STRATEGY AND MODEL OF HEALTH PROTECTION AMONG SEAFARERS AND FISHERMEN IN THE YEARS 1945–2007

Bogdan Jaremin

from: Clinic of Occupational and Internal Diseases and National Centre for Maritime Medicine of Interfaculty Institute of Maritime and Tropical Medicine in Gdynia, Medical University of Gdańsk, Poland
1. Identification of determinants of health, life and work safety at sea
   – a complex of harmful and oppressive factors
   – maritime work and living conditions
   – administrative and legal environment

2. Mission, strategy, model of care
   – variable: concepts, tools, solutions
3. Description of periods:
- 1947–1963
- 1964–1988
- 1989–2007

corresponding to:
- stages and state of maritime economy
- social and political environmental conditions
- aims assumed and medical tools applied
MISSION:

– preservation of good health
– life safety
– effectiveness of work

among seafarers and fishermen under real environmental conditions and at economically justified costs
STRATEGY (aims declared):

1. Selection of workers capable of working at sea according to health requirements and qualifications
2. Prophylaxis and periodical health state control during occupational activity
3. Primary prevention of diseases and accidents by control and intervention within work environment
4. Counselling and medical care on board and on the land
5. Secondary prevention by reducing consequences of diseases and accidents at sea
Sides and participants of the above programmes:

1. Seafarers and fishermen – trade unions
2. Employers – shipowners, agencies
3. Maritime administration – domestic, – international institutions: ILO, IMO, WHO
4. Rescue services
5. Health protection services
   – at sea
   – on land, including telemedicine
Obstacles:

1. Complicated logistics of cooperation

2. Interests and aims of the sides are not always: coherent, separated according to competences, legally guaranteed

3. Delayed or incomplete legal regulations

4. Lack of full data (EBM, statistics)
Expectations of sides:

1. **Employee:** fair wages, safe and light work with guaranteed constant access to maximum health protection and workers' rights

2. **Employer:** profit, minimization of employment, broad access to qualified, efficient and healthy employees for moderate pay

3. **Administration:** formal meeting of safety requirements of the work at sea according to international conventions and recommendations

4. **Health service:** qualification, medical and certification procedures in accordance with rules, based on EBM, maximum health protection at minimum costs available
Means and tools of health service

1. Individual competences:
   qualifications and skills in rendering services in this occupational group, regularized by requirements of specializations: maritime, tropical, occupational medicine, medicine of transport, occasionally other specializations

2. Means and base:
   – prehospital help at sea: (ambulat., minimum equipment in accordance with convention, in ship’s medicine chest, IMGfS), telemedicine
   – on land – network of clinics, access to qualified medical care
Legal scope

1. Domestic:
Employment code, orders and laws, e.g. order of the Ministry of Health and Social Welfare of 17 February 1993

2. International conventions:
Characterization of individual periods

1947–1963

Organization period:

– branch medical services ("port"), departmental institute (Institute of Maritime and Tropical Medicine) (1939) – 1946, organization of rescue services (PRO 1951), Medical Radio (1952), Captain's health guide (1963)

– stiff list of diseases, defects and disabilities preventing from work or limiting fitness for work on sea-going vessels (1954, 1958, 1963)

– categorization for employment (1–4) according to profession and work experience (N, P, M, R)
Philosophy and concept of this period may be summarized in the formula of a:

**healthy worker**

- passive object selected to carry out tasks of a worker
- stiff organization of work, command management, wide masses of employees, poor comfort of work
- preliminary recognized harmful physical, chemical, biological and psycho-social factors in work environment
1965–1989

Period of development > stabilization > stagnation:

– quantitative and qualitative development of national fleet, maritime and airborne rescue services

– development of research and innovatory technical solutions aiming to reduce harmful and oppressive factors in the maritime work environment, improvement in the comfort of life and work at sea

– preservation of the potential of health care units at sea basing on branch structures
In the philosophy and concepts of this period, a requirement of **healthy workers** was maintained (Order of the Ministry of Health and Social Welfare, 1969), still treated as „human resources”, but progress was achieved in the creation of **healthy work environment**:

