

REGIONAL SEMINAR ON THE SAFE TRANSPORT OF DANGEROUS GOODS

Biohazard symbol

Lima, 29 Sept – 3 Oct 2008

WHO's perspective to improve the transport of infectious substances


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Shipping of infectious substances (IS) Background


- Since 2000: WHO involved in revision of UN Model Regulations as adviser to UNCETDG, particularly on transport of infectious substances (IS), class 6.2
- The current set of UN Recommendations for the transport of IS is acceptable. It is the result of long negotiations and discussions.
- The transport of IS is a highly regulated area, however, at global level, many shipments still experience a series of problems, including **denials, delays, and destruction** in transit

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What exactly are the problems? 1

- regulations 'do not work' (often meaning lack of awareness)
- the shipment was delayed and now the samples have lost their viability
- the package was not accepted
- the courier refused to take the box, and there was no other alternative courier available
- the pilot refused to carry the samples on his aircraft
- some airlines apply more stringent requirements
- customs insisted on opening the box to verify its contents
- customs destroyed the package



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What exactly are the problems? 2

- shipments are too expensive
- lack of package suppliers in certain regions/countries
- lack of training opportunities, or unaffordable training courses
- lack of trained transporters, will not carry IS
- inappropriate measures taken by courier companies at local level
- interfering with efficient transport has serious public health consequences:
 - uncontrolled local spread of disease
 - widespread death
 - economic loss in a country, region, or globally
- etc. etc.



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Possible solutions?

- Raising awareness about applicable regulations for routine and occasional shippers
- Training (for shippers, service providers, transporters, customs officials, etc.)
- Communication and collaboration efforts between stakeholders, including shippers, service providers (carriers, courier companies, airlines, etc), the modal transport authorities, customs authorities, health authorities, the management of clinical, diagnostic and research laboratories, package providers, professional associations, etc.
- Build up of trust in the system through risk assessment, risk management and risk communication
- Awareness campaigns, dialogue between the scientific community and the general public

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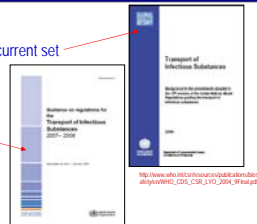


Some steps in the right direction

WHO publications on transport:

a) To explain the rationale behind the current set of UN Recommendations (2004)

b) To give an overview of applicable requirements (2007-2008, updated every two years)



http://www.who.int/csr/resources/publications/infectious/WHO_CDS_EPR_2007_2/index.html

http://www.who.int/csr/resources/publications/infectious/who_wHO_CDS_CSR_LYO_2004_IP_insp.pdf

- Aware of the many problems experienced with shipments of IS worldwide, WHO invited stakeholders to Geneva to discuss the issues: "Ensuring efficient transport of infectious substances", WHO HQ, 12-14 Dec. 07

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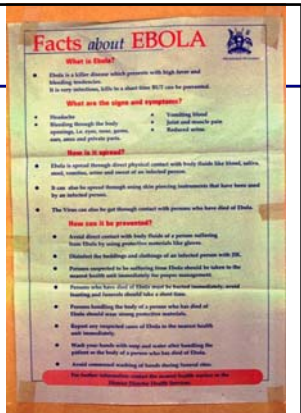








Rapid diagnosis can help put in place appropriate outbreak control measures for the population



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Ebola infections are not 100% fatal. Their early identification can make a real difference



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Overall goals

To increase the communication and understanding between stakeholders to ensure that the appropriate mechanisms are in place for the safe, timely and legal transport and rapid diagnosis that could be critical in preventing further suffering.



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Conclusions 1

1. Levels of training of shippers are inconsistent throughout the globe. Training and education tools should be made accessible to shippers of infectious substances (more on slide 22)
2. There is no legal requirement for it, but shippers of Category B samples should be 'educated' to follow the requirements outlined in PI650
3. There is a need to involve WCO and engage them in discussions and next steps on transport of IS
4. There is a need to develop/increase/improve the availability of courier services in certain regions and areas of the world.

