understanding healthcare information

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this presentation takes a brief look at what is meant by information in a contemporary healthcare context and considers the implications for library and information specialists and educational programs

library and information science is concerned with the information communication chain - the movement of information from an author or creator, to the user

we study the communication chain using the techniques of domain analysis

the precise definition of information is left open

information is instantiated within documents

the term document is open to broad definition :

books
papers
blogs
social media sites
datasets
whole experiments

biology as an informational science

"The informational landscape in biological and medical research has grown far **beyond literature** to include a variety of databases generated by research fields such as molecular biology and genomics. The traditional role of libraries to collect, organize, and provide access to information can expand naturally to encompass these new data domains"

Geer RC (2006)

"Library involvement in this area can contribute to the process of scientific discovery through the facilitation of more effective use of bioinformatics resources"

Geer RC (2006)

bioinformatics

"The ultimate goal of the field is to enable the discovery of new biological insights as well as to create a global perspective from which *unifying* principles in biology can be discerned. At the beginning of the "genomic revolution", a bioinformatics concern was the creation and maintenance of a database to store biological information, such as nucleotide and amino acid sequences."

http://www.ncbi.nlm.nih.gov/About/primer/bioinformatics.html

nucleotide sequences
protein sequences
complex genomes
protein structures
gene expression data
gene variation

bioinformatics resources:

molecular biology datasets, retrieval software tools and analysis software programs

in the US: J Med Libr Assoc 94(3) July 2006

Osterber et al. 2006 found that diverse services for bioinformatics support were being provided in libraries within clinical or academic settings by staff with different backgrounds - some biomedical, and some arts related (9 institutions, 11 staff, 3 with arts background)

http://www.ncbi.nlm.nih.gov/pmc/issues/133339/

services include:

demonstrations/workshops/lectures on resources esp. National Center for Biotechnology Information resources, such as Entrez Gene, BLAST (Basic Local Alignment Search Tool), GenBank, GeneTests

collaboration with faculty preparing resource lists, web guides, portals

workshops on sequence, structure, microarray data analysis, Vector NTI

consultation on the effective application of bioinformatics tools, assistance in vizualizing, analysing, manipulating and interpreting molecular biology data

Geer (2006) considers an understanding of the range of user groups and their informatics needs, and how well they employ the resources

.. also the question of whether a librarian or a scientist should be hired to provide bioinformatics support

in the UK:

"Contrasting the role of libraries and librarians in supporting bioinformatics research and teaching between the US and the UK"

Oliver Bridle (MSc Library Science Dissertation Sept 2010)

very little support in UK libraries, in comparison to that in the US - e.g. NLM

in the UK, support came from European Bioinformatics Institute in Cambridge

things to consider:

what services should healthcare library and information staff provide?

what services do users want?

who are the users?

should services such as bioinformatics support be offered by LIS staff?

is this what LIS staff want to do?

what new knowledge and skills will be needed?

how will these be taught/ delivered?

Hallam G et al. (2010). Australia' s Health Libraries: a research directed future. Library Trends vol 59(1-2), 350-372

"The ALIA/HLA Workforce and Education Research Project has taken an evidence-based approach to determining the future skills requirements for the health library workforce in Australia. Analysis of the information gathered through the project will be used to inform the development of education and training pathways that will not only help ensure a strong future for those already employed in the sector, but also encourage a new generation of health information professionals to consider a career in the field."

Lewis and Hallam, paper at EBLIP6 June 2011: http://www.eblip6.salford.ac.uk/presenter.php?sessions=one

domain analysis is what information professionals do - either as practice or research

part of this is understanding the type of information comprising the discipline; this needs to be built into our educational programmes, so that we can promote effective use of resources

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