

# Statistical analysis for public health and policy making

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1<sup>st</sup> Technology Transfer Workshop

BIRO Investigators Meeting

Malta 31<sup>st</sup> May 2006

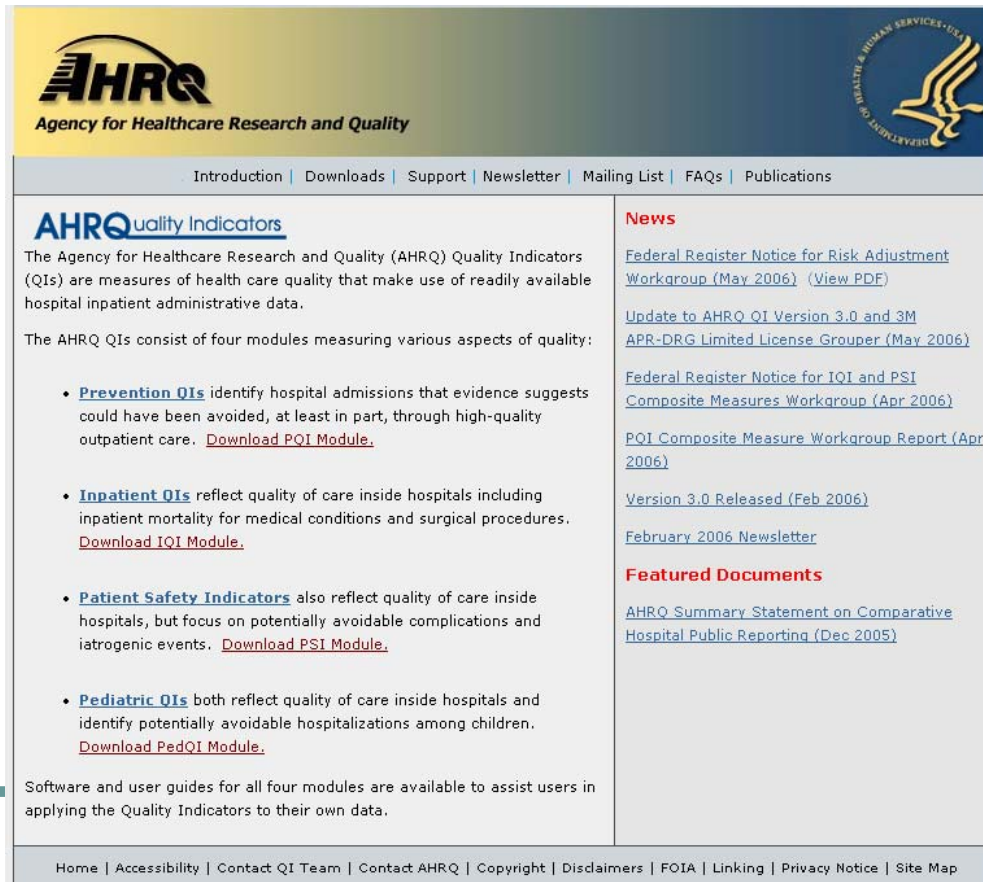
# The big picture

- WHO Health Systems Performance
- OECD Health Care Quality Indicators Project
- DG-SANCO Public Health Portal

# Gold standards

- AHRQ Quality of Care Indicators

<http://www.qualityindicators.ahrq.gov/>



The screenshot shows the AHRQ Quality Indicators website. The header features the AHRQ logo and the text "Agency for Healthcare Research and Quality". A navigation bar includes links for Introduction, Downloads, Support, Newsletter, Mailing List, FAQs, and Publications. The main content area is divided into two columns. The left column is titled "AHRQ Quality Indicators" and provides an overview of the QIs, stating they are measures of health care quality based on hospital inpatient administrative data. It lists four modules: Prevention QIs, Inpatient QIs, Patient Safety Indicators, and Pediatric QIs, each with a brief description and a download link. The right column is titled "News" and lists several recent updates, including a Federal Register Notice for Risk Adjustment Workgroup (May 2006), an update to AHRQ QI Version 3.0 and 3M APR-DRG Limited License Grouper (May 2006), a Federal Register Notice for IQI and PSI Composite Measures Workgroup (Apr 2006), a PQI Composite Measure Workgroup Report (Apr 2006), and the release of Version 3.0 (Feb 2006). A "Featured Documents" section includes a link to an AHRQ Summary Statement on Comparative Hospital Public Reporting (Dec 2005). A footer at the bottom contains links for Home, Accessibility, Contact QI Team, Contact AHRQ, Copyright, Disclaimers, FOIA, Linking, Privacy Notice, and Site Map.

