Public and environmental health information system in North Rhine-Westphalia

Odile Mekel, Nicole Rosenkötter
NRW Centre for Health, Bielefeld, Germany
North Rhine-Westphalia

- 1/16 regions in Germany
- ~17.8 Mio inhabitants
- Population density: 523 inhabitants / km²

- 53 cities and districts
  - Max Cologne: ~1 Mio inhabitants
  - Min Remscheid: ~110,000 inhabitants
  - Ruhr area (urban region)
    - ~ 8.5 Mio inhabitants
    - Pop. density: 1646 inhabitants / km²
What are we talking about?

DIKW-Hierarchy

- **Data**: unorganized and unprocessed
- **Information**: organized or structured data \( \rightarrow \) indicator sets
- **Knowledge**: public health reports, print / online
- **Wisdom**: Ackoff RL, 1989
Indicators for public health reporting in Germany

- Since 1992 defined in the „Regional indicator-set for public health reporting“
- 350 indicators, about 80 indicators in NRW are available on district/city level
- Topics
  - Population
  - Health & Disease
  - Health Behaviour
  - Health & Environment
  - Health care services
  - Health care utilization
  - Workforce & Training
  - Health care spending & costs
# Overview indicators in NRW on regional level

<table>
<thead>
<tr>
<th>Topic</th>
<th>indicators</th>
<th>available on city/district level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>30</td>
<td>17</td>
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<tr>
<td>Health &amp; Disease</td>
<td>144</td>
<td>27</td>
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<tr>
<td>Health Behaviour</td>
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<td>Health &amp; Environment</td>
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<td>5</td>
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<td>Health care services</td>
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<td>10</td>
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<td>Health care utilization</td>
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<td>11</td>
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<tr>
<td>Workforce</td>
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<td>7</td>
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<tr>
<td>Training</td>
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</tr>
<tr>
<td>Health care spending</td>
<td>28</td>
<td>--</td>
</tr>
<tr>
<td>Health care costs</td>
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<td>--</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>351</strong></td>
<td><strong>79</strong></td>
</tr>
</tbody>
</table>
Focus: Environmental Health Indicators

- Air quality
  - Nitrogen dioxide
  - Sulphur dioxide
  - PM10
  - Ozone
  - Benzol
- Drinking water quality
  - Nitrate and pesticides
  - Lead, copper and trihalomethans
  - Escherichia coli and Enterococcus
- Annoyance (subjective) noise
- Chemicals in cow milk / human milk
  - Dioxine
  - PCB
- Working conditions (selected factors)
- Notifiable accidents at process plants – injured and killed persons
- Bathing water quality
Short report on PM10 pollution

Number of days with PM10 levels > 50μg/m³
(monitors with >35 days with exceeding PM10 levels)

Access to indicators

- indicators are **online** available
- each indicator is presented as html or **Excel table**
- for some indicators **maps** or interesting **graphs** are available
- standardized **metadata** are provided for each indicator
Tools – graphical display of indicators

- Spatial distribution and time series
Tools – graphical display of indicators

- Spatial distribution and time series
- Correlation analysis
Tools – graphical display of indicators

- Spatial distribution and time series
- Correlation analysis
- Comparison of general and child health profiles of two cities / districts
Tools – graphical display of indicators

- Spatial distribution and time series
- Correlation analysis
- Comparison of general & child health profiles of two cities / districts
- Funnel plots
Other material

- NRW public health reporting strategy, regional public health reports, database for public health reports on city / district level

- Information on child health from the annual school-entry screening

- Information on infectious diseases

- Information on the results of the annual health interview survey
Contact:

NRW Centre for Health

Odile Mekel I odile.mekel@lzg.nrw.de
Nicole Rosenkötter I nicole.rosenkoetter@lzg.nrw.de

health data I monitoring I reporting I forecasting I health services