WHAT ARE THE CHALLENGES FOR BLOOD TRANSFUSION CENTRE OF SLOVENIA IN EMERGENCY SPECIAL CIRCUMSTANCES?

Polonca Mali
Slovenia in brief

Area: 20,273 km²
Population: 2,019,406 (30.6.2007)
Capital city: Ljubljana
Language: Slovene; also Italian and Hungarian in nationally mixed areas
Currency: EURO (since 1 January 2007)

Important dates:
Independence: 25 June 1991
Member of EU: 1 May 2004
BLOOD TRANSFUSION SERVICE IN SLOVENIA
Population density in Slovenia
Blood donation in Slovenia is non-paid, voluntary and anonymous.

The Slovenian Red Cross organizes blood donation sessions with 56 local organizations in the country.

Year 2013:
- Slovenian Red Cross organized 1,070 blood donation sessions
- 323 on field collection sites
- 92,479 donations
- First-time blood donors: 10%
Blood transfusion services in Slovenia 2013

- **Collecting**
  - **X-matching**
  - **Processing**
  - **Testing**
  - **NAT testing**

**Locations and Numbers**:
- **Ljubljana**: 9,863
- **Trbovlje**: 49,567
- **Jesenice**: 1,982
- **Izola**: 5,084
- **Maribor**: 15,195
- **Ptuj**: 3,938
- **Murska Sobota**: 4,538
- **Novo mesto**: 6,616
- **Slovenj Gradec**: 2,861

**Additional Locations**:
- **Croatia**:
- **Italy**:
- **Austria**:
- **Hungary**:

**Legend**:
- **H**: Location for collecting, processing, testing, and X-matching

EMERGENCY SPECIAL CIRCUMSTANCES

• WHAT ARE THE NATURE THREATS FOR SLOVENIA

• MASSIVE ACCIDENTS

• ORGANIZING PROBLEMS
  
  (COOPERATION BETWEEN TS – NOT YET ONE TS!,
  FINANCIAL ASPECT,
  BACKUP SERVICE,
  BLOOD SUPPLY PROBLEMS,
  DONOR MANAGEMENT AND MOBILE SESSIONS FAST ADAPTATION)

• PATIENTS SAFETY «» STABLE AND SAFE BLOOD SUPPLY
  NOT INFLUENCED or IMPAIRED
  (flu, WNV, Chikungunya...EBOLA., massive accidents..)
OUR HISTORICAL EXPERIENCES:

• 2009/2010 Guidelines and preparedness plan for flu H1N1 epidemic

• 2011- Guidelines and preparedness plan for WNV
  (donor selection criteria, organisation of donor collections and testing, blood supply management, in country cooperation between TS, RCS preparedness plan for situations...)

• CRITICAL SITUATION MANAGEMENT IN SLOVENIA on national level
  (workshops for medical staff, national gard, RC...: massive traffic accidents, massive fire accidents, baloon accident...)

• 2010 PCR/NAT machine TIGRIS system testing breakdown urgent need to have backup in other country!)}
WORKSHOPS FOR MASSIVE INTERVENTION

Zavod RS za transfuzijsko medicino
Baloon fall and fire 23.08.2012
What can we expect?

- EARTHQUAKE (14.04.1895)
What can we expect?

- FLOODS (2010)
Zavod RS za transfuzijsko medicino

“Življenje teče”
Floods differ by:
- Type of stream (mountain, valley-bottom, flatland)
- Terrain (sloping, depressed)
- Volume
- Intensity and extent of precipitation
- Season (autumn, spring)
- Type of high-water wave
- Duration
- Frequency (e.g. every 20 years)
- Type of land and of inundated facility

Floods present a threat to over 300,000 hectares of land in Slovenia.

The majority of land prone to flooding (270,000 hectares) lies in narrow valleys carved by torrents.
Floods in Slovenia

- Most of them Transfusion Services are placed in basement floor of the buildings (General Hospitals) BUT most of the them are on little hills - so internal waters due to sewage and water supply pipe network

- PROBLEMS TO COPE IN Transfusion service
  - machine damage (backup?)
  - electric supply cuts (manual work - staff training problem!, quality management, paper work...)
  - staff shortage (transport problem to come to work, or work with floods at home)
  - Emerging Infection diseases (mosquitos, fecal / water supply)..DONORS / PATIENTS are at risk

Zavod RS za transfuzijsko medicino

“Življenje teče”
“SINGLE” COUNTRY EXPERIENCE?

- ICE (sleet, February 2014)
ICE COVERING SLOVENIA
February 2014

Problems:
no electricity/ No. of agregats
no transportation
no food/ no heat/ no staff/ no donors

Zavod RS za transfuzijsko medicino
“Življenje teče”
MOBILE SESSION ŽIRI
Mo 03. Febr. 2014

- Sun 02. Febr. morning: TV reports of problems with ice, local roads intermittently closed, electric power supply unstable.
- Stationary phones dead, mobile intermittently working: communication with local RC organiser what to do.
- Due to increasing local problems and stable blood supply (6 days) final decision made: MOBILE SESSION CANCELED (for donors and staff).
- Notice and media information went out on local TV and national Radio.
- Preparations for alternative mobile session place in progress on same day.
- Mobile session needed to be in other place next day, donors were called with sms.
- Fast and proper information for donors and staff (Red Cross involvement needed).
- Thank you information for all donors as soon as possible on all web medias (FB, Twitter...).
Every hour/ day attention what was going on (road jams, roads closed..)
Alertness for staff and donors to make the mobile session possible

**Lessons learned:**
1. Always have your mobile phone battery full, use it only when needed
2. Telephone No. of staff need to be monthly checked (due to mobile service provider offers)
3. High level of good communication and cooperation with RC and media saved a lot of time
4. Blood supply support from other part of country is possible if transportation is possible (use of police helicopter??)
5. **No problems with blood supply due to donors who donated even that they were in ice**
LESSONS ALREADY TAKEN
Quality management
Staff training.....plans..THEY WORK!
Telemedicine in the blood transfusion service

Results of the IH investigations
XM, IAT, AB0-RhD

Teleconsultation
Patient data: medical history
Professional support for remote transfusion

Host information system

Blood donor: AB0-RhD

Specialist in transfusion medicine
Teleconsultations

Why?

- **Saving time** (no need to transport samples)
- **Saving money** (lower nr. of experts - 11/2, staff)
- **24hours / 7days service**
- **Equal (the highest) quality of expert immunohaematology**
Introducing the Prevention of virus & bacteria transmission

- uniform donor’s questionnaire
- donor eligibility criteria (technical requirements of the Directive 2004/33/EC)
- fresh frozen plasma from quarantine
- viral inactivation of platelets
- universal leucoreduction
- screening for infection markers (HBsAg, anti-HIV-1/2, p24Ag, anti-HCV, anti-Treponema pallidum, HCV RNA, HIV RNA and HBV DNA (2 centres in Ljubljana in Maribor, backup!, Celje ?, but NAT only in Ljubljana- overboarder cooperation)
OVERBOARD COOPERATION

• DUE TO SAME EU LEGISLATIONS (POSSIBLE AND EASY)

but

• DIFFERENT DATABASE/IT MANAGEMENT OF DONORS AND BLOOD SUPPLY?
• NATIONAL SELFSUFFICIENCY?