**AHRQ**  
Agency for Healthcare Research and Quality

Introduction | Downloads | Support | Newsletter | Mailing List | FAQs | Publications

### AHRQ Quality Indicators

The Agency for Healthcare Research and Quality (AHRQ) Quality Indicators (QIs) are measures of health care quality that make use of readily available hospital inpatient administrative data.

The AHRQ QIs consist of four modules measuring various aspects of quality:

- **Prevention QIs** identify hospital admissions that evidence suggests could have been avoided, at least in part, through high-quality outpatient care. [Download PQI Module.](#)
- **Inpatient QIs** reflect quality of care inside hospitals including inpatient mortality for medical conditions and surgical procedures. [Download IQI Module.](#)
- **Patient Safety Indicators** also reflect quality of care inside hospitals, but focus on potentially avoidable complications and iatrogenic events. [Download PSI Module.](#)
- **Pediatric QIs** both reflect quality of care inside hospitals and identify potentially avoidable hospitalizations among children. [Download PedQI Module.](#)

Software and user guides for all four modules are available to assist users in applying the Quality Indicators to their own data.

### News

- [Federal Register Notice for Risk Adjustment Workgroup \(May 2006\) \(View PDF\)](#)
- [Update to AHRQ QI Version 3.0 and 3M APR-DRG Limited License Grouper \(May 2006\)](#)
- [Federal Register Notice for IQI and PSI Composite Measures Workgroup \(Apr 2006\)](#)
- [PQI Composite Measure Workgroup Report \(Apr 2006\)](#)
- [Version 3.0 Released \(Feb 2006\)](#)
- [February 2006 Newsletter](#)

### Featured Documents

- [AHRQ Summary Statement on Comparative Hospital Public Reporting \(Dec 2005\)](#)

