

Air quality monitoring and health impact evaluation in MDA

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Importance of the problem

- RPG – 3 from CEHAPE – to prevent and significantly to reduce air related diseases through implementation of effective prevention measures to reduce air pollution.
- Chronic respiratory diseases are mainly related to air quality and have a high incidence than other diseases.
- Health of the population is affected both by outdoor and indoor air quality.

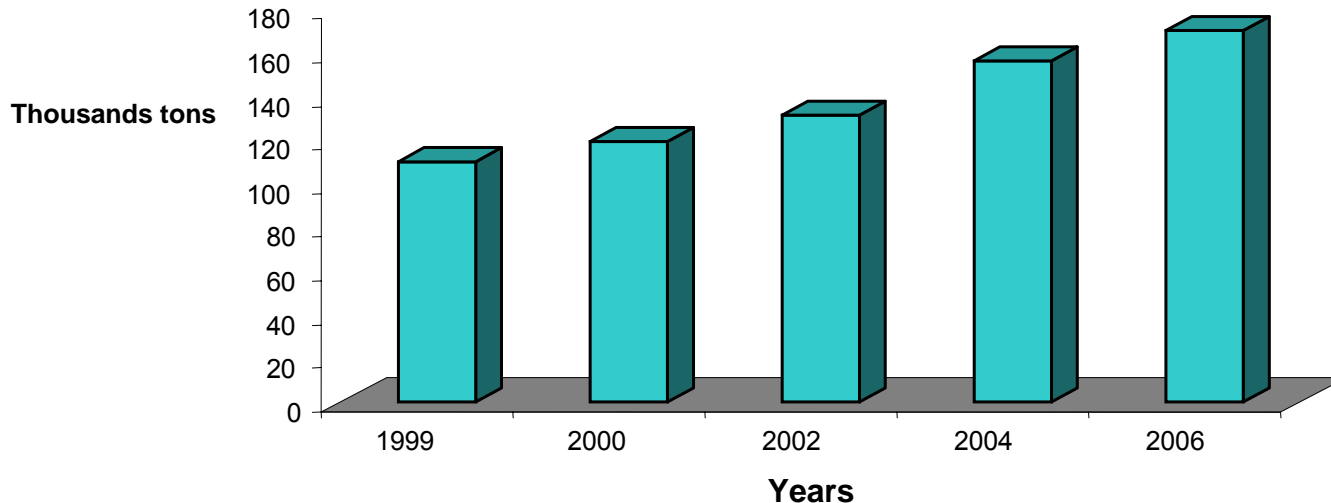
Main gaps

- Legislative and normative framework is not harmonized with WHO recommendations and EU Air Quality Directive on Air Quality standards and Air Quality monitoring.
- No technical capacities to determine PM 10 and PM 2,5 in major cities, only TSP.
- None of monitoring points provide measurements of average daily concentrations of pollutants.
- Not enough trained staff in laboratories.
- Limited health studies.

Emissions

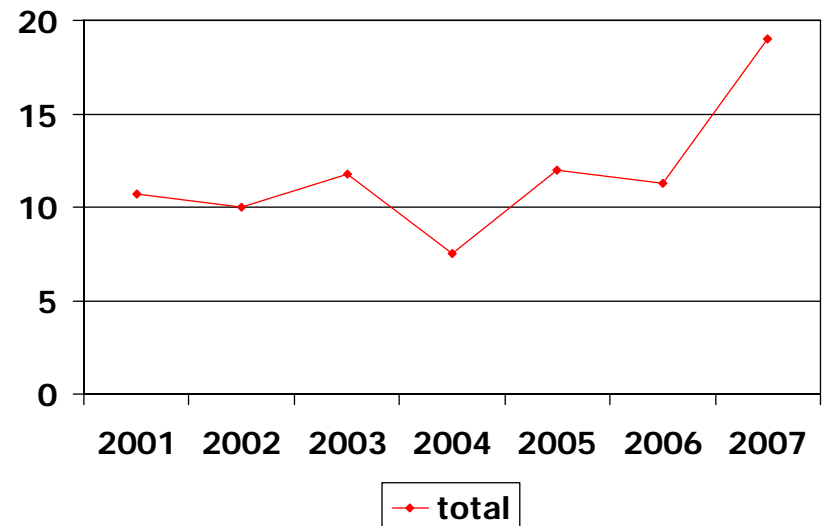
The most important air polluters are: transport – 88%, combustion – 10%, industry – 2%. Transport emissions increase from 110.000 tones in 1999 to 170.000 in a.2006.

