

# **DISINTERMEDIATION: USING INTERMEDIARY SKILLS TO OFFER ONCOLOGY NURSES OPPORTUNITIES FOR THEIR OWN WORLD-WIDE WEB CURRENT AWARENESS SERVICES (CAS)**

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## **Abstract**

Library and Information Science (LIS) professionals can proactively facilitate successful disintermediation to specific user groups such as oncology nurses. By drawing on their skills as intermediaries they can empower oncology nurses to set up their own current awareness services (CAS) available via the World-wide web (WWW). Such services include table of content services, electronic newsletters, book alerting services, conference announcements, WWW discussion groups, web pages with newsworthy content and article alerting or Selective Dissemination of Information (SDI) services. A few examples of each are included. A cursory glance at the literature of oncology nursing can point out potential interest in CAS which can be used as bases to collect information on more specific information needs for specific groups (e.g. through focus group interviews). To be successful at facilitating disintermediation, LIS professionals should approach disintermediation as an exciting opportunity to open new niches for themselves. They should be prepared to move beyond information literacy courses and empower oncology nurses to use CAS in addition to their needs for retrospective searches and factual information. This paper takes a theoretical look at facilitating disintermediation. Drawing on their substantial experience of intermediation, LIS professionals should consider the following: linking potential information needs and perceived information needs to the benefits that can be expected from CAS, the need to verify information and computer skills, as well as prior knowledge and perceptions concerning the value of information and the information infrastructure for oncology nurses. They should also consider findings from web information-seeking studies (e.g. the impact of the task environment, motivation, experiences of anxiety, etc.) and possible frustrations oncology nurses might experience with WWW CAS.

## **Keywords**

disintermediation, nurses as information users, information literacy, information behaviour, current information needs, awareness services, oncology nurses, medical information, user training

## 1 INTRODUCTION

Disintermediation has often been portrayed as a threat for LIS professionals. If approached as a challenge, disintermediation can, however, offer interesting opportunities for LIS professionals who commit themselves to disintermediation, and who are willing to draw on all their skills and expertise to empower people from other professions (FOURIE 1999a). Current awareness services (CAS) that enable people to keep track of changes and developments in their fields of interest offer such an opportunity. Many professions and fields of study can benefit from CAS. FOURIE (2003) has for example reported on CAS for acquisitions librarians. Articles have also appeared on CAS for medical professionals (ANDERSON 2003) and knowledge workers (MARTIN 2001).

The term «current awareness» was initially coined to reflect the ability to stay abreast of a subject field or new developments. Good overviews of CAS and the rationale for these can be found in the early LIS literature such as KEMP (1979) and WHITEHALL (1982). Many CAS are nowadays available for free or at reasonable prices from the World-wide web (WWW). In the light of this FOURIE (1999a) defines CAS as «a selection of one or more systems that provide notification of the existence of new entities added to the system's database or of which the system took note (e.g. documents, web sites, events such as conferences, discussion groups, editions of newsletters). CAS automatically notify users or allow users to check periodically for updates. The entities can be specified according to users' subject interests or according to the type of entity (e.g. books or newsletters)». Due to the increased availability of CAS via the WWW it seems timely to consider how LIS professionals can open opportunities for people from other professions to use such services on their own.

Assuming a need for CAS, this paper will take a theoretical approach to show how LIS professionals can facilitate disintermediation with regard to the use of CAS by oncology nurses. Oncology nurses have been selected since they are working in a field that is very dynamic and of growing importance. There has been an increase in the number of patients with secondary cancer that is the result of HIV/AIDS, as well as an increase in the expectations of patients and their families in terms of the support they hope to receive from the hospital staff. Nurses working in academic hospitals and affluent private hospitals may perhaps have access to information services and the support of LIS professionals. For other hospitals and clinics, oncology nurses probably need to rely on their own initiatives and resources. Since many CAS are available for free or at reasonable prices via the WWW it seems like an excellent opportunity for oncology nurses to stay abreast of their field. Although the authors are exploring a theoretical approach to facilitating disintermediation in this paper, they are planning to do some empirical work with an Oncology Unit in Pretoria (South Africa), before taking the concept further, and actively promoting WWW CAS for oncology nurses.

