Patients and the Web
Better NHS services with linked data

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NHSTayside Prof. of R&D in Primary Care
Health Informatics Centre Dundee
Outline of talk

• How are health data linked in Scotland?
• What services does that enable?
• Do patients benefit
• Making access easier
• Multi-agent systems
64% of adults access the Internet

Adults who have used the Internet in the 3 months prior to interview in October 2005 (GB) National Statistics Omnibus Survey 2005
### How often, if at all, do you personally use the internet?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>30%</td>
</tr>
<tr>
<td>At least three times a week</td>
<td>14%</td>
</tr>
<tr>
<td>At least once a week</td>
<td>9%</td>
</tr>
<tr>
<td>At least once a fortnight</td>
<td>3%</td>
</tr>
<tr>
<td>At least once a month</td>
<td>4%</td>
</tr>
<tr>
<td>At least once every three months</td>
<td>2%</td>
</tr>
<tr>
<td>Less than once every three months</td>
<td>2%</td>
</tr>
<tr>
<td>Do not currently use</td>
<td>36%</td>
</tr>
</tbody>
</table>

**Source:** MORI
• Have used for this purpose
  – Health-related information 34%
• Is there anything which you have personally never used the internet to do but which you would like to?
  – Get medical information/advice 7%

MORI 2005
Data, Data everywhere

Lab
Data

GP

Screening

Opticians

Investigations

Hospital
SMR

Eye van

Pharmacy

PAMS
<table>
<thead>
<tr>
<th>Community Health Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 10 64 02 5 0</td>
</tr>
<tr>
<td>DOB</td>
</tr>
<tr>
<td>Serial No</td>
</tr>
<tr>
<td>Sex Check</td>
</tr>
</tbody>
</table>
Remote Interrogation GENIE

GP Clinical Systems

Data In
Standard Format

Erroneous Data

Reginal repository

Data For Export

'Clean' Data

Previous Export

Currently operational in Tayside, Glasgow and Lothian
• a standard means of interoperating between different software applications, running on a variety of platforms and/or frameworks.
LONG TERM CONDITIONS MANAGEMENT
Clinic: DSN Clinic Dundee

Patient

Patient Identifier: 131032LVLNL
Hospital Identifier: CHI
Name: GOWAN, SARAH
Date of Birth: 13 Oct 1932
Sex: Female
Address: A RESIDENCE SOMEWHERE IN TAYSIDE DUNDEE

Smoking Status: Ex - 14 Dec 2004
Smoking Advice: Advice Given - 25 Nov 2004

Blood Pressure: 145/77 mmHg - 14 Jan 2005
Influenza Vaccine: Given / Prescribed - 25 Nov 2004
BMI: 31.35kg/m² - 14 Jan 2005

Biochemistry

Total Cholesterol: 5.48 mmol/L - 14 Dec 2004
HbA1c: -
Creatinine: 96 µmol/L - 14 Dec 2004

Tests

ETT Test: 01 Aug 2000
Retinal Screening: 30 Jun 2004

Spirometry:

Peripheral Pulses:

Systolic: 79 mmHg
Diastolic: 47 mmHg

FEV1:

Right: Absent 14 Jan 2005
Left: Absent 14 Jan 2005

Neuropathy Test:

Right: Normal 14 Jan 2005
Left: Normal 14 Jan 2005 (Foot Sensation)

LVD Confirmed by Echo:

20 Jan 2003 - Abnormal septal motion secondary, Abnormal septal motion secondary, to cardiac surgery., Normal diastolic size, Normal systolic function,

Prescriptions (7 repeat prescription(s) and acute prescription(s)(within last 3 months))

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Preparation</th>
<th>Dose</th>
<th>Frequency</th>
<th>Last Date</th>
<th>Acute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pantoprazole</td>
<td>TABS 20MG</td>
<td>1 Tab</td>
<td>Daily</td>
<td>26 Jan 2005</td>
<td>False</td>
</tr>
<tr>
<td>Aspirin</td>
<td>Dispersible TABS 75MG</td>
<td>1 Tab</td>
<td>In the morning</td>
<td>26 Jan 2005</td>
<td>False</td>
</tr>
<tr>
<td>Tildiem La</td>
<td>CAPS 200MG</td>
<td>1 Cap</td>
<td>In the morning</td>
<td>26 Jan 2005</td>
<td>False</td>
</tr>
<tr>
<td>Atenolol</td>
<td>TABS 50MG</td>
<td>1 Tab</td>
<td>In the morning</td>
<td>26 Jan 2005</td>
<td>False</td>
</tr>
</tbody>
</table>
• NHSTayside IT for managed clinical networks
  – DARTS
  – HEARTS
Available results reduce visits

LONG TERM CONDITIONS MANAGEMENT

Name: JOHN BELL
Age: 83
Diabetes Type: Type 2
Treatment: None
Diagnosis Date: 17/10/1989

Last Left VA: 6/60 - 25/07/2000
Last Right VA: 6/4 - 25/07/2000

Last Left Retinal Status: Maculopathy - 14/10/1998
Last Right Retinal Status: Maculopathy - 14/10/1998

Last Left Laser: 
Last Right Laser: 

Last HbA1c: 6.6 - 02/03/2001
Last BP: 120/70 - 12/03/1999

Tricuspid regurgitation. This is 36 mmHg which is
On the subcostal views
rate to severe TR.

Edinburgh Scotland
Initial Dietary Advice

Sample Menu

Encourage patients to have 'starchy' food e.g. bread, potatoes, rice, pasta, cereals or chapattis with each meal. Emphasise the importance of high fibre or wholemeal varieties of these foods.