Conclusions 2

5. There is a need to provide clear package assembly information to shippers who purchase packaging material from commercial providers
6. There is a need to provide access to appropriate packaging materials at key locations worldwide, e.g. major airport hubs
7. There is a need to develop effective advocacy messages for efficient, timely and legal transport of infectious substances
8. There is a need to develop a network of contacts and key people to facilitate the transport of infectious substances

Recommendations 1

1. Develop a training package in collaboration with ICAO, IATA and other stakeholders
2. Establish advanced networks and contacts to facilitate expedited transport of routine and unforeseen events. Develop a list of airline contacts for transport of infectious substances. Include IHR focal points
3. Designate focal points at regional levels and help establish national legal transport frameworks


Recommendations 2

4. Engage World Customs Organization (WCO) in dialogue over customs and transport issues
5. Develop a list of resources relating to packaging distributors and manufacturers that adhere to the requirements of packing instruction 650
6. Encourage packaging manufacturers to write 'clear' instructions which maximize the use of diagrams and minimize the use of text. In addition, all manufacturers should translate instructions into the various languages that are appropriate to the geographic areas of concern

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Recommendations 3

7. Discuss with 'Airport Council International' (ACI) the possibility of holding stock supplies of packagings at key airports identified by WHO in the support of field activities
8. Create a sub-group with appropriate representation from stakeholders to coordinate the development of key messages
9. Engage risk communications specialists to develop/refine key messages

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Follow up on Recommendation 1. Develop a training package in collaboration with ICAO, IATA and other stakeholders




WHO's training tools on transport of infectious substances

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Training issues

- Many countries have no access to training schools
- No funds
- Shippers may not be aware of transport requirements
- Lack of national regulations
- How can we achieve safe, timely and legal transport under these conditions?

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WHO's activities

- Organization of 'Biosafety and Laboratory Biosecurity awareness raising meetings'
 - Organized in all 6 WHO Regions, addressing 2-3 managers of public health/veterinary health central laboratories per country (i.e. 12-50 people per meeting)
 - Offer 1.5 days of training on transport substances
 - Pre-test and final exam, following adult learning methodology
 - Awarding of certificate if final test score > 80%



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Infectious Substances Shipping Training

- INTRODUCTION
- MODULE I: TERMS USED FOR SHIPPING
- MODULE II: CLASSIFICATION OF INFECTIOUS SUBSTANCES
- MODULE III: PACKAGING OF INFECTIOUS SUBSTANCES
- MODULE IV: LABELLING AND MARKING PACKAGES
- MODULE V: SHIPPING DOCUMENTATION
- FAQs
- CONCLUSION

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Module 1:
Terms Used for Shipping Infectious Substances

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Terms Used for Shipping Infectious Substances
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Overview

- ☞ Dangerous Goods
- ☞ Infectious Substances
- ☞ Cultures and Patient Specimens
- ☞ Packaging
- ☞ Labels
- ☞ Markings
- ☞ Exercise 1: PI602 vs. PI650


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What are dangerous goods?

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Dangerous Goods

- ☛ Dangerous goods pose a risk during transport
- ☛ There are nine classes of dangerous goods
- ☛ Three are important to shippers of infectious substances
 - ☛ Class 3: Flammable liquids
 - ☛ Class 6: Toxic and infectious substances
 - ☛ Class 9: Miscellaneous dangerous goods



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What are infectious substances?

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Infectious Substances (Class 6.2)

- ☛ Under the dangerous goods classification – class 6
- ☛ Class 6.2 addresses:
 1. Infectious substances (Category A)
 2. Biological substances (Category B)
 3. Biological products
 4. Genetically modified microorganisms and organisms
 5. Medical and clinical waste
 6. Exempt human/animal patient specimens
 7. Exceptions


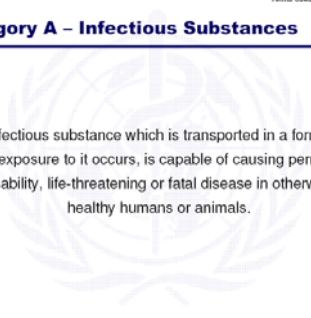
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Category A – Infectious Substances

An infectious substance which is transported in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals.


