Finding, using and managing information

Nursing, midwifery, health and social care information literacy competences
Acknowledgements

These competences have been developed from the *Australian and New Zealand information literacy framework: principles, standards and practice* (2004) in accordance with its terms of use and which is available for download from www.caul.edu.au (Internet).

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RCN competences

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information literacy competences

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Foreword

The drive for evidence-based practice within health care, and the recent trend towards eHealth, is dependent on staff being able to handle information effectively, by maintaining standards in their own practice, and by supporting the informed patient.

In our Principles of Nursing Practice, published last year, the RCN highlighted that: ‘Nurses and nursing staff [must] have up to date knowledge and skills, and use these with intelligence, insight and understanding in line with the needs of each individual in their care.’

The RCN’s Integrated core career and competence framework for registered nurses framework brings together dimensions of the Knowledge and Skills Framework (KSF) which are the most relevant to nursing and midwifery.

Information literacy is a key dimension of this framework. These competences can be used across the board by nurses, midwives, and health care support workers who need to develop skills to support their practice. These information literacy competences have been mapped to the Skills for Health competences and KSF dimensions.

The competences are relevant for practitioners and managers involved in evaluating professional standards, for students, tutors, and for information managers in higher education and the work place. In addition, these competences can be used to inform team and individual learning and development.

Online resources will soon be developed which will demonstrate how these competences can be used in practice by different members of a nursing team. Additionally, individuals will be able to use these resources, and the competences, to capture evidence of their own skills with tools such as the RCN’s e-portfolio; available to RCN members through the Learning Zone.

I hope you find this framework supportive and useful to your daily practice.

Peter Carter
Chief Executive & General Secretary
Introduction and context

Information literacy is the ability to know when there is a need for information, and to be able to identify, locate, evaluate, interpret and apply information. Information literacy is a universal skill which is now widely recognised:

“Information literacy enables people to interpret and make informed judgements as users of information sources, as well as to become producers of information in their own right. Information literate people are able to access information about their health, their environment, their education and work, empowering them to make critical decisions about their lives, for example, in taking more responsibility for their own health and education.” (UNESCO, 2009).

In March 2009 the Committee of Inquiry into the Changing Learner Experience (2009, p.6) identified the growing gap in information literacy in one of its six key findings:

“Information literacies, including searching, retrieving, critically evaluating information from a range of appropriate sources and also attributing it – represent a significant and growing deficit area.”

The need for nursing staff to have access to support and skills development in relation to finding, managing, evaluating and applying information and evidence is supported by the Standards for pre-registration nursing education (Nursing and Midwifery Council, 2010, pp.14, 17, 18, page references refer to adult nursing):

Domain 1: Professional values

Competence 7 states: “All nurses must be responsible and accountable for keeping their knowledge and skills up to date through continuing professional development. They must aim to improve their performance and enhance the safety and quality of care through evaluation, supervision and appraisal.”

Competence 9 states: “All nurses must appreciate the value of evidence in practice, be able to understand and appraise research, apply relevant theory and research findings to their work, and identify areas for further investigation.”

Domain 3: Nursing practice and decision-making

Generic standard for competence states: “All practice should be informed by the best available evidence and comply with local and national guidelines.”

Competence 5 states: “All nurses must understand public health principles, priorities and practice in order to recognise and respond to the major causes and social determinants of health, illness and health inequalities. They must use a range of information and data to assess the needs of people, groups, communities and populations, and work to improve health, wellbeing and experiences of healthcare; secure equal access to health screening, health promotion and healthcare; and promote social inclusion.”

The RCN context

The RCN recognised the need for information literacy competences to complement the clinical competence framework, helping nurses, midwives, health care assistants and nursing students develop their skills in using information and knowledge and apply this to their practice.

The Australian and New Zealand Information Literacy Framework was identified as a useful starting point and a version – relevant to the nursing and midwifery context – was developed. Following internal critique by RCN staff the framework was tested against realistic case studies to check the relevance of the competence statements and knowledge requirements. The competences and case studies next went to external consultation with members of selected RCN forums and Chartered Institute of Library and Information Professionals (CILIP) special interest groups, using an online questionnaire in September and October 2009. Changes were made following the external consultation and, as part of the RCN accreditation process, the competences were submitted to three external reviewers: two with expertise in nursing and one in health information management. Advice from these experts was considered when producing the final version of the RCN information literacy framework, which was formally accredited by the RCN Accreditation Board in March 2010.

