The background features a light beige color with a faint, large-scale grid pattern that resembles a globe or a satellite dish. The grid lines are thin and light gray, creating a subtle texture. A faint, larger-scale grid pattern is also visible, suggesting a global or networked theme.

Information for Health

Technology used to deliver
health knowledge and services

Health comes from knowledge



- ◆ Not just for Doctors, Nurses and Public Health Specialists but for everyone
 - 70% of the health burden is preventable
 - 90% of illness is self treated
 - 90% of interventions are primary care
 - 1% require in hospital care
- ◆ Health knowledge is vital
- ◆ It is a crucial resource for health

The Information Explosion

- ◆ It is estimated doctors rely on about 2 m items of medical information this doubles every 5-10 years
 - In 1997 it was estimated that 40,000 articles relevant to general medical practice were published each year.
 - In 2005 a typical electronic library for general medicine estimated it reviewed 100,00 relevant articles that year.
- ◆ Will the way we expect doctors to access and update their knowledge be sustainable in 10 years time?



How Doctors Use Knowledge

- ◆ A doctor's diagnosis based on inductive reasoning, uses observation and open questioning to apply experience gained by training to assess the most likely cause of illness, which can then be tested.
- ◆ Algorithms used by computers for diagnosis apply deductive reasoning using closed questions to assess possible causes and eliminate as many as possible to arrive at one possible cause of illness or the need for further examinations and tests.
- ◆ Inductive reasoning is usually quicker but sometimes wrong
- ◆ Deductive reasoning is seldom wrong but may not lead to a conclusion
- ◆ Discuss how greater use of algorithms may change the role of doctors and nurses

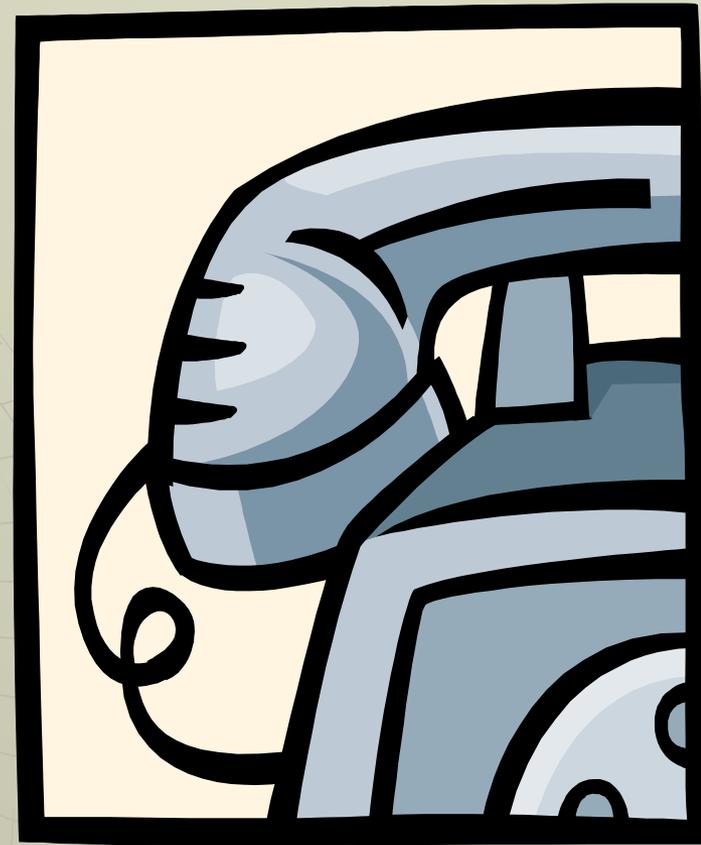
Health Information Services for the Public



- ◆ Telephone triage and advice
 - e. g. UK NHS Direct- NHS 111
- ◆ Telephone helplines
 - e.g. Netherlands, Germany and many other patient information services
- ◆ Internet services
 - e.g. Spain, Netherlands, Germany, UK
- ◆ Pharmacy services
 - e.g. Finland touch screen in the pharmacy
- ◆ Broadband Television
 - e.g. Finland and UK
- ◆ Libraries for Health
 - e. g. UK eLibrary for Health
- ◆ Medical devices and Online Diagnosis