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# Regione Umbria

- DVSS Project

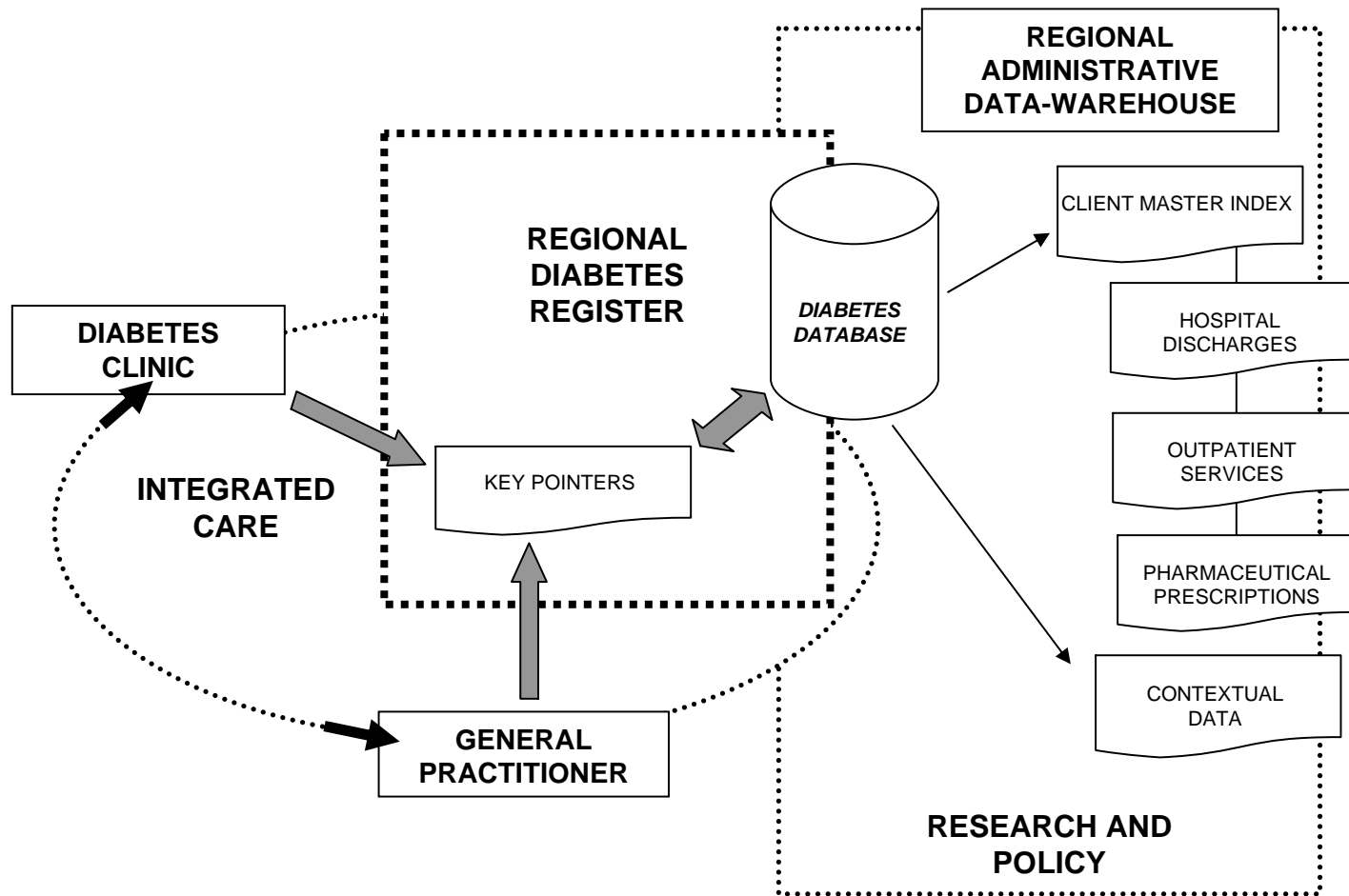
<http://www.umbriasalute.org/>

“Document for the eValuation of health determinants and regional health System Strategies”