– despite liquidation of the post of the ship's doctor within economic modernization of health service

– placing emphasis on premedical self-assistance, medical radio- and teleconsultation, improvement in occupational safety, as well as progress in the technology of ships' construction
1990–2007

**Transformation period:**

- quantitative decline in the national fleet, partial registration under foreign flags, flag of convenience ships

- migration of qualified staff abroad, work in international teams, temporary contracts, impaired quality of legal solutions

- worsening of work conditions at sea, increased psychosocial risk (shift work organization, tiredness, stress, short stops at ports, addictions, uncertainty of employment)

- transformations of departmental health care units, decline in the number of specialists, worsening in the quality of prophylactic examinations
A new concept: **health promotion at sea**
- taking responsibility for own health
- education and medical training in the area of work safety
- motivation for individual development and active health promoting attitudes

These aims are based on guidelines and directives of:
- the Maastricht Treaty (1992)
- the Luxembourg Declaration (1992)
- the Lisbon Strategy (2000)

obliging:
- governments, institutions, employers and employees to collaborate with each other for maintaining/improving the state of workers' health in the process of work
Measures of technical and legal prevention, which in majority are beyond the competences of health care services, are essential elements of activities beneficial for health protection.

Can health promotion reduce the most hazardous phenomena: serious accidents and loss of life on sea going vessels?

The analysis of deaths due to accidents and diseases during work at sea (1947–1999) embraced > 1000 cases of seafarers and fishermen (data on foreign flags are not complete)

The work-related death risk on sea going vessels/1000 employees/year – constantly or periodically exceeds 1 (in different groups: 0.64–1.52, the highest among the Baltic fishermen)

The number of serious accidents resulting in long absence from work amounted to 1.2–2% of cases, and total sick leave per year corresponded to 3.2–4.1% of all employees.
In the analysis of **deaths at sea** in the years 1960–1999: 
**the external causitive factor** – the accident was confirmed in (av.):

**80%** of the events

**including:** drowning, missing in 57% of cases due to mechanical failure, collision, disaster, sinking, in which primary medical prevention does not play any important role

**Mechanical, thermal, electric injuries** and poisoning accounted for about **23%** of events – secondary medical prevention may reduce their effects but not their number
The internal factor – idiopathic diseases as the cause of death was noted in about 20% of the events.

Pathological causes of death seem to be:
- the main, essential and proper field to implement the concept and method of promotion of prohealth attitudes to reduce the risk of health and life loss during work on sea going ships.
The majority of deaths in the category of idiopathic diseases (17% from 20% of the total) were caused by infarction – stroke. **sudden circulatory deaths** as a result of a **risky lifestyle**: nicotinism, alcoholism, lack of physical activity, obesity, with: **combined effect of work-related factors**: stress, tiredness, shift work, excessive effort. The rest (3%) embraced transmission infectious diseases, including: malaria, tuberculosis, viral hepatitis, STD and tumors.
Considerable number of these deaths could have been avoided by shaping active health-promoting attitudes.

The share (attributable fraction) in the overall number of deaths:

- smoking 14%
- lack of activity 11%
- obesity 8%
- stress and shift work 11%
- alcohol 1.4%
Challenges and issues in the improvement of state of health in crews of sea going vessels

Organizational and legal:

– workers' rights and contract guarantees, particularly on the flag of convenience ships

– effective inspections and interventions of trade unions (ITF)

– legal protection – ILO/IMO/WHO conventions and domestic legislation (maritime administration)
Technical:
– improvement in sea worthiness of ships and their rescue and recreation equipment
– development of maritime rescue network (SAR)
– development of GPS and telemedicine

Medical:
– improvement in the quality of prophylactic examinations
– better access to medical services
– good motivation among employees and employers for shaping active prohealth attitudes
– education and training of workers in premedical help (IMGfS, WHO, 2007) and stress management

World Health Organization 2007
3rd Edition
Keeping up the listeners' attention depends on the time of the lecture and the intelligence of the audience.

What is the applause granted for?

- **for what is said**: 7%
- **for how it is said**: 38%
- **for appearance of the speaker**: 55%