The future is not a destination like the source of the Rhein, waiting for our arrival; it is something like the Rhein-Danube Canal that we have to imagine, plan and build.
The future is here; it is just not evenly distributed

William Gibson
Welcome to the Third Healthcare Revolution
<table>
<thead>
<tr>
<th>Schutzzone</th>
<th>Abgrenzung</th>
<th>Verbote (Beispiele)</th>
</tr>
</thead>
</table>
| Schutzzone 1 | Talsperre, 100 m Ufer- streifen | Verbote der Zonen II und III +
| | | Bootsverkehr, Wassersport
| | | Baden
| | | landwirtschaftliche Nutzung
| | | PSM-Einsatz
| | | Düngung |
| Schutzzone II | 100 m - Streifen entlang der Zulaufe | Verbote der Zone III +
| | | Bebauung
| | | Kläranlagen
| | | Umgang mit wassergefährdeten Stoffen
| | | Düngung \& Düngungsbewirtschaftung |
| Schutzzone III | Rest des gesamten Einzugsgebietes | Ausdehnung vorhandener Bebauung
| | | Einleitung von Abwässern
| | | Gewerbebetriebe, die mit wassergefährdeten Stoffen umgehen
| | | Massentierhaltung
| | | Bergbau |
Doctors’ views: greatest innovations in healthcare over the last 30 years

- MRI and CT scanning
- ACE inhibitors
- Balloon angioplasty
- Statins
- Mammography
- Coronary artery bypass graft surgery
- Proton pump inhibitors and H2 blockers
- SSRIs and recent non-SSRI antidepressants
- Cataract extraction and lens implants
- Hip and knee replacement
- Ultrasonography
- Gastrointestinal endoscopy
- Inhaled steroids for asthma
- Laparoscopic surgery
- Non steroidal anti-inflammatory drugs
- Cardiac enzymes

Innovations above have satisfied diffusion requirements and shown clear, quantifiable clinical benefits

Source: Fuchs, VR et al, Physicians’ views of the relative importance of thirty medical innovations, Health Affairs, Sep – Oct 2001
The Second Healthcare Revolution has not solved the eight eternal problems of healthcare

- Errors and mistakes
- Poor quality healthcare
- Waste
- Unknowing variations in policy and practice
- Poor patient experience
- Overenthusiastic adoption of interventions of low value
- Failure to get new evidence into practice
- Failure to manage uncertainty
The Third Revolution is different

- Flexible
- Information drives technology
- Pervasive
- Inclusive
- Convergent
Information Technology
Patient 2012
Muir Gray has familial hypercholesterolaemia
Every six months he receives an email reminder from the lab to have a blood test
He receives 2 SMS reminders if no blood sample is received within 2 weeks
If no blood arrives is received his GP receives a copy email
If there is a result is sent to the GP and to his Healthspace where it is stored in sequence
Appropriate advice and support is automatically generated and emailed to Muir who lives in Oxford
Lab X Rottie Puppy For Sale - in Abingdon, Oxfordshire

FREE EUKANUBA PUPPY CARE PACK AND FOOD
Do you have a puppy under 1 years old? Then click here to order your free puppy care pack from Eukanuba.

Read Buying Advice*

Name: Molly
Date of Birth: 08/05/2007
Colour: All Black
Gender: Female
Price: £150.00

Contact Details
📞 01235527349
✉️ Click to Send Email
🔍 New Interactive Map
Mrs A is worried about familial breast cancer and phones for a GP appointment

The healthcare assistant asks if Mrs A would like to tell her the nature of her problem
On learning it, she

1. Ascertain her access to NHS Choices
2. Identifies the relevant page on NHS Choices
3. Sends it to Mrs A

Mrs A consults the site which

1. Ascertain her preferred reading level
2. Ascertain her knowledge of genetics eg the meaning of the term mutation
3. Offers information about genetics and familial breast cancer including the experience of other women in DIPEX
4. Allows her to complete a family risk assessment
5. Stores all this information on her Healthspace
New style consultations

Patient learns about condition from NHS Choices at home at the suggestion of the GP or receptionist

Patient interacts and informs using patient data entry

Face to face consultation

Patient works through options using a patient decision aid, considering likely outcomes against their values

Face to face consultation

Patient reflects at home, drawing on the values of other patients from the Database of Individual Patient Experiences
Traditional history taking misses ‘50 % of psychosocial and psychiatric problems’ ‘54% of patients’ problems’ “31% of essential history items”


The patient-computer interview
Mayo Clin Proc 78’; 67-78
20th Century knowledge flow

Knowledge \(\rightarrow\) Clinician \(\rightarrow\) Patient

21st Century knowledge flow

Knowledge \(\rightarrow\) Patient \(\rightarrow\) Clinician
21st Century knowledge flow

Knowledge → Patient → Clinician
Knowledge → Patient

Patient → Clinician

Clinician → Offers reflection

Patient → Seeks advice

Knowledge → www

www

How NHS Choices can help you today

Watch this video to see how to:
- Compare hospitals
- Plan treatments
- Find services from GPs to gyms
- Plan a healthier lifestyle

More about NHS Choices  More videos

Take control of your health

Use our Health A-Z to:
- Check symptoms
- Find facts on more than 700 conditions
- Plan treatment options

