Mongolian Emergency Service
Hospital Hygiene Project
MeshHp.mn

The MeshHp project – a Mongolian-German cooperation in healthcare and hospital hygiene

Future Mongolia
Ulaanbaatar, 21 June 2013

Walter Popp

MeshHp project

Initiated by Patrick Kreuz, German Embassy in UB in 2009.

Hygiene experts from Germany: Hospital Hygiene (University Clinics) and Fire Brigade Essen.

Pilot Units in UB:
- First National Central Hospital
- Second National Central Hospital
- Chingeltei District Hospital
- Emergency Service 103

Visiting groups in UB and Essen.

MeshHp: Mongolian emergency service hospital Hygiene project.
Own website: www.meshhp.mn
Part of cooperation treaty of both MoH.

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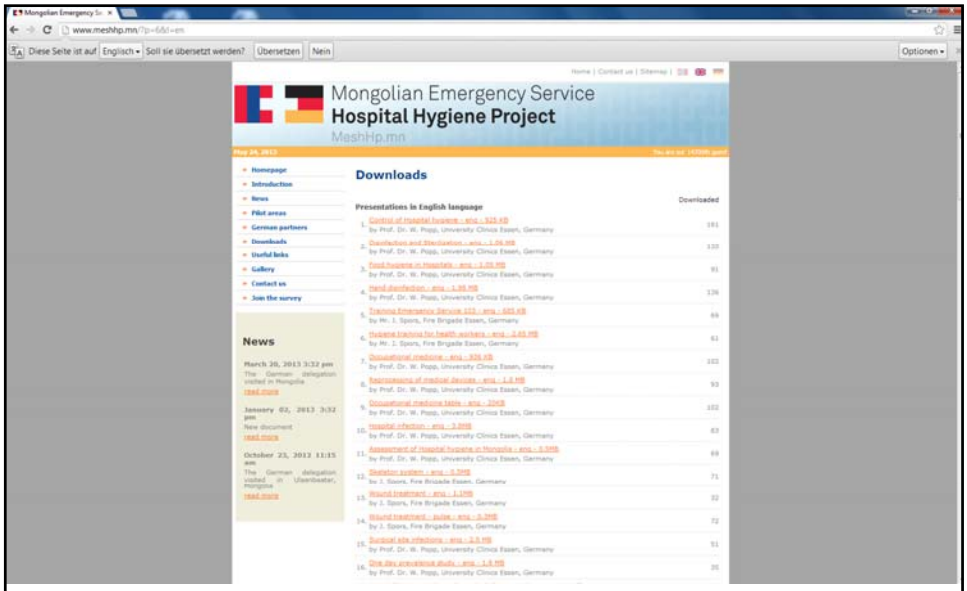
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Infectious diseases in Mongolia

4,000 new cases of Tbc in 2010.

17,000 new cases of STDs 2010.

Many cases of enteritis.
Few HIV.
Also tularemia, Q fever, brucellosis, plague, anthrax …

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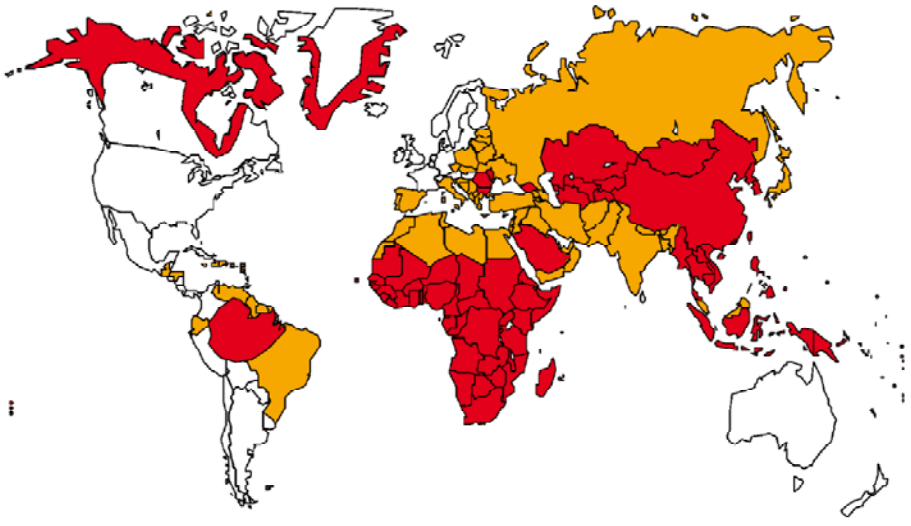
Figure 1. Geographical distribution of HBV endemicity



Red: High (HBsAg prevalence ≥8%
Orange: Intermediate (HBsAg prevalence 2%–7%)
White: Low (HBsAg prevalence <2%)

Source: World Health Organization. Introduction of hepatitis B vaccine into childhood immunization services. Management guidelines, including information for health workers and parents. Geneva: WHO; 2001.

Main problem hepatitis B and C

10 – 30 % of Mongolians are virus carriers:
Risk for themselves (liver)
and others.

Liver cancer is first cancer in Mongolia in both sex
(also high alcohol consumption)

Low vaccination rate in adults,
vaccination of children since 1991.