The headline information literacy competences are:

1. identifying why information is needed
2. identifying what information is needed
3. carrying out a search to find information
4. evaluating how the information meets the identified need
5. using information and knowledge inclusively, legally and ethically

6. managing information

7. creating new information or knowledge.

The competences are intended to be used as a framework that supports the individual and the nursing team’s thinking about the information required to inform activities of varying complexity.

The amount of information required, or the complexity of the information needed, will influence which competences and related knowledge should apply in any given situation.

The competences are intended for staff in NHS career bands 1-9. For example, a nursing student on placement in a nursing home might use the competences to develop their understanding of the effects of a stroke and improve their patient care; a health care assistant might use the competences to support the development of their portfolio on competent record keeping for a NVQ level 2 qualification in health and social care; and a nurse manager, such as a modern matron or a consultant nurse might use the competences for developing innovative evidence-based local protocols.
**Competence 1:** Identifying why information is needed

1. Identifies the purpose for which information is needed and forms a question where relevant.
2. Identifies the gap between what information is needed to achieve the purpose and own current knowledge.
3. Tests out ideas with others, exposing ideas to discussion.

**Knowledge requirements**

You need to show that you have knowledge and understanding of how to:

a. identify, sort, classify and theme ideas and key words.
b. ask for support and challenge and invite feedback.

**Competence 2** Identifying what information is needed

1. Locates the topic within nursing and health or social care.
2. Identifies the limits of the topic and uses appropriate relevant sources.
3. Identifies and maps relevant primary and secondary sources to the topic area.

**Knowledge requirements**

You need to show that you have knowledge and understanding of how to:

a. look for links, patterns and inconsistencies between the topic, current practice and broader health care context
b. access and use sources from other disciplines, for example medicine, management, education or social care
c. access and use sources in a range of formats, for example books, periodicals, databases, websites
d. identify when to prefer one format over another, for example a book may provide an overview whereas a journal article can provide currency and specific detail
e. interpret the structure of an information source and its elements, for example contents page and index within a book
f. interpret the function of an information source and how this influences its fitness for purpose and weight of evidence, for example a newspaper report on a treatment versus a systematic review
g. distinguish between primary and secondary sources
h. identify evidence-based sources as a preference, for example NICE guidance/RCN clinical guidelines rather than commercial unaccredited web sites
i. decide which type of evidence is most relevant to the
situation, for example when qualitative approaches such as grounded theory or action research are more appropriate than quantitative research such as randomised control trials.

Glossary of relevant terms

Information source – journal article, book, report (print or electronic), web resource.

Primary source – source containing the original data, for example original research study.

Secondary source – a source which gets the data from a primary source, for example systematic review, textbook.

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Competence 3

Carrying out a search to find information

1. Identifies where relevant information can be found.
2. Checks the suitability of information sources to meet the information need.
3. Consults with colleagues and information specialists to help identify other tools, such as indexes, for accessing information.
4. Uses appropriate information services to retrieve information, for example via professional body, trust or local health board information and knowledge services.
5. Uses prioritising techniques to manage potential information overload (see also Competence 4.3).

Knowledge requirements

You need to show that you have knowledge and understanding of how to:

a. check suitability by scanning the index, content pages or chapter headings of full-text resources or results of an initial search of a bibliographic database
b. ask for advice clearly, for example “I need information on x for y purpose”
c. derive keywords from your topic to use keywords in free text searching in a search engine, simple database search or to select appropriate terms within a database’s thesaurus
d. control the amount of information found by using broader or narrower terms as appropriate
e. control the amount of information found by using appropriate techniques such as truncation and wildcard or Boolean operators or commands such as “and”, “or”, “not”
f. identify and apply criteria related to the specific need in order to filter out irrelevant information
g. use sources such as patient records, audit results, clinical experts appropriately
h. use collections of material, for example an e-library to retrieve full-text articles from e-journals or pages from e-books
i. use service providers for delivery of documents or references to documents, for example postal or e-delivery of journal articles, book lending, and literature searching services
j. access and use nursing and multidisciplinary clinical networks.
Glossary of relevant terms

Bibliographic database or index – an electronic database (usually created by people) that provides the information about an information source such as author, title, abstract, subject headings but does not contain the actual content. It may provide a link to the source that contains the full-text content.