Go to Health A-Z

Behind the headlines

Pedometers make those steps count
Disease “epidemic” on the way
Stem cells ‘breakthrough’ excitement

RSS feed  All stories

Compare hospitals

- For a treatment you need
- By the facilities they offer
- Or book an appointment

Find hospitals  Choose and Book

Keep your mind fit

Depression, anxiety, phobias, panic attacks: how to deal with mental health problems
Find out more

Calculators, quizzes and interactive tools

Use our range of tools to keep your health in check
Health tools library
Healthcare 2012
Self care

Primary

Secondary

3y
Community
All serious health problems are managed by more than one bureaucracy and always will be. They are managed by clinical networks which cross many bureaucracies.
“A business organisation should have a nonhierarchical, self-organizing structure working in tandem with its hierarchical formal structure…..As business organisations grow in scale and complexity they should simultaneously maximise both corporate level efficiency and local flexibility…the most appropriate name is the ‘hypertext’ organisation”

Ikujiro Nonaka and Hirotaka Takeuchi
The knowledge creating company
OUP 1995
Hypertext organisation (Nonaka & Takeuchi OUP 1995; The Knowledge Creating Company)
The National Inflammatory Bowel Disease Service
The National IBD Service has

- A National set of objectives, criteria and standards - the BSG guidelines
- A nationally agreed templates of a care pathway expressed using the Map of Medicine
- A National Dataset - from Do Once and Share
- A single specification for all information system providers - from Do Once and Share
- A National knowledge base updated annually by the National Library for Gastrointestinal Disease
- A National community of practice, including patients
  www.ibd.nhs.uk

X local services, where X is >1 and <150
Inflammatory bowel disease week evidence update 2007 - introduction

The inflammatory bowel disease evidence update highlights knowledge published in the last two years in presenting this information in an easily accessible format, we will provide busy healthcare professionals with the evidence has been split into the following sections:

- Diagnosis
- Treatment
  - General
  - Drugs: aminosalicylates
  - Drugs: corticosteroids, immunosuppressants & cytokine inhibitors
  - Other
  - Surgery
- Risk factors

Click on the sections above to find links to critically appraised systematic reviews, expert commentaries or The IBD annual evidence update has been put together by the Gastroenterology & Liver Diseases Specialis comments provided by our IBD topic leads. These are:

Dr Stephen Grainger, Chair, British Society of Gastroenterology IBD Committee.
Prof. David Rampton, Centre for Gastroenterology, Barts & the London School of Medicine & Dentistry.
Isobel Mason, Gastroenterology Nurse Specialist, Royal Free Hospital, London.

Methods for retrieving and evaluating the evidence
Stable COPD

- History
- Examination

Investigations

Management considerations

Indications for referral

- Patient does not need referring
  - Follow-up care in mild to moderate disease
- Patient needs referring
  - Consider referral to Centre for Thoracic Medicine

Primary care

Secondary care

Referral

Note
The National Down’s Syndrome Screening Programme is a healthcare system a knowledge based organisation, a hypertext organisation, which ensures 600,000 women get a consistent service from hundreds of bureaucracies more than 40,000 thousand professionals.

Most of healthcare is Brownian motion.
Home

What's New?...click here to see what is new....

The Government announced on 30 April 2001 a Down's Syndrome Screening Programme. This is part of new initiatives to modernise neonatal and antenatal screening.

Note Programme change of address below

National Screening Committee

The UK National Screening Committee (UK NSC) was established in 1996 to advise Ministers of England, Northern Ireland, Wales and Scotland on screening issues.

The work of the UK NSC is complementary with that of the National Institute for Clinical Excellence (NICE), the professional Colleges, and the Health Technology Assessment (HTA) panel.

The Fetal, Maternal and Child Health Screening Sub-Group of the UK NSC reviewer the evidence for the implementation or cessation of antenatal screening programmes. The conclusions are forwarded to the UK NSC for ratification.
## Newborn Screening for Sickle Cell Disorders Programme Standards

<table>
<thead>
<tr>
<th>NEWBORN PROGRAMME OBJECTIVES:</th>
<th>CRITERIA</th>
<th>STANDARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum (Core)</td>
<td>Achievable (Developmental)</td>
</tr>
<tr>
<td>Programme Outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best possible survival for infants detected with a sickle cell disorder by the screening programme</td>
<td>Mortality rates expressed in person years</td>
<td>Mortality rate from sickle cell disease and its complications in children under five of less than four per 1000 person years of life (two deaths per 100 affected children)</td>
</tr>
<tr>
<td>Programme Outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accurate detection of all infants born with major clinically significant haemoglobin disorders*</td>
<td>Sensitivity of the screening process (offer, test and repeat test)</td>
<td>99% detection for Hb SS 98% detection for Hb SC 95% detection for other variants</td>
</tr>
</tbody>
</table>
Information Technology
Revolutionsing healthcare through the power of patients, knowledge and technology

and evidence

Self-care is as effective and should be offered.

1. Diabetes: Values and evidence
2. Efficacy and Effectiveness
3. Obesity - the latest fashion
4. Medical errors involve patients
5. Bring back listening!
www.soundshealthy.org
Reckoning with Risk: Learning to Live with Uncertainty

Gerd Gigerenzer

Are ordinary people able to reason with risk? Detailing case histories and