Oncology is the field of medicine devoted to cancer and the study of tumors (*Medicine*<sup>1</sup>). Oncology nursing, concerns nursing of cancer patients. *Nursing Spectrum*<sup>2</sup>, for example, explains an oncology nurse as someone who «cares for patients with the diagnosis of cancer in various settings; utilizes an emphatic and caring approach to patients whose diagnosis and treatment are often painful and life-threatening; administers chemotherapy, conducts patient teaching, and manages illness- and treatment-related symptoms».

The rapidly changing occupational environment of oncology nurses is for example marked by globalisation, IT developments, and especially access to the WWW. Baker and Fitch (as cited by BROWNE 2002) capture their occupational environment very aptly. «Throughout Europe cancer nurses are striving to meet the challenges of providing quality nursing care amid changing environments that are characterized by advances in drugs and technologies, ageing populations, increasing rates of cancer, increased survival rates, rising costs and increasing economic constraints». In this dynamic health environment, WWW CAS can serve oncology nurses well.

The paper will consider the following:

- Oncology nurses' need for CAS (with the emphasis on WWW CAS) and how they can benefit from these;
- Types of CAS available via the WWW that might be of interest to oncology nurses (selected examples of services will be given);
- The role LIS professionals can play in facilitating successful disintermediation with regard to CAS;
- Problems and frustrations that can be foreseen.

## 2 WHAT IS DISINTERMEDIATION?

A number of attempts have been made in the LIS literature to define disintermediation, for example ALLEN (1996), EDWARDS, DAY and WALTON (1996), and GELLMAN (1996). For the purpose of this paper we will accept that disintermediation relates to the role of the intermediary (e.g. a LIS professional) in acting between information (or other products) and its end-users (FOURIE 1999b).

Many concerns have been expressed about the threat of disintermediation for LIS professionals, for example KIEFT (1996) who predicts the doomsday of libraries and information services and the end of the intermediary and information specialists. Disintermediation can, however, open very exciting opportunities for LIS professionals if they take a proactive approach. A more positive approach is propagated by, amongst others, FOURIE (1999a, 1999b, 2001) and FINLAY and FINLAY (1996). In the

1. <<http://www.medterms.com/script/main/art.asp?articlekey=18683>>

2. <<http://www.nursingspectrum.com/StudentsCorner/CareersInNursing/Specialties/ONC>>

context of information seeking, disintermediation can for example apply to retrospective information searching (i.e. information published in the past or over a specified period of time), factual information searching or searching information to support current awareness. Although this paper will focus on CAS, the principles can also be applied to the other types of information searching.

## 2.1 Proactive initiation of disintermediation

LIS professionals can wait for oncology nurses to gradually become aware of the CAS available through the WWW, for example by attending conferences and talking to colleagues who perhaps come from academic hospitals who may have libraries offering such services, or they can actively promote the use of such services. In other words, they can take a proactive approach. LIS professionals who wish to take a proactive approach to disintermediation can consider doing the following:

- Acquaint themselves with the value of CAS, the principles on which these services traditionally have been run and how people in general can expect to benefit from CAS.
- Identify a group of users such as oncology nurses that can benefit from disintermediation and CAS (i.e. identify a user group).
- Weigh the time spent on facilitating disintermediation against the ultimate benefits for the user group and society at large.
- Analyse the needs for different kinds of information seeking, with the emphasis on the need for CAS. Although interviews and questionnaires might be used to collect data on information needs, these methods might be of limited value since the user group's perceptions of their information needs will probably be influenced by their current knowledge and perceptions of the value of information, and their experiences with information needs. It is suggested that LIS professionals rather first take a cursory glance at the potential need for information as reflected in the subject literature of the user group (e.g. oncology nurses), as well as their professional environment. This can then be followed by focus group interviews using the information needs identified from the literature survey as bases for discussion. The rationale with this approach is to gather information on the information needs as experienced by the user group, but also to make them aware of the value of information in their professional careers, and the need for information and research as portrayed in their subject literature.
- Explore the available information resources such as CAS available via the WWW, and select suitable examples for the user group.
- Get the user group interested in doing their own searches and exploring CAS (e.g. through marketing, workshops and information sessions).
- Facilitating disintermediation and the use of CAS.

