Secondary Uses of Primary Care Data in the UK

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Outline

- Primary care in the UK
- Computerisation in primary care
- Uses of primary care clinical data
- Some examples
  - National Diabetes Audit
  - National vaccine campaigns
  - Health status monitoring
  - Quality & Outcomes Framework
- What next?
- Issues for consideration
UK primary care
UK primary care

- ~10,000 family practices
- ~30,000 family physicians (GPs)
- independent contractors
- provide 85–90% of care
- patient registration system
- GP gatekeeper role
- 99.99% use EHR
Computerisation in primary care
Drivers for computerisation in general practice

- 1970s  First GP systems introduced  1%
- 1980s  Accredited systems reimbursed  15%
- 1990  New GP contract – data-driven  65%
- 1998  *Information for Health* strategy  85%
- 2000  The NHS Plan  90%
- 2001  *Building the Information Core* strategy  95%
- 2002  *Delivering 21st Century IT Support for the NHS*  98%
- 2004  New GMS Contract – QOF  99%
- 2006  Current position  99.99%
Characteristics of GP EHRs

- used with patient at office visit – clinically focused
- structured and coded records
- electronic prescribing
- some decision support
  - warnings, reminders, contraindications, etc.
- electronic lab results
- ~40% practices are paper-light
- national registration system
  - linked with PAP smear, mammography screening systems
  - and childhood vaccination system
- sophisticated reporting tools
- no billing!
Uses of primary care data
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- **primary use:**
  - direct clinical care

- **secondary uses:**
  - preventive care and health promotion
  - clinical audit and clinical governance
  - national screening campaigns
  - national preventive campaigns
  - national audits
  - payment
  - medicolegal requirement
Some examples
National Diabetes Audit

- built on National Service Framework
- combining data from GP and hospital
  - at individual patient level, anonymised
    - “Section 60 approval”
  - extracted from EPR; file uploaded to database
- second annual report September 2006
  - 500,000 records audited
  - covered 43% of practices
  - looking at quality of care
National Diabetes Audit 2006

- What proportions of people with diabetes achieve treatment targets?
  - 58% good blood glucose control
  - 88% BP lower than 160/100mmHg
  - 24% BP lower than 135/75mmHg
  - 68% acceptable cholesterol level
    - 10% more men than women
    - known undertreatment of women with statins

- www.icservices.nhs.uk/ncasp/pages/audit_topics/diabetes
Monitoring of influenza and pneumococcal vaccine uptake

- Automated extraction of summary data from EPR; web transmission to Health Protection Agency
- Influenza vaccine 2005/06
  - Over 65s: 6,122,744 75.3%
  - Under 65 at risk: 1,443,893 48%
- www.immunisation.nhs.uk/article.php?id=448

- Pneumococcal vaccine 2006

<table>
<thead>
<tr>
<th></th>
<th>Total 65+</th>
<th>65–74 year olds</th>
<th>75–79 year olds</th>
<th>80+ year olds</th>
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<tbody>
<tr>
<td>Over 65</td>
<td>64.4%</td>
<td>62.4%</td>
<td>68.9%</td>
<td>68.1%</td>
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- www.hpa.org.uk/infections/topics_az
Monitoring of health status

- Department of Health requirement
  - Local Delivery Plans
  - reported quarterly
- Smoking and obesity
- Automated extraction from GP EPR; summary data emailed and collated centrally
- 2005 data
  - 39 million patients aged between 15 and 75
Smoking

- smoking status:
  - 58% recorded in last 15 months

- smokers:
  - 14% of population
  - 25% of those with status recorded
    - preferential recording for smokers
  - now improved by Quality and Outcomes Framework
Obesity

- BMI measure:
  - 30% recorded in last 15 months

- Obese (BMI 30 or more):
  - 8% of population obese
  - 28% of those with BMI recorded
    - preferential recording for obese
  - now improved by Quality and Outcomes Framework
GP Contract 2003

- includes pay-for-performance scheme: “Quality and Outcomes Framework”
- 25–35% of practice income depends on 136 quality indicators (96 clinical)
- £1.8 billion ($3.5 billion) extra funding
- fully automated extraction and calculation; transmission of ‘points’ only
76 clinical indicators

- Coronary heart disease and heart failure (15)
- Stroke and transient ischaemic attack (10)
- Hypertension (5)
- Diabetes (18)
- Epilepsy (4)
- Hypothyroidism (2)
- Mental health (5)
- Asthma (7)
- Chronic obstructive pulmonary disease (8)
- Cancer (2)
Identifying data elements for indicators

- expert group – ‘quality gurus’
- negotiated clinical consensus
- not always easy to measure:
  
  “The percentage of patients receiving treatment for hypertension whose blood pressure is 150/90”
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Exception reporting for clinical indicators

- Patient refused
- Not clinically appropriate
- Newly diagnosed or recently registered
- Already on maximum dose of medication
Potential for gaming

- 15-month measurement period
  - January–March activity covers two years …
- batch data entry
- minimise prevalence → maximise points
  - BUT adjusted using ‘national prevalence’
- over-use of exception reporting
Practice performance on QOF

- 2004–05:
  - 50% practices achieved maximum points
- 2005–06:
  - 97.1% practices achieved maximum points
What next – strategic

- Secondary Uses Service
  - repository / set of “data marts”
  - www.cfh.nhs.uk/sus

- The Information Centre
  - analysis services for all NHS users
  - www.ic.nhs.uk
What next – practical

- new national primary care query tool to be commissioned
  - usable at all levels
    - practice
    - local and regional health management
    - national agencies
- one tool, many purposes
  - data analysis and feedback – gateway and conduit
- needs to be elegant, flexible and parsimonious
  - leave data where it is (protection of privacy)
  - use smart tools to interrogate it
  - build in permissions at query level – under physician (or patient) control
A proposed model – without “humongous databases”

- patient-accessible record
- quality assessment
- public health campaigns
- national audits
- acute hospital
- data quality benchmarking
- biosurveillance
- evidence base
- research
- genomics
- EPR
- query tool
- practice
- own audits
- display and feedback tool
- permissions defined in query
- $$
Issues to be considered

- context – beware “rush to judgement”
- comparability across practices
  - data structures
  - clinical coding
  - data quality and its improvement
- perverse incentives
- effect of secondary uses on quality of care
- security and confidentiality
- legal constraints