Forecasting drug utilization and expenditure; the Swedish experience

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Stockholm County Council
Piperska workshop July 9th 2009
Introduction of new medicines in Stockholm health region

*Drug development (clinical trials)*

- Phase I
- Phase II
- Phase III
- Approval
- Phase IV

*Activities organized by the health authority in Stockholm, Sweden*

- Horizon scanning
  - Identification
  - Assessment
- Critical drug evaluation
- Structured introduction
- Monitoring utilization & expenditure
- Forecasting
Forecasting

- Budget impact of new medicines
  - as a part of early assessment reports

- Economical impact of other changes on the pharmaceutical market
  - patent expiries, reimbursement changes, new guidelines...
Future drug expenditures

- Ageing population
- Increased disease prevalence
- Lower target levels for treatment
- New drugs
- Biotechnological drugs
- Widening indications
- Marketing to the general public
- Patent expirations
- Biosimilars
- OTC switches
- Reimbursement decisions
- Cost-effective choices

- Alternative therapies
- Consensus reports & guidelines
- Change in drug distribution & payment
Annual forecasting report on expenditures the coming two years

Regression analyses for all ATC3 groups adjusted for

- Estimated position in the life cycle for drugs already existing on the market
- Major changes on the pharmaceutical market likely to influence price or volume
- Identified target patient populations and calculated economical impact of new medicines
Factors influencing drug expenditure
From Carlsson P, The Swedish Council on Technology Assessment in Health Care 1999

Income (GDP)
- Need
  - Demography
- Industry
  - Marketing
- Demand
- Prescriber
  - Praxis

New therapies & drugs
- Producer
  - Independent information
- Budgets
  - Incentives

Increased international collaboration
- Price
  - Competition
  - Control
- Volume
- Price
- Cost
  - Society
  - Patient fees

Regulations
Historical (2005-2008) and predicted (2009-2010) drug expenditures for Stockholm
Forecast 2009-2010

- Expected increase: 4.7% 2009  4.1% 2010
- *Increasing* expenditure for TNF-alpha inhibitors, oncology drugs, immune suppressants, anticoagulants, antiviral drugs, antiepileptics, and drugs for ADHD
- *Decreasing* expenditure for antidepressants, beta-blockers, antiobesity drugs and hormonal treatment after breast- and prostate cancer.
Possibilities for forecasting may substantially between countries due to...

Differences in sophistication of data, e.g.,
- Patient populations
- Aggregate vs. patient identity drug dispensing data
- Measurement units of utilization and expenditure
- Granularity in time period and geography
What we want to happen ≠ what we think will happen