## 2.2 From disintermediation to empowerment

Based on their experience of intermediation, LIS professionals should realise that there is, however, much more to be done than teaching basic information literacy skills and how to find information via the WWW. Successful disintermediation requires that oncology nurses should actually be empowered to use CAS. According to FOURIE (1999a) empowerment is more than offering instructions on how to search for information. Tools and resources (in this case WWW CAS) should be identified and available. The right mindset and atmosphere should also be created. More specific suggestions will be offered in section 5.

## 3 POTENTIAL POWER OF CAS FOR ONCOLOGY NURSES

The reasons for offering CAS in a WWW environment are explored by FOURIE (1999a). These include the following:

- Keeping track of new developments in a particular field(s) of interest;
- Keeping track of new web sites, discussion groups (listservs, Usenet groups), and publications;
- Keeping track of trends in a particular field of interest (for example by means of the tables of contents of journals);
- Keeping track of internet-related developments (for example search engines);
- Taking note of daily events of interest (for example as reported in newspapers);
- Taking note of developments by competing markets (for example changes to a company's web site);
- Having intelligent agents learn from your preferences and filtering information accordingly;
- Receiving customised information on, for example, the weather report;
- Keeping track of new documents added to a database, or of which it took note (for example records in a database such as *ERIC* or new sites indexed by a search engine).

Information needs have been shown to be influenced by amongst other things the working or task environments, perceptions of tasks, and people's positions in their organisations (e.g. Vakkari, Wilson, as cited by FOURIE 2004). Apart from considering the general reasons for using CAS, it is therefore also necessary to consider the environment in which the group find them, the challenges with which they have to meet, and their information seeking behaviour. For the latter we will consider reports in the subject literature – if available.

### 3.1 Information seeking behaviour of oncology nurses

A literature search could provide little insight into the information needs of oncology nurses, and nothing could be traced on the provision of CAS for oncology nurses. FITCH, CHART and PARRY (1998) report on one of very few studies on the information needs of oncology nurses. They considered the information needs with regard to breast cancer. Most of the nurses in their survey felt that they experience no gap in their knowledge, and therefore do not need information. This is interesting if one considers the complaints often heard from patients that they do not receive enough information. A survey on oncology nurses' use of the internet is reported by COBB and BAIRD (1999). Their survey determined that oncology nurses use the internet for drug information, literature searches, academic information, patient education, and continuing education.

A number of publications have also appeared on cancer patients' need for information. In certain cases this can be linked to the patient educational function of nurses (e.g. as reported by THOMSON (2000), MAHON and WILLIAMS (2000), HUGHES *et al.* (2000), VAN DER MOLEN (1999), and HARTIGAN (2003)). Oncology nurses should certainly also note reports on the information seeking behaviour of cancer patients and their needs, and how this may affect their own task.

### 3.2 A brief look at the dynamic environment of oncology nursing

Oncology nurses find themselves in a rapidly evolving health environment, with increased demand for their services, also because of the ageing population and number of HIV-positive patients who often develop secondary cancer. Some of the challenges faced by oncology nurses include new educational methods and societal expectations, emphasis on life-long learning and continuing professional development, greater pressure for job performance, and changing communication methods and methods for information dissemination. According to JENKINS (1997) health care providers are experiencing significant changes in their professional lives: apart from the changing environment there is a need for consumers to be knowledgeable and the expectations of care providers are enhanced. There seems to be especially an importance to genetic discoveries influencing available health care, and requiring the educational preparation of patients.

Information needs will differ according to tasks, responsibility and level of seniority. It will also be influenced by the motivation for seeking information or staying abreast of a field. Oncology nurses are, for example, expected to show excellence in patient care, education, research, and oncology administration. According to the Oncology Nursing Society (ONS) they require clinical, educational and inspirational publications. They are expected to access cutting-edge information and «encourage narratives» (ONS website).<sup>3</sup> MOONEY (2004) adds to this: «In the end, cancer patients suffer when nurses can not practice to their full potential».