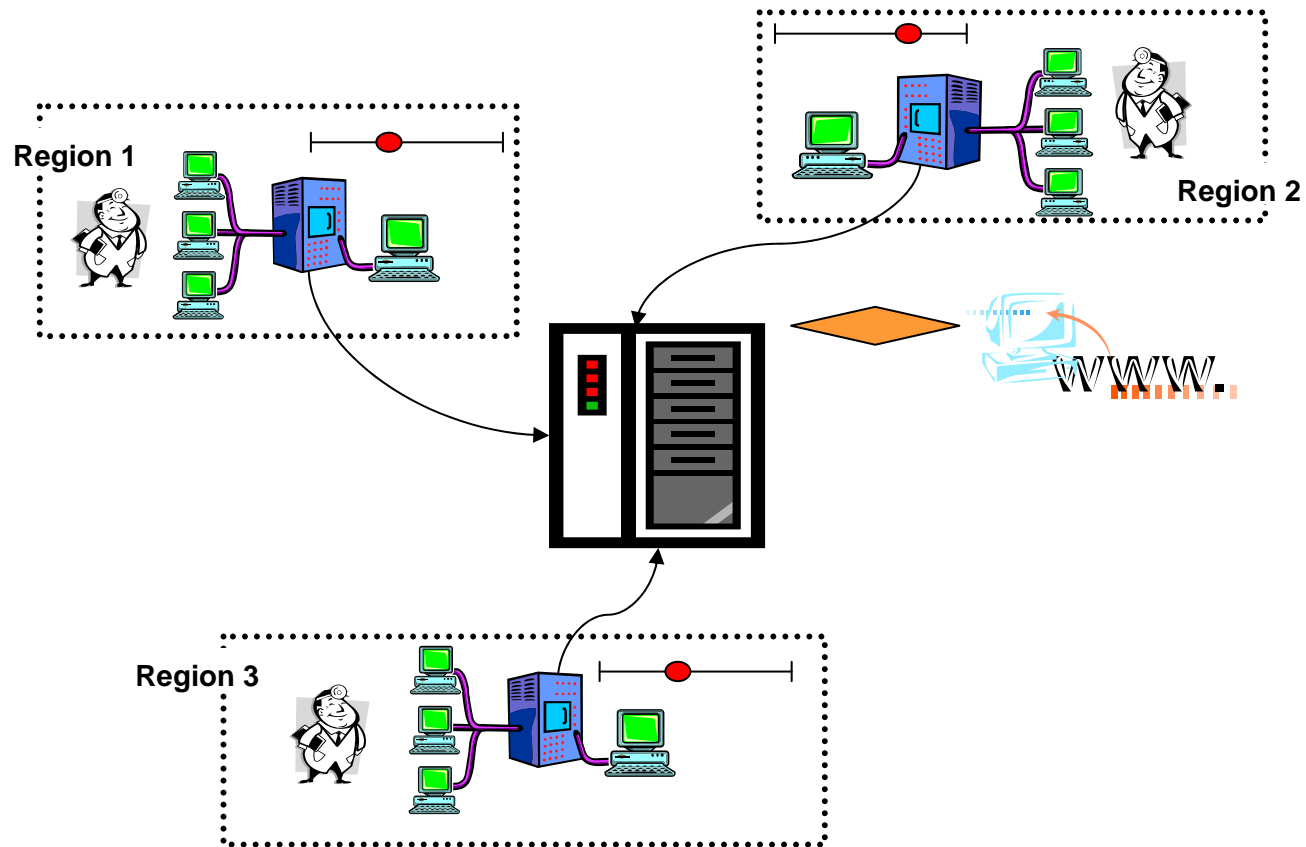
# Health outcomes

- **Diabetes**
  - Multifactorial determinants
  - Multilevel strategies
    - Acute care
    - Community care
    - Self-care
    - Prevention
  - Data Source? Bits everywhere!