Boolean operators or commands – words that carry out a particular function in a search, for example “and” combines terms and returns items which match both terms, whereas an “or” search will find items that match either term used. Other commands are “not”, or “+”, “-”, inverted commas and so on.

Free-text searching – searching using own keywords within the search field or box rather than a thesaurus.

Full-text resource or database – an electronic database that provides the full-text content of an article as well as the ability to search. However, it is often better to search the relevant bibliographic database, for example searching the British Nursing Index rather than searching a specific electronic nursing journal.

Information access tool or search tool – resources, now primarily electronic, which are designed to find information and search across information sources; these include databases, portals and search engines.


Keywords – terms selected by the searcher as the most relevant to describe the topic or question at issue.

Portal – a web-based gateway to a range of electronic information sources or resources of a general nature, for example the BBC website, or in a specific field of expertise such as a professional body’s website.

Search engine – a web-based tool that allows searching of either a particular website or the web itself using own keywords. Search engines use robot programmes to automatically search, find and index web pages and add them to the search engines databases.

Thesaurus – a listing of subjects often structured hierarchically that have been pre-determined. These are often provided within a bibliographic database and offer an alternative way to search the database. In databases such as CINAHL or Medline this is often the better way to search, rather than free text searching.

Truncation – a command which allows searching for variations of the selected word occurring beyond the stem of the word, for example using ‘child*' in the British Nursing Index finds ‘children’, ‘child’s’, ‘childish’ and ‘children’s’.

Wildcard – a command which allows searching for variations of the selected word where you know there can be different spellings or you are unsure of the spelling, for example using ‘p?ediatric’ in the British Nursing Index finds the British and US spellings ‘paediatric’ and ‘pediatric’.

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Competence 4
Evaluating how the information meets the identified need

1. Assesses the amount and relevance of the information.
2. Checks for gaps in the information received against the topic.
3. Identifies appropriate criteria and uses them to evaluate the information.
4. Recognises and questions assumptions, prejudice, possible bias and misinformation.
5. Decides whether the original information need has been satisfied or if additional information is required and revises search plan as necessary.

Knowledge requirements

You need to show that you have knowledge and understanding of how to:

a. judge whether the information is reliable, valid, accurate, authoritative, timely, or has a particular point of view and how it is biased
b. assess and analyse when a cultural or physical context to the information impacts on its purpose, relevance or validity, for example the reputation of a journal, US versus UK data, evidence digest for practice versus research article
c. recognise the advantages and limitations of discussion groups, email and tools such as wikis and blogs
d. judge when and how own biases and cultural context are influencing how the information is perceived and interpreted.

Glossary of relevant terms

Blog (or weblog) – a form of journal published on the web, where an individual or organisation shares ideas or information, and encourages comment on what has been said.

Critical appraisal – “The process of systematically evaluating a piece of evidence to assess its quality, importance and applicability” (Craig and Smyth, 2002, p.294). It can help with managing ‘information overload’ and is “a technique that offers a way of increasing the effectiveness of your reading by enabling you to quickly reject papers that are of too poor a quality to inform practice and systematically evaluate those that you accept so that you can extract useful points” (Madge, 2001, p.71).

Reliability – (of an information source) consistently dependable, coming from a generally proven and trustworthy source; (in quantitative research) characteristic of a good test, whether the test will give the same results used under the same conditions on different occasions; (in qualitative research, this may also be referred to as dependability) accuracy and comprehensiveness of data collected; whether what is recorded accurately reflects what actually occurred.

Validity – (in quantitative research) characteristic of a good test, whether the test measures what it is supposed to measure; (in qualitative research, this may also be referred to as credibility) whether or not the interpretation of the data reflects what has been described or recorded, in other words is credible.

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Competence 5

Using information and knowledge inclusively, legally and ethically

1. Seeks out information that is inclusive and culturally sensitive, acknowledges where such information is missing and decides what action to take.
2. Observes copyright, avoiding plagiarism, so that information is legally obtained, stored and communicated to others.
3. Recognises the importance of security of information and confidentiality issues including observing Caldicott principles in relation to confidentiality of patient information.
4. Uses information based on evidence to underpin practice, introducing changes when necessary.