Fig.2. Transport emissions during 1999-2006



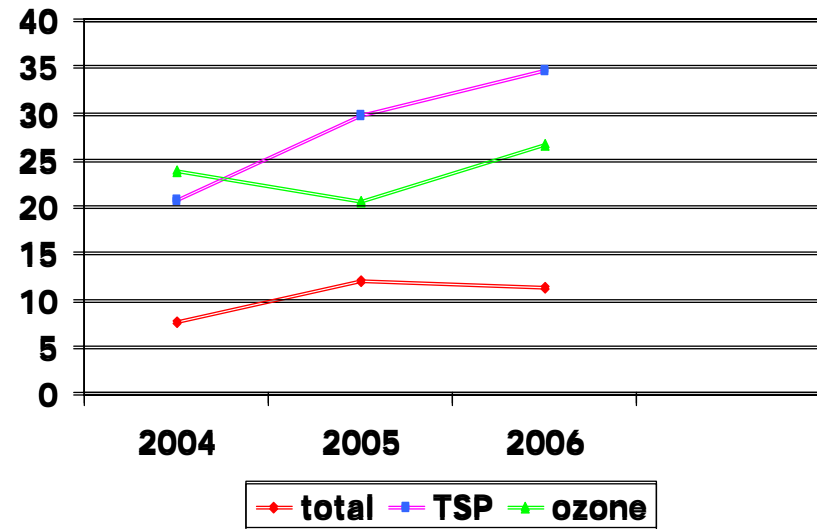
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- During 2001-2007 were investigated 63034 samples, 6057 (12%) – above guidelines levels.
- 2007 - Highest level of non-compliance samples recorded ever.
- Worst situation - in Bălți – 53,0% and Chișinău – 44,3%.



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- Parameters above GL:
TSP, ozone, SO₂,
formaldehyde, NO₂.
- **Fig. 3.** Ozone and TSP
samples above GL
during 2004-2006 in
urban areas.



Dinamic of general morbidity level on population in Chisinau, 2001-2005 (per 1000 population)