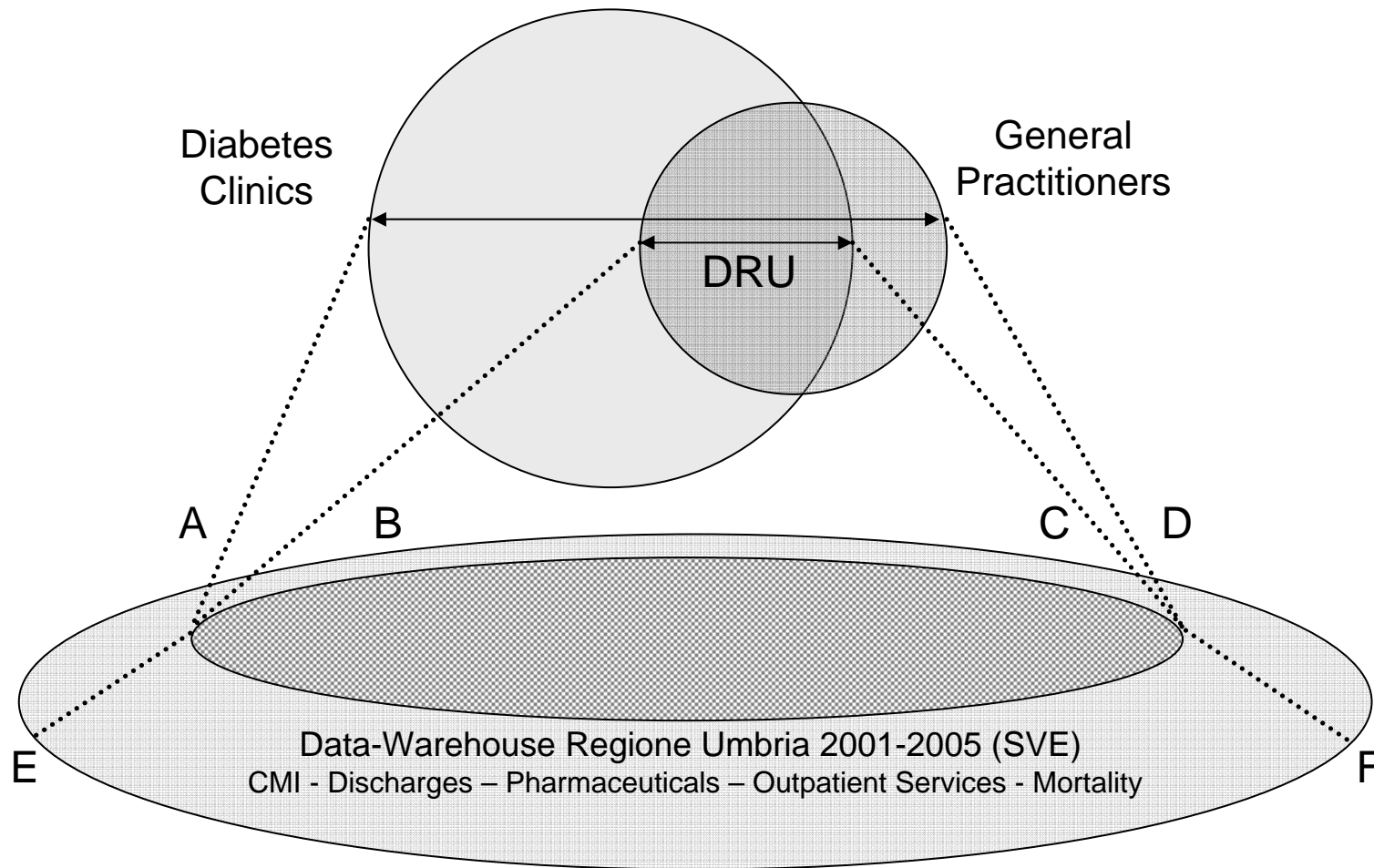
# Regional Data-Warehouse



# Distributed Analysis

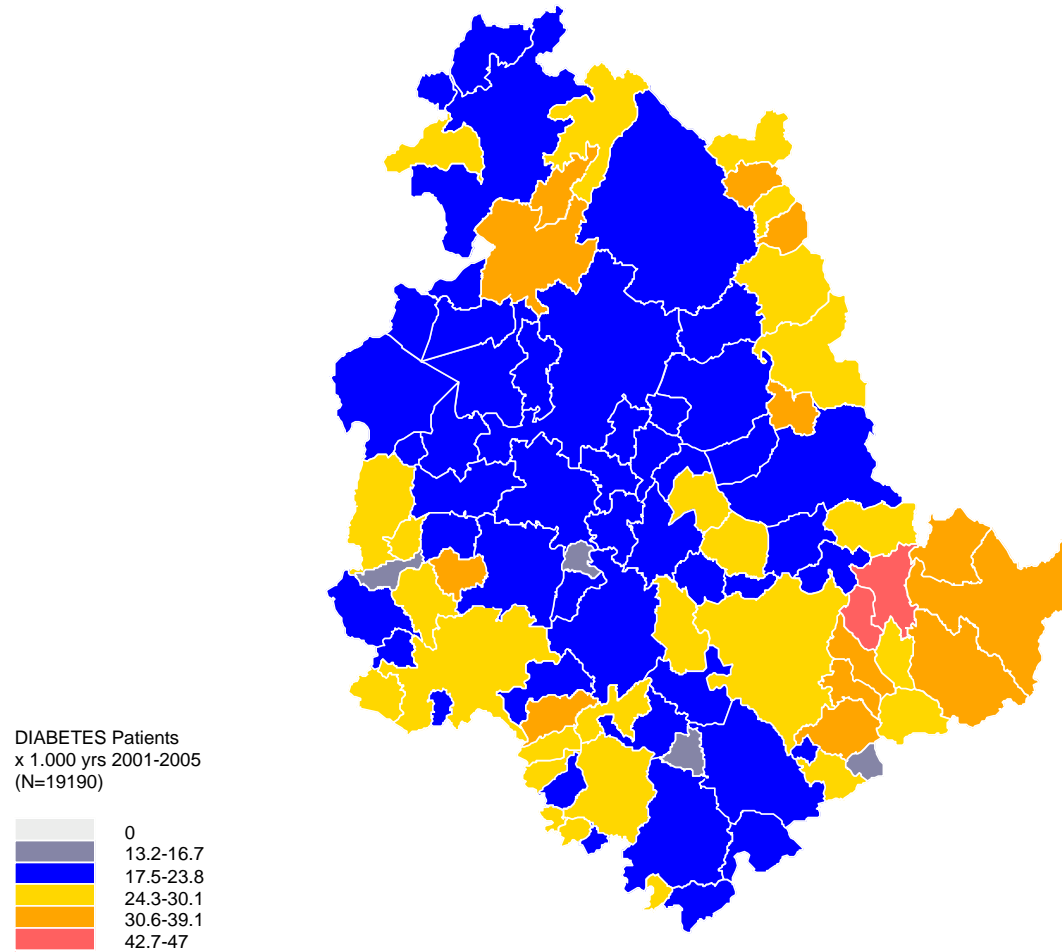


# Diabetes landing

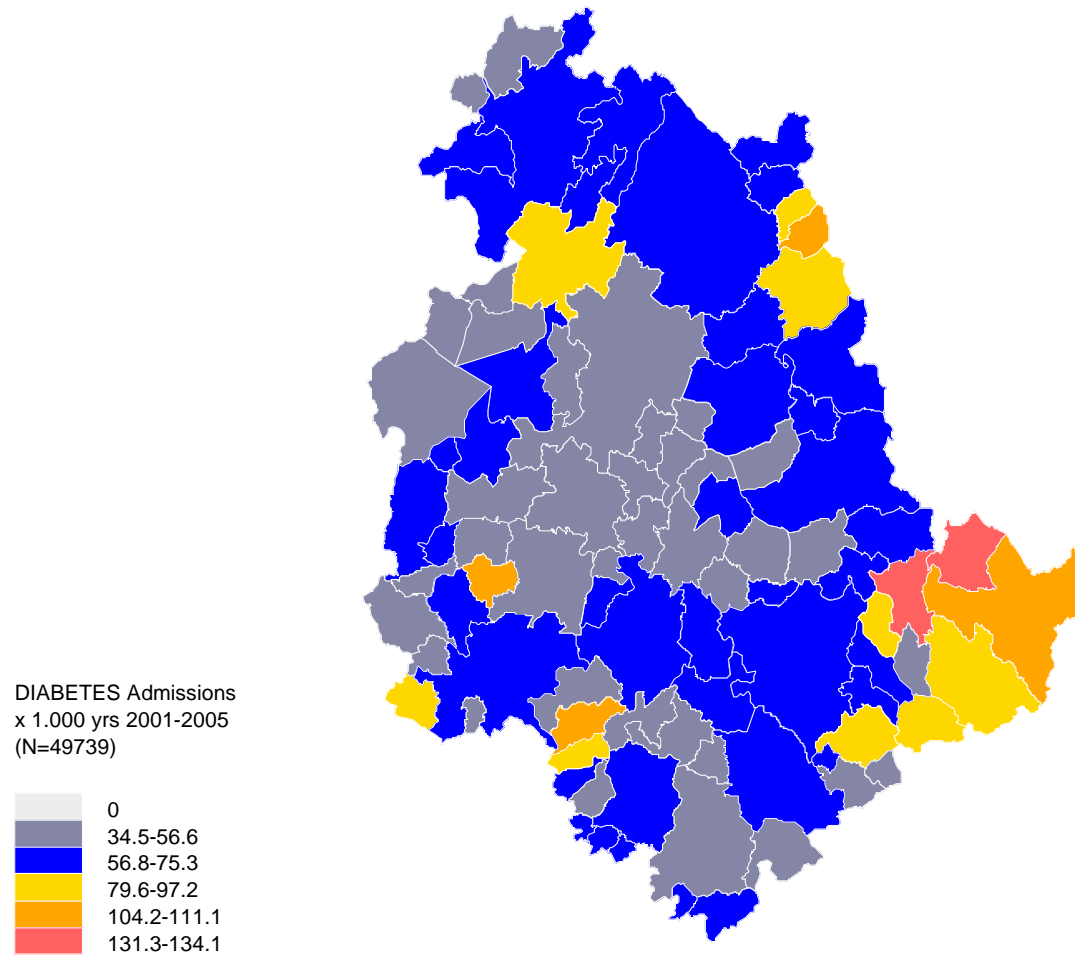




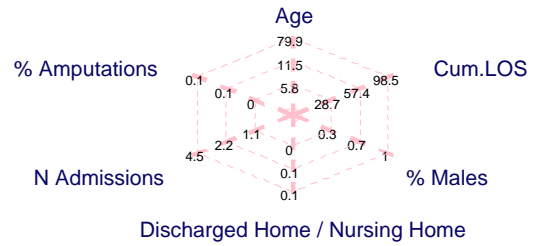
# Population-based Mapping



# Service-oriented mapping

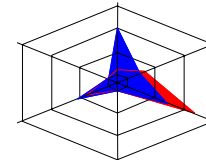


# Service Detail

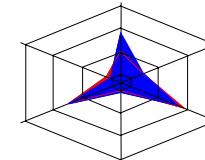


Average Frequencies by Discharge Ward at Index Admission and Cardiovascular Comorbidity

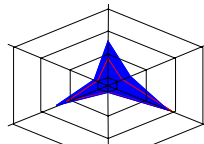
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█ Cardiac