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Hepatitis B and C carriers in Mongolia					
year	**group**	**n**	**Hep B**	**Hep C**	**Ref.**
< 1998	outpatients	150	28.7 %	48.0 %	Fujioka 1998
2002	adults	249	10 %	14 %	Takahashi 2004
2003	Blood donors	17,537	7.7 %	7.5 %	Oyunbileg 2004
2004	Blood donors	403	8.2 %	5.2 %	Tsatsralt-Od 2005
2003-2005	adults	1.512		11.0 %	Baatarkhuu 2008
	nurses	96		20.8 %	
2004-2005	Blood donors	923	7.8 %	9.6 %	Tserenpuntsag 2010
	18/19y males	96	19.8 %	5.3 %	
2009	Army soldiers	> 550	15.5 %	2.0 %	Pers. Comm.

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Possible reasons for high hepatitis prevalence in Mongolia

Blood products are not consequently tested in countryside.

Traditional medicine, acupuncture, tattoing, especially in countryside.
Bloodletting – kind of folk medicine in rural areas.

In former decades one glas syringe was used for all family members which was only cooked in boiling water.

Self injection practice in families and toothbrush sharing, especially in rural areas.

Insufficient reprocessing of medical devices. This is presumed especially for dentists in rural areas.

Many iv applications of drugs in hospitals without real indications (eg vitamins).

Pregnancy. It must be an open question whether hepatitis is transmitted sexually or by birth (eg not sterile instruments).

Insufficient vaccination: old vaccines, transport in winter.

Sexual behaviour: little is known about that, but increasing number of STDs,

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The risk of transmission from an infected patient to a HCW by a needlestick injury is around

30 % for hepatitis B,

3 % for hepatitis C and

0.3 % for HIV.

Also opposite risk in case of injured surgeons or dentists.

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Hospital hygiene in Mongolia

MoH numbers of nosocomial infections: 0.01 – 0.05 %.
Prevalence study: 5.4 %.

Antibiotics:
- Used too often (eg before every operation)
- Freely available everywhere

Microbiologic laboratories:
- Bad quality of results
- No statistics about resistance rates

Mongolia takes part in WHO “Clean care is safer care“ –
but no alcoholic handrub available.

Reprocessing of medical devices: manual only, no control of autoclaves, old machines and containers only.

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First aims of MeshHp project

Hand hygiene

Hepatitis vaccination of hospital staff

Training (train the trainers)

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Results

Production of alcoholic handrub solutions in 2 hospitals.

e.g. National Central Hospital: 1,052 l in 2011, 1,521 l in 2012.
= 13 % of University Clinics Essen.

Results

Campaigns for vaccination of staff against hepatitis B.

eg National Central Hospital: 430 of 503 got 2. vaccination,
eg Chingeltej District Hospital: 67 of 250 got 2. vaccination.

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Results

Training (train the trainers)

Emergency service

Hygiene plan.

Routine disinfection.

Training of drivers –
and of doctors.

Training in Essen.

Vaccination: 147 of 168 got 1. vaccination.

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Next steps

Improve reprocessing of medical devices.

More training and more intensive training.

Train staff of not-pilot hospitals (done by trained trainers).
Extend on other hospitals.

Antibiotic policy.

Higher quality level of microbiologic labs.

Take part in Health 5 project of ADB.

Therapy of hepatitis virus carriers in hospital staff.

Second MeshHp symposium this year and first national one.

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Journal of Hospital Infection

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journal homepage: www.elsevierhealth.com/journals/jhin

Prevalence of hospital-acquired infections and antibiotic use in two tertiary Mongolian hospitals

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SUMMARY

Health statistics of Mongolia indicate that hospital-acquired infections (HAIs) occur in 0.01–0.05% of all hospital admissions. This is considerably lower than internationally reported rates. A one-day survey was conducted in two tertiary hospitals of Ulaanbaatar in September 2008 to estimate HAI prevalence, associated risk factors and patterns of antibiotic usage. Among 933 patients surveyed, 50 (5.4%) were diagnosed with HAI. Prevalence of surgical site infection was 1.1% (3.9% among surgical patients), bloodstream infection 0.3%, respiratory tract infection 1.3%, urinary tract infection 1.3%, and other HAI 1.4%. Microbiological investigations were only documented for 18.9% of all patients. A total of 558 patients (59.8%) were taking 902 courses of antibiotics; 92.1% of patients were prescribed antibiotics without a sensitivity test. Multiple logistic regression analysis revealed that HAI was significantly associated with the admission source, the hospital, length of hospital stay, surgical and other invasive procedures, urinary catheters and other indwelling devices. The study results were comparable with reports from some other developing countries and confirm that official statistics underestimate the true frequency of HAI in Mongolia.

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High risk activities (US and German guidelines) for getting a hepatitis in healthcare

Operations in a narrow operating field,
with reduced view control,
long durance,
with fingers working very near to sharp instruments or needles,
with manual feeling and groping of needles and
closure of sterniotomia (RKI 1999, CDC 2012).
Typical example: heart surgery.

Solution for hepatitis carriers:
Forbid them to do their job any longer or
treat them so that a big number of them will loose carrier status and infectiosity.

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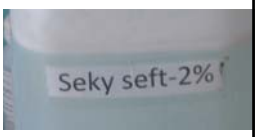
Import products from Germany

Fake products from Russia and China, eg Sekusept (Ecolab)



Import by MedClean®

Support German companies on Mongolian market, eg MMM, Meiko

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Next steps

New hospitals – construction issue.

New machines – sterilisers, washer disinfectors, bedpan washers, ultrasound.
Maintainance and budget (eg for chemicals) must be available.

Technics department in each hospital.

Next steps

More money is needed in healthcare sector:
4.3 % of GDP in Mongolia (Germany 10.4 %)

… and also MeshHp needs financial support!

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