Health Knowledge Services (prior to NHS Direct) telephone helpline

- ◆ Example based on College of Health services for 11.25 m people in and around London
- ◆ Demand 50 calls per thousand
 - 37% Local Services
 - 33% Disease Information
 - 15% Self Care Self Help Groups
 - 15% Complaints and welfare
- ◆ Recorded advice services
 - 450 tapes giving advice on diseases and self care



NHS Direct Telephone Nurse Health Advice service



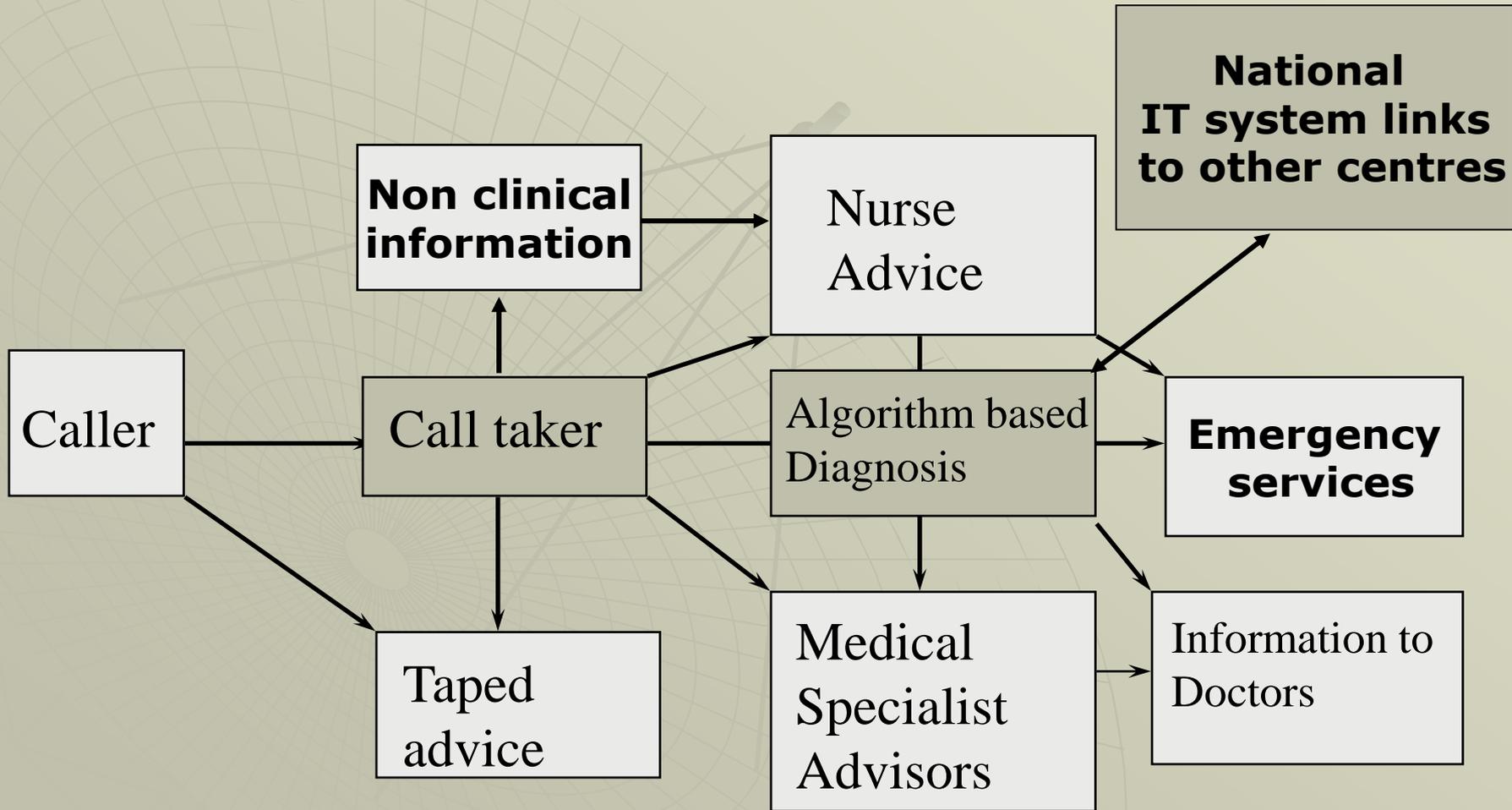
◆ NHS Direct in England

- Demand 150-200 calls per thousand
- Plus 50 per thousand for other advice
- 55-60% satisfied by telephone advice
- 25-30% called to medical centre 10-15% home visits
- Benefits – reassurance to users and more appropriate use of health services and self medication