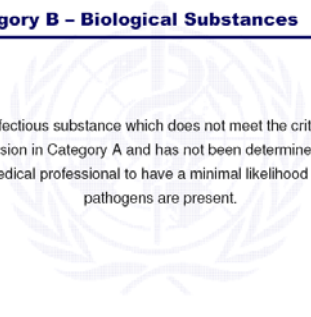



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Category B – Biological Substances

An infectious substance which does not meet the criteria for inclusion in Category A and has not been determined by a medical professional to have a minimal likelihood that pathogens are present.





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What is the difference between cultures and patient specimens?

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Cultures and Patient Specimens

- ☞ Cultures are incubated samples (with purpose of multiplying pathogens)
- ☞ Patient specimens are collected directly from humans/animals
- ☞ These differences are important for the classification of infectious substances
- ☞ This classification will affect the choice of packaging



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What are some terms you have heard related to packaging of infectious substances?

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Packaging Terms

- ☞ Triple packaging
- ☞ Primary, secondary and outer containers
- ☞ Packing Instruction 602 (PI602)
- ☞ Packing Instruction 650 (PI650)
- ☞ UN approved packaging
- ☞ Overpacks

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Triple Packaging (primary, secondary, and outer containers)

Primary Container
Secondary Container
Outer Container

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Packing Instruction 602 (PI602)

This packaging is used for Category A infectious substances

Primary receptacle (test tube)
Cap
Absorbent material
Specimen record (includes removed list of contents)
Secondary packaging (water-tight)
Outer packaging
Package Orientation Label (not mandatory when primary receptacle does not exceed 50ml)
UN specification marking

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UN Approved Packaging

This symbol means the package has passed a series of tests. UN approved packaging is required for PI602.

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Exercise I: PI602 vs. PI650
Please identify three features found in PI602 and in PI650. Then compare the two packages and identify three differences between the two packages.

PI602	PI650	Differences

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Questions and Comments

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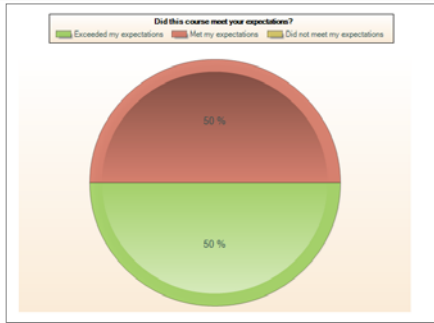
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**Infectious Substances Shipping Training
Quiz 1**

Participant Name: _____

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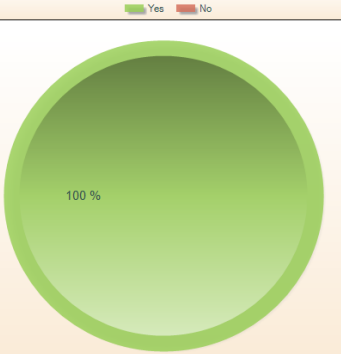
Figures from a survey done with course participants (India)



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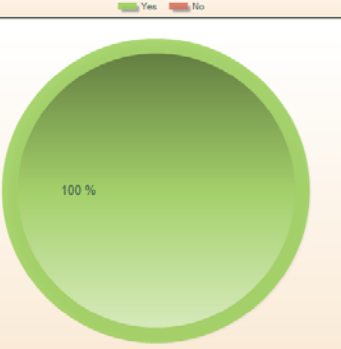
Would you recommend this workshop to other professionals in your region?



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Are you planning on taking the electronic refresher course for recertification in packaging and shipping of infectious substances in two years?



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Additional elements

- e-training tool accessible as refresher course for people who took the classroom course; DVD for package assembly included (already available!); reference documents available through web links
- Collaboration with modal transport authorities and other stakeholders to regularly revise and update classroom course and e-training tool
- Agreement, accreditation, certification, recognition
- E-tool allows to keep track of trainees, and to send e-reminder every two years

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Next steps

- Repeat meeting 'Ensuring efficient transport of IS' in the 6 WHO Regions
- Identify and involve regional/local stakeholders
- Communication! Training!
- Organize transport training for IS in all 6 WHO Regions, also address disease-specific programmes (polio, tuberculosis, HIV/AIDS, etc)
- Translate training modules into official WHO languages

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The secret lies in appropriate packaging....



Thank you
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