C viruses and other blood-borne pathogens
- (i) ensuring safe blood supplies by: recruiting only voluntary, unpaid blood donors; introducing effective blood donor selection and screening of all donated blood for markers of hepatitis B and C virus infection with highly sensitive and specific assays and following basic standardized procedures; and training clinicians and nurses in safe clinical transfusion practices;
 - (ii) ensuring that all injections are safe through sustainable procurement of sufficient quantities of appropriate syringes, training in safe injection practices and ensuring that sharps waste is properly managed and that wider infection-control practices (in the hospital and in community health-care settings) are followed;
 - (iii) increasing awareness among communities and health-care workers of the opportunities to prevent viral hepatitis.
- (c) Immunization and provision of safe food and water in order to prevent hepatitis A
- (i) guiding implementation of hepatitis A vaccination to prevent hepatitis A in countries with shifting epidemiology;
 - (ii) improving food safety by preparing and introducing international guidelines for the management of viruses and toxins in foods.

To identify and treat those people most at risk for hepatitis virus-related disease with safe and effective therapies:

- (d) Identification and treatment of chronic hepatitis B and C in order to prevent progression to cirrhosis and liver cancer
- (i) developing evidence and policy basis for screening and treatment of viral hepatitis;
 - (ii) formulating guidelines for treatment of chronic viral hepatitis, especially taking into consideration needs of resource-constrained settings;
 - (iii) expanding care and treatment services for people chronically infected with hepatitis viruses.

To integrate proven public health strategies for preventing viral hepatitis across the health system:

- (e) Integration of interventions for the prevention, treatment and care of hepatitis B and C virus infections (including access to sterile needles and syringes, hepatitis B vaccination and

antiviral treatment) into existing services for those at risk for HIV infection and sexually transmitted infections and those who inject drugs, and into national cancer control programmes. These services and programmes can provide good entry points for both infected and most-at-risk people, and coordination can promote synergies.

To innovate by developing new vaccines and technologies for use in viral hepatitis prevention:

(f) Prioritization of new preventive strategies including development of vaccines for hepatitis C and E virus infection and technologies for vaccination, screening and health care in order to prevent chronic liver disease and liver cancer.

ACTION BY THE EXECUTIVE BOARD

16. The Executive Board is invited to take note of the report and provide further strategic guidance.

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WORLD HEALTH
ORGANIZATION



ORGANISATION MONDIALE
DE LA SANTE

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قرار

Resolution

REGIONAL COMMITTEE FOR THE
EASTERN MEDITERRANEAN

EM/RC56/R.5
October 2009

Fifty-sixth Session

Agenda item 6 (a)

The growing threats of hepatitis B and C in the Eastern Mediterranean Region: a call for action

The Regional Committee,

Having reviewed the technical paper on the growing threats of hepatitis B and C in the Eastern Mediterranean Region¹;

Recalling resolutions WHA28.72 Utilization and supply of human blood and blood products, WHA45.17 Immunization and vaccine quality, WHA58.13 Blood safety: proposal to establish World Blood Donor Day, WHA58.22 Cancer prevention and control, and WHA60.26 Workers' health: global plan of action, and resolution EM/RC52/R.5 Substance use and dependence;

Concerned at the high prevalence of chronic HBV infection, ranging from 2%–3% in several countries to 7%–10% in two countries, and resulting in an estimated 4.3 million persons infected with hepatitis B virus in the Region each year, and concerned also that an estimated 800 000 persons are infected with hepatitis C virus in the Region each year and that 17 million persons are suffering from chronic hepatitis C infection;

Recognizing that more than 75% of cirrhosis and hepatocellular carcinoma in the Region is attributable to hepatitis B virus or hepatitis C virus infection;

Acknowledging that prevention is far more cost-effective than treatment of patients with chronic hepatitis B or hepatitis C infection;

¹ Document no. EM/RC56/3

Concerned also that most hepatitis B and C infections in the Region are health care-associated and that safety of transfused blood is still not guaranteed in several countries;

Further concerned about the current and future high burden of chronically infected persons and the role they play in sustaining high transmission in some countries, and the resulting future burden of liver cirrhosis and hepatocellular carcinoma;

Noting the availability of new and effective treatments that can significantly delay progression of liver disease, prevent the onset of liver cancer and reduce deaths, and commending the efforts of the Member States in strengthening hepatitis B control programmes and expanding treatment of chronic hepatitis C;

Emphasizing that continued efforts are required to strengthen surveillance of viral hepatitis and to monitor impact of preventive strategies through serosurveys;

1. **ENDORSES** adoption of a regional target of reduction in prevalence of chronic hepatitis B virus infection to less than 1% among children below 5 years of age by 2015;
2. **URGES** Member States to:
 - 2.1 Develop a national strategy to reach the regional target related to reducing the prevalence of chronic hepatitis B virus infection to less than 1% among children below 5 years of age by 2015, if they have not yet done so;
 - 2.2 Develop and implement a comprehensive national strategy for prevention and control of blood-borne pathogens, supported by necessary legislation and regulations;
 - 2.3 Expand hepatitis B vaccination programmes to include providing a birth dose of vaccine to all infants within the first 24 hours of life, vaccination of all persons with occupational exposure to blood and body fluids, and vaccination of other high-risk populations, including injecting drug users;
 - 2.4 Promote infection control, through adoption of national guidelines and an accreditation process to monitor compliance, and ensure that all injections are safe;
 - 2.5 Ensure transfusion safety through promoting safe blood donation, strengthening national regulatory activities related to quality assurance and safety of blood products and related in-vitro procedures;
 - 2.6 Establish education and communication programmes to increase awareness among the public and health-care workers on the mode of transmission of and opportunities to prevent viral hepatitis;
 - 2.7 Rapidly scale up harm reduction services for injecting drug users;
 - 2.8 Expand treatment services for the chronically infected;
 - 2.9 Improve epidemiological surveillance systems, develop a hepatitis registry and implement sero-surveys in order to produce reliable data to guide prevention and control measures and monitor impact of preventive strategies;

3. **REQUESTS** the Regional Director to:
 - 3.1 Continue providing technical support to Member States to develop national strategies and plans of action to reach the regional target of reduction in prevalence of chronic hepatitis B virus infection to less than 1% among children below 5 years of age by 2015, and for prevention and control of transmission of blood-borne pathogens;
 - 3.2 Facilitate transfer of technology to support local production of necessary medicines and vaccines, where appropriate;
 - 3.3 Support national studies/surveillance activities in order to better understand the epidemiology of hepatitis C in selected countries;
 - 3.4 Assist Member States to secure needed medicines at affordable prices.