◆ NHS Direct reformed as NHS 111

- NHS Direct used senior nurse advisors
- Applying Inductive Medical Reasoning
- NHS 111 uses algorithms and administrators
- Applying Deductive Logic
- Inductive = A Hypothesis is drawn and tested
- Deductive = Test all possible diagnoses (algorithmic)

Call centre technology for health



Health Information Kiosks



- ◆ Finnish Pharmacy of the Future programme
 - Provides touch screen information in pharmacies
- ◆ Patient information
 - Information on common ailments and
 - Non - prescription medicines
 - Plus self care and support groups
- ◆ Pharmacists can access specialist information
 - To support prescribing and specialist services

Digital Interactive TV for Health



- ◆ Examples from the UK and Finland
 - DiTV will replace conventional sets in 10 –20 years
 - Lets people watch selected video on demand
 - Provides two way communication to homes
 - Health applications include
 - ◆ Health and fitness advice can be personalised
 - ◆ Information about diseases and conditions
 - ◆ Personal health enquiries e.g. vaccination
 - ◆ Follow up contact with individual patients
 - ◆ Access to personal health records

Discuss how DiTV could personalise Public Health Information

National Electronic Library for Health

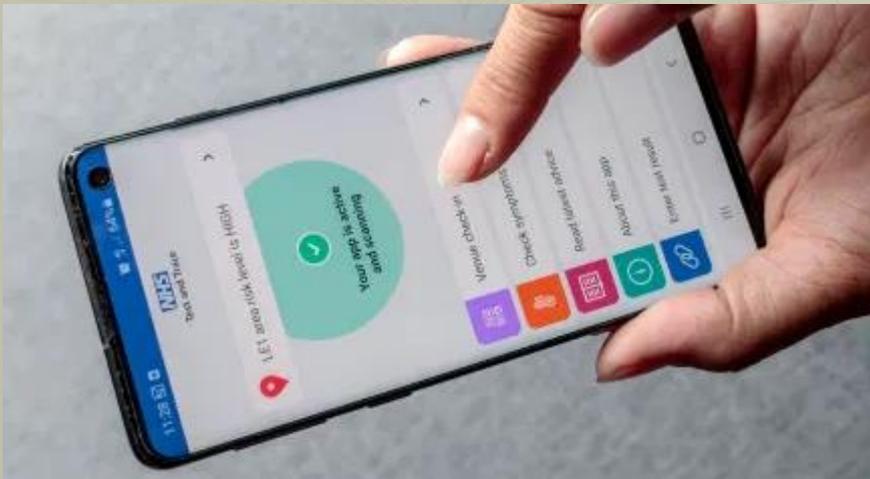
- ◆ Access to information resources on
 - Guidelines, protocols and reviews of evidence
 - Summaries and appraisals of evidence
 - Specialist libraries
 - Resources for patients
 - Search facility of accredited sources
- ◆ For public via telephone and internet/ DiTV
- ◆ For Doctors through their computers
- ◆ It operated from 1998 to 2006 when it was reformed as the British National Formulary see [here](#)

The Map of Medicine

- ◆ A software tool to support medical decision making by presenting:
 - A diagnostic and care pathway for many health issues
 - Procured by healthcare providers in the UK, Sweden and Denmark
 - The evidence base for medical decisions
 - Integrating primary and secondary care
 - For more details check [here](#)

New Health Tech Devices

- ◆ There has been a rapid increase in
 - Fitness, and activity monitoring
 - Devices to monitor heart functions, blood pressure, glucose and many other indicators
 - Balance and wander monitoring
 - Track and Trace for viral contact risk