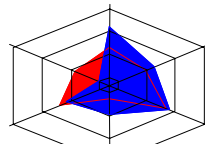
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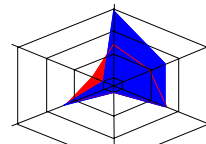
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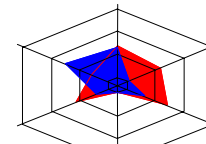
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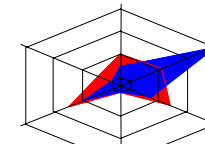
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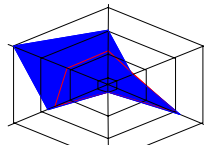
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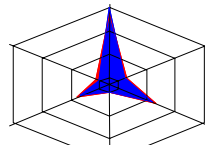
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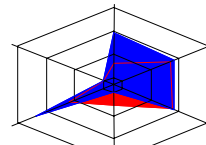
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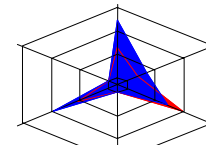
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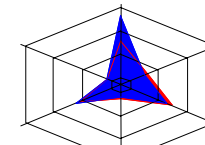
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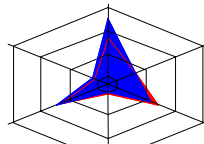
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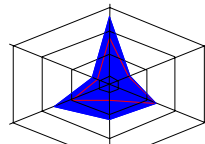
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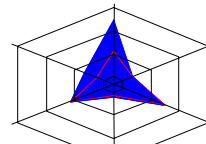
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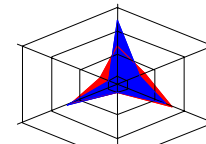
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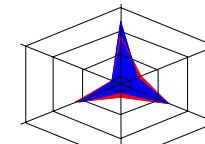
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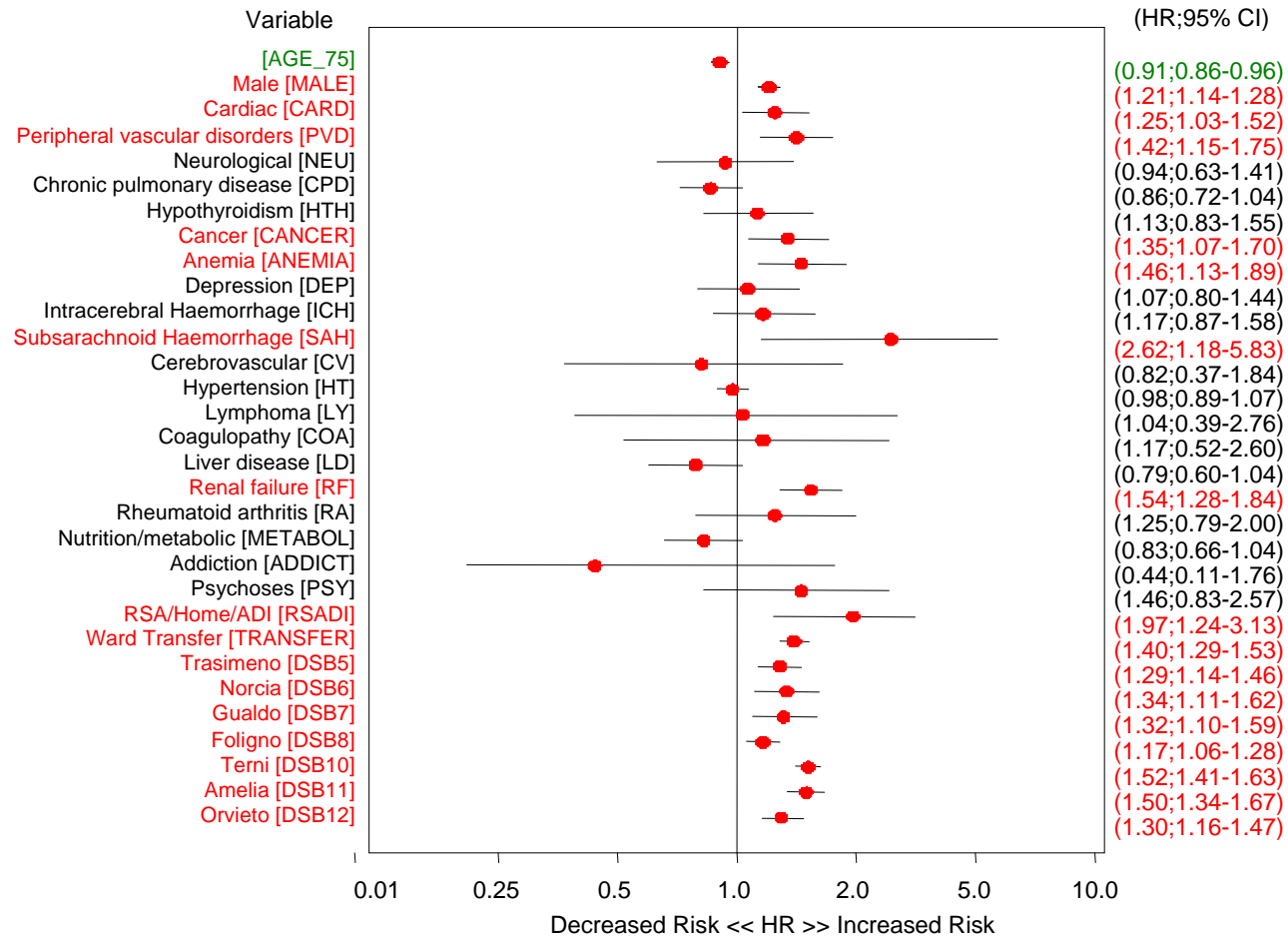
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2606  
N=480

# Modeling Service

Outcome: Cumulative LOS: 28 days+ [Cox Regression: N(Ev/Tot)=4954/19190]



# Modeling Health Outcomes

Outcome: Lower Amputations [Cox Regression: N(Ev/Tot)=155/19190]