Breakfast

Porridge or wholegrain breakfast cereal (e.g. Branflakes, Weetabix)
and/or
Wholemeal bread/toast/roll
Fruit - fresh or tinned without sugar.

Mid-Morning

Light Meal

Soup
Bread/toast/roll/baked potato/chapattis:
Small portion lean meat, chicken, fish, eggs, cheese or baked beans.
Large portion salad or vegetables.
Fruit as main meal.

Mid-Afternoon
Welcome To The Greater Glasgow Diabetes Network NHS Information Site

- **Glasgow Clinical Information**
  Secure DARTS Clinical Information.

- **Team Members**
  Team members of the Greater Glasgow Diabetes Network.

- **Regional Clinics**
  Diabetes clinics in the Greater Glasgow region.

- **Children's Services**
  Services available for children.

- **Retinal Screening**
  The Retinal Screening Units in Greater Glasgow.

- **Greater Glasgow Handbook**
  Guidelines for Diabetes Care in Greater Glasgow.

- **Leaflets**
  Patient information leaflets.

- **Research**
  Diabetes research in Greater Glasgow.

- **Links**
  Diabetes web links.

- **News & Events**
  Latest Greater Glasgow Diabetes news and events.

Site updated Wednesday, 14th May, 2003 by Janet Boyd

Recommend this website to a Colleague and Bookmark this page!
27 March 2006

Welcome to Dr Foster

This website is all you need for essential information on a range of health services in your area, including details about waiting lists and the doctors that might be treating you.

You won't find this unique service anywhere else. It is brought to you by Dr Foster Limited, the UK's leading independent provider of healthcare information.

I want to find a...

- Hospital
- Consultant
- Birth unit
- Complementary practitioner
- Breast cancer clinic
- Infertility clinic

Personal health profile
How likely are you to have to...

A-Z of health
All you need to know about...

Hospital survey
Let us know what you think

My Dr Foster
Take control of your family's

LATEST NEWS

Dr Foster Intelligence publishes a new report into the cost of emergency admissions

Read more

More news

Healthcare professionals
Welcome to HealthSpace

HealthSpace is a secure place on the internet where you can store all your personal health information. Please use the links below to find out more.

The Choose and Book service is now available from this website. You do not need to open a HealthSpace account to use Choose and Book.

Please login or create a HealthSpace to use all these features.

- Learn more about Choose and Book.
  Go to Choose and Book now.
- Save your personal details.
- Track your health online.
  Keep a record of all your medications.
Choose and Book is a new service that allows you to choose your hospital or clinic and book an appointment with a specialist. Since summer 2004, Choose and Book has been introduced across England. It will eventually be available to all patients. From 1 January 2006, when you and your GP agree that you need to see a specialist, you will be able to choose from at least four hospitals or clinics. You will also be able to choose the date and time of your appointment.
How easy or difficult is it for you to get access to the internet?

- Easy: 75%
- Difficult: 13%
- Very easy: 49%
- Fairly easy: 26%
- Neither/nor: 5%
- Fairly difficult: 8%
- Very difficult: 6%
- Don’t know: 5%

Base: All (2,004)
• Have used for this purpose
  – Health-related information 34%
• Is there anything which you have personally never used the internet to do but which you would like to?
  – Get medical information/advice 7%

MORI 2005
Seniors Seeking Health Information Need Help Crossing "Digital Divide"

Use of Internet

<table>
<thead>
<tr>
<th>Age Group</th>
<th>% Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-64</td>
<td>80</td>
</tr>
<tr>
<td>65-74</td>
<td>40</td>
</tr>
<tr>
<td>75+</td>
<td>20</td>
</tr>
</tbody>
</table>

Introduction

Having a heart attack is quite common. How each person deals with it and what their recovery is like varies a great deal for many reasons. Many people experience some difficulty concentrating and retaining information in the early stages of having a heart attack, so don’t worry if you can’t take everything in. This is why it is important to have some written information to remind yourself and your family about what is likely to happen and why. This booklet is designed to give you some guidance about what is happening to you, what to expect and to answer some of the frequently asked questions. It is intended to provide a general background to the experience of heart attack and you should not hesitate to discuss any problems or worries you have with the nurses and doctors who are looking after you.

Understand the facts

Know the truth – there is a lot of wrong information out there based on rumour rather than fact. Remembering and reminding yourself of the right story will help you to feel less anxious and to relax.

Date this page was updated: 23/01/2006
Welcome to the heart disease section

This section provides general information for people affected by heart disease. You may be:

- A patient suffering from heart disease
- A carer looking after someone affected by heart disease
- A family member looking for general information about heart disease
- A member of the public looking for information on how to reduce your risk of having heart disease

By clicking on the links on the left hand side of your screen, you will find information to help with any of these.

There is also a list of useful addresses if you need further advice or want to find out what support groups there are in your local area and a link to the leaflets section where you can view and print leaflets to keep for future reference.

The information contained in this section has been adapted from Chest, Heart & Stroke Scotland leaflets on heart disease.
• Patients’ electronic rights represented and protected by their agents
• Agents interacting on behalf of patients with electronic systems including web services, databases, and agents representing other individuals, organisations and functions.
By Frank Sullivan and Jeremy Wyatt

- Looks at methods to improve the management of patient data, clinical knowledge and other health care information
- Provides an overview of current principles and practice, as well as a summary of common clinical information problems and solutions
- Linking together prescribing and treatment protocols

ISBN: 0727918508 / 9780727918505
Paperback
March 2006