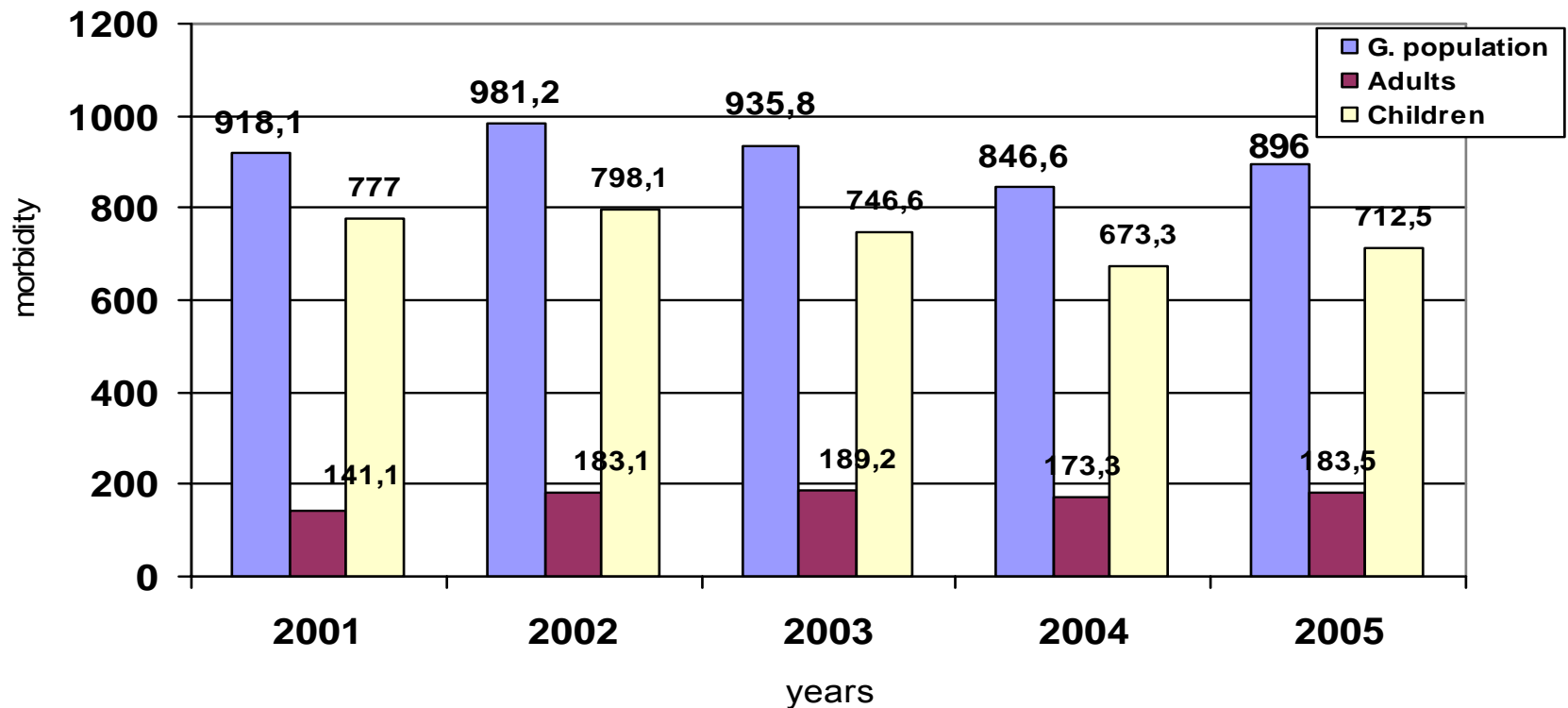


Fig. 4 General morbidity level and on respiratory diseases in children in Chişinău, during 2001-2005 (incidence per 1000)

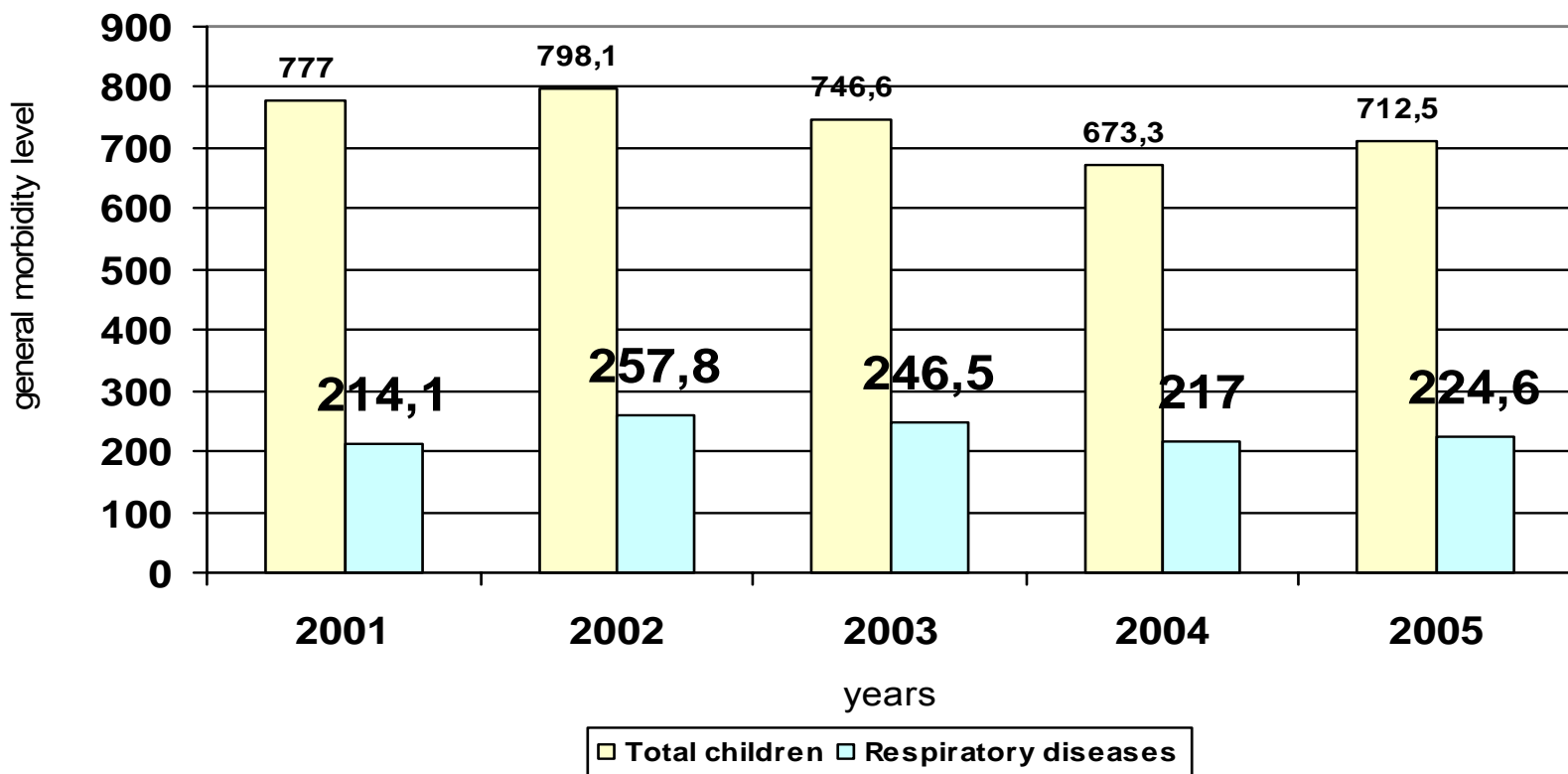
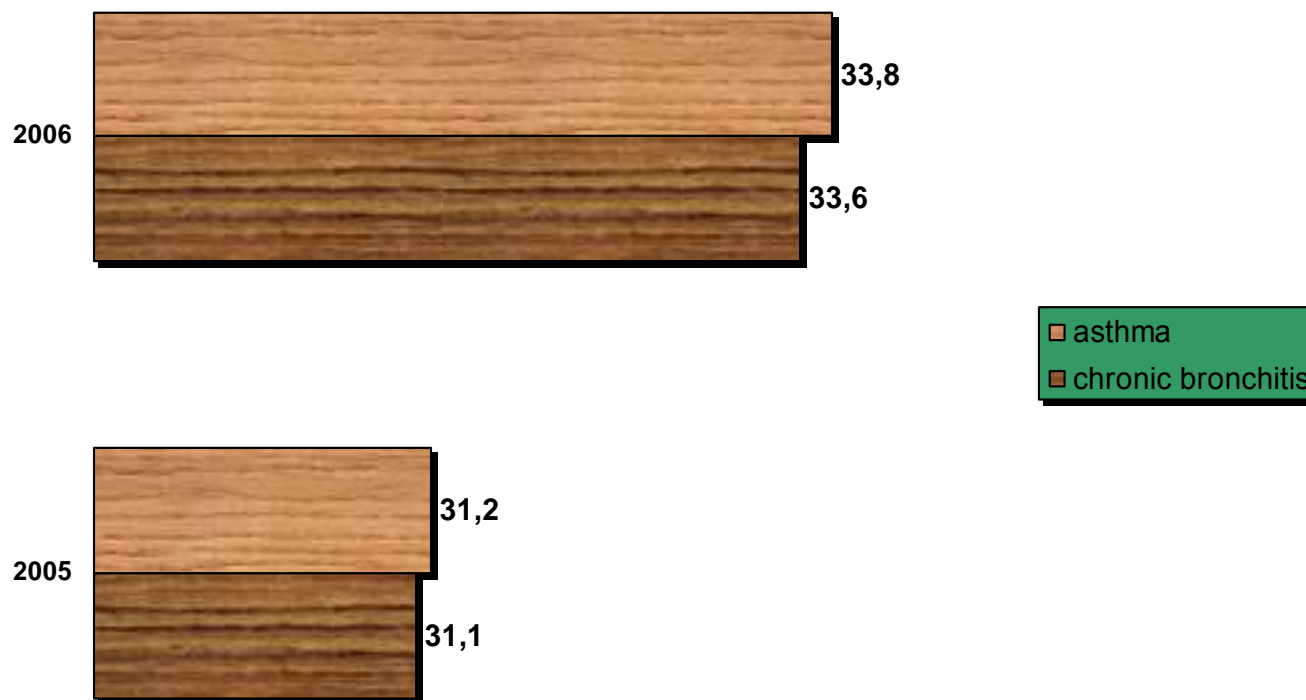