Knowledge requirements

You need to show that you have knowledge and understanding of how to:

a. identify whether information relevant to a particular group is needed to address the question or topic effectively and if it cannot be found, investigate whether it exists and alternative sources where it can be found

b. acknowledge contradictions between values expressed in the information and own values

c. obtain, copy or distribute published or unpublished information whilst respecting copyright legislation, for example limits of fair dealing and of any licences your organisation has

d. capture and use information from sources without appropriating others’ ideas as own

e. use criteria to judge when to change practice, for example if the situation occurs frequently or is a high priority due to risk.

Glossary of relevant terms

Caldicott principles – the Caldicott report (Department of Health, 1998) addresses confidentiality issues in relation to patient information and the issue of informed consent. It identified six key principles and 16 recommendations that have been subsumed into the NHS code of confidentiality (Department of Health, 2003).

The six Caldicott principles applying to the handling of patient-identifiable information are:

- justify the purpose(s) of every proposed use or transfer
- don’t use it unless it is absolutely necessary
- use the minimum necessary
- access to it should be on a strict need-to-know basis
- everyone with access to it should be aware of their responsibilities
- understand and comply with the law.

Copyright – one form of intellectual property right that covers an original work such as a written text, a photograph, film, or piece of music whether printed, electronic or published on the web. It allows the owner of the right to authorise or prevent copying, broadcasting, disseminating or publishing the work. Other intellectual property rights include trademarks, patents and designs.

Fair dealing – a concept used in copyright, where you exercise an exception in law, under limited circumstances, which allows you to make a copy of a work.

Plagiarism – is defined as “using someone else’s ideas or work and passing it off as one’s own without acknowledgement. It ranges from unreferenced use of someone’s published or unpublished ideas to reproducing another person’s work under ‘new’ authorship” (Gerrish, 2005, p.14).
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## Competence 6

### Managing information

1. Records information and its sources systematically.
2. Takes relevant notes.
3. Accurately cites information for future retrieval using recognised citation styles.
4. Creates system for organising and managing the accessed information.
5. Subscribes to mailing lists, online communities, discussion groups and social media to remain up to date with current knowledge and developments.

### Knowledge requirements

You need to show that you have knowledge and understanding of how to:

- a. capture the scope of the ideas from your information search in your own words using notes, mind maps and so on
- b. use the citation (reference) styles recognised within the organisation you are writing for, for example publisher, university, employer
- c. select and use systems appropriate for the task, for example citation (or reference) management software such as EndNote, systematic use of electronic folders or manual filing systems or social networking software such as wikis
- d. download information in different document formats
- e. archive information that you or your organisation need to keep for the correct amount of time
- f. access alerting services or set up own alerts to information.

### Glossary of relevant terms

**Citation style or referencing system** – the most common are Harvard and Vancouver, but some organisations establish their own. This is a recognised way of referring to information sources read and referred to in writing an assignment, a report or a guideline.

**Citation or reference management software** – software that stores large numbers of citations and abstracts. It helps organise the references or citations according to the recognised standards and usually allows variants or new standards. Each citation becomes a record in the product’s database and can be retrieved and formatted in a number of ways, for example to produce a bibliography. It is particularly useful when working on large projects or documents.

**Social networking (social media)** – applications and websites that allow multiple users to publish and share information on the web whether freely available such as the web-based encyclopaedia, Wikipedia, or in closed communities. Often the application or website focuses on a shared interest such as sharing photographs, for example Flickr or Shutterfly, or in the case of Delicious, sharing useful websites.

**Wiki** – a website or software that allows content to be created, shared and published collaboratively.
Competence 7
Creating new information or knowledge

1. Compares new information with prior knowledge to draw conclusions and form new arguments and opinions.
2. Identifies the values and beliefs underpinning information and knowledge.
3. Identifies whether the new information contradicts or supports information from other sources.
4. Selects information that provides appropriate evidence.
5. Recognises that a lack of information can also constitute evidence.
6. Uses the information to improve practice and implements change where appropriate.
7. Identifies key messages.
8. Communicates ideas effectively.
9. Organises the content in a way that supports the purpose and audience.
10. Selects appropriate ways of disseminating the information

Knowledge requirements

You need to show that you have knowledge and understanding of how to:

a. gain familiarity with your topic and its broader subject or discipline
b. draw upon your own notes of research from primary and secondary sources together with what is already known to identify key messages
c. produce an outline or draft framework
d. write concisely, convincingly and in an appropriate format, for example journal article, PowerPoint presentation, essay, report, or practice guideline
e. meet the needs of different learning styles.

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