Online Medical Care



- ◆ The Coronavirus pandemic has caused a vast increase in:
 - Online medical appointments from public and private sector health services
 - Online ordering and home delivery of prescription and other medicines
 - Use of diagnostic devices

Health Knowledge for People in Resource Poor Countries



- ◆ Telephone advice services
 - Can be cost effective way of reaching rural areas
 - Can recover costs from telephone charges
 - Local entrepreneurs can provide mobile phones
 - Can support village health workers
- ◆ Internet based services can also be low cost
 - MIT propose \$100 laptops click
 - But note these are targeted at school children
 - Widernet low cost internet in a box click [here](#)

The Global Health Library

- ◆ WHO initiative to improve equitable access to health information
- ◆ Multilingual multicultural resources
 - The Blue Trunk
 - ◆ Books carried on trucks, donkeys etc see [here](#)
 - Regional Index Medicus
 - ◆ Facilitates searches and exchange of information see [here](#)
 - Global eLibrary for Health
 - ◆ Linked to national eLibraries for health see [here](#)



Pan African eNetwork



- ◆ PAN is a \$1billion investment program
- ◆ By Government of India and African Union
- ◆ To bring broadband and wireless to
 - 5 regional universities,
 - 53 learning centers,
 - 5 regional Super Specialty Hospitals and
 - 53 remote hospitals
 - in all countries of Africa linked to Universities and hospitals in India
- ◆ Investment started in October 2006

Mobile Phones in Africa



- ◆ Africa - fastest growth market for mobile phones
- ◆ Only 50% of Sub Saharan Africa has signal
- ◆ But market is growing at 65% per year
- ◆ Africa is largest user of BBC News by WAP phones



- ◆ Open Knowledge Network provide SMS health service in Nairobi (above)
- ◆ Mobile phone kiosks provide access
- ◆ Discuss potential for health

Developing eHealth Connections in Kenya: Case Study

- ◆ Kijabe hospital was developing the use of ICT to improve access to knowledge for health by providing
 - Internet access and books in doctors' oncall room (below)
 - Map of Medicine trialled in paper-based format;
 - Dynamically generated clinical topic summaries
 - Patient and Management Information from the Care2X open source system

- ◆ Use of a wireless PDA infrastructure is being tested
- ◆ Engaging with the community – e.g. trialling the WHO Health Academy which was updated as the Digital Health Network see [here](#)



Developing eHealth Connections in Kenya: Case Study

- ◆ Case study is testing if wireless information and communications technology for health care can be cost effective in resource poor countries.
- ◆ Common technology infra structure can support health and development MDGs
- ◆ Building on partnerships with international, UK, commercial and local organisations in this case
 - Institute for Sustainable Development, Interactive Health Network
 - NHS Connect, NHS confederation,
 - Cisco Systems, Kenya Data Networks, Second Opinion Software, Medic-to-Medic
 - Kenya Ministry of Health, Kijabe Hospital, Nursing Council of Kenya, Amref and AfriAfya.

Using the Internet for Public Health

Note for Course Leaders

- ◆ You may wish to use the following internet sources to demonstrate or ask participants to explore the use of internet sources for researching health policy.
- ◆ A more detailed lecture on the use of the internet for health is available in the HINARI training programme [here](#).
- ◆ As an exercise for participants or as a demonstration explore information on a relevant topic.
- ◆ Note many of the sources given here are most relevant to the EURO region of WHO you may wish to set up your own list of favourite sources

Reflections

- ◆ This session is intended to raise awareness of the potential for information services for health in both resource rich and resource poor countries.
- ◆ What have you learnt?

Course Contributed by Graham Lister

- ◆ As Health partner of the largest consulting firm in the UK Graham led projects to develop information management and information technology strategies for the NHS in Wales, Scotland and Northern Ireland and wrote the Goals paper for the strategy for England.
- ◆ Graham later became chair of the College of Health a patient organisation providing telephone advice services to 11 million people in London and South East England
- ◆ He led the National Scoping Study for NHS Direct.
- ◆ He advised the DH on the use of ehealth and advised on the selection of pilots for Broadband Television for Health
- ◆ He later prepared a major bid for a patient community owned broadband television channel for health with Lord Young but this was not taken up
- ◆ He has lived and worked in Africa and South East Asia