Fig.5 Morbidity on some respiratory diseases on children in Chişinău (chronic bronchitis; bronchial asthma) 2005-2006



Legal framework development

- With WHO/Bonn Office support Moldova started in September 2008 to develop a draft national Law (Guidelines on Ambient Air Quality).
- For this reason a Working Group was established under the leading role of the National Centre of Preventive Medicine. Format of WG – 3 representatives from health sector and 2 from environmental sector.
- The draft document is based on WHO Guidelines on Air Quality and Air Quality monitoring methodologies and on EU Directive 2000/50/EC on Ambient Air Quality and Clean Air for Europe.
- Romanian version of the first draft to be finished before 31 October 2008, final version – in May-June 2009.

Legal framework development

Main challenges to be solved during the preparation process:

- To agree on responsibilities for action between key actors - the Ministry of Health and the Ministry of Environment;
- to agree on the list of parameters to have guideline value – to be limited on the proposed list by WHO and EU documents, or to supplement it with the most relevant parameters from existing norms;
- The air quality monitoring system and procedures should be improved for better assess the health risks and better control pollution.

Solutions and recommendations

- **Implementation of new monitoring system, with focus on main pollutants, especially on PM 10 and PM 2,5 and troposphere ozone;**
- **Extension of automatic stations network in major cities of Moldova and designing of pollution maps for risk assessment;**
- **To develop relevant national programmes.**
- **Staff training.**
- **Health impact assessment on PM 10 and PM 2,5 exposure.**
- **International collaboration with WHO and EU.**