3. *Oncology Nursing Society* (ONS): <<http://www.ons.org/>>

More specifically it was noted from the literature (e.g. ANDERSON 2002, SCLACHTA-FAIRCHILD 2001, and JENKINS 1997) that oncology nurses in general need to note developments and trends concerning a number of broad categories. Amongst others, these include:

- Career development (e.g. trends requiring them to reconsider their roles, new roles, and opportunities for training and continuing professional development);
- Patient education and information support (e.g. information needs of patients, and successful examples of patient education);
- Occupational environment (e.g. dealing with barriers to their work and the safety of oncology nursing practice);
- Trends in society (e.g. society's expectations for oncology nursing practice, ethical dilemmas, and the increase in the number of cancer patients because of HIV patients developing secondary cancer);
- Research priorities and practice (e.g. as can be derived from other aspects that are monitored);
- Administration (e.g. guidelines for administrators and managers in creating an environment where oncology nursing can thrive);
- Problem solving (e.g. noting suggestions and strategies to solve problems concerning oncology nursing);
- Educational issues;
- Trends in their own organizations;
- Resources available to patients (e.g. websites, discussion lists, and support groups);
- IT developments (e.g. telehealth, electronic patient records).

A review by BROWNE, ROBINSON and RICHARDSON (2002) for example report the following findings with regard to research priorities. The category ranked most highly in respondents' top five priorities concerned patients' needs regarding communication, information-giving and education. The category ranked second includes research questions on the facilitation of cancer nursing research and the utilization of research findings in practice. Issues concerning nursing education also ranked high.

According to MOONEY (2004), position papers often available through professional societies can especially be useful sources of information. «Professional practice position papers can promote the role of the oncology nurse, can address barriers to professional practice, and can provide guidance on ethical conduct. They are not only helpful for advocating policy change with governmental and regulatory bodies, but nurses can use them to directly improve their work environment» (MOONEY 2004).

#### **4 AVAILABLE WWW CAS FOR ONCOLOGY NURSING**

A wide variety of CAS are available on the WWW. Many of these are available for free or at reasonable fees, which make them extremely suitable for individuals or organisations such as hospitals that cannot afford to subscribe to expensive commercial services.

Such services include

- Tables of contents services (TOCs) (mostly associated with journals);
- Book alerting services (including book announcements and tables of contents);
- Article alerting services, including commercial Selective Dissemination of Information (SDI);
- Electronic newsletters;
- Conference announcements;
- WWW discussion groups and electronic mailing lists;
- Web pages with newsworthy content.

The following are a few examples of WWW CAS available to oncology nurses. More examples are offered in an article by Fourie and Claasen-Veldsman (submitted for publication).

1. Tables of contents services (TOCs) – mostly associated with journals. Users can access the journal websites to view the latest tables of contents, or if available, they can subscribe to an email alerting service that will send them an email with the latest table of contents as soon as it becomes available. These services are often available for free. Examples include:
  - *Clinical Journal of Oncology Nursing* – TOC and abstracts can be viewed for free at <<http://www.ons.org/publications/journals/CJON/abstracts.shtml>>. No email alert function was available at the time of publication.
  - *Journal of Pediatric Oncology Nursing* – Free online access to TOC and abstracts at <<http://www.sagepub.com/journal.aspx?pid=9809>>. A free email alert function is also available.
2. Book alerting services (including book announcements and tables of contents). Users can either access the websites of publishers in the field of oncology nursing on a regular basis, or they can subscribe to free email alerting services if available. Publishers in the field of nursing and oncology nursing include the following:
  - Jones & Bartlett Publishers: <<http://nursing.jbpub.com/oncology/>>. The TOC as well as free email alerts are available. Books can also be purchased online.
  - Lippincott Williams & Wilkins Medical books & Nursing books by Speciality: <<http://www.lww.com/browsebyspecialty/0,0,90,00.html>>. Free email alerts are available as well as an online purchasing service.
3. Electronic newsletters – mostly form part of the membership for a specific society or association, but free access to some of these newsletters is available. The following are examples:
  - European Oncology Nursing Society: <[http://www.cancerworld.org/CancerWorld/moduleStaticPage.aspx?id=848&id\\_sito=2&id\\_stato=1](http://www.cancerworld.org/CancerWorld/moduleStaticPage.aspx?id=848&id_sito=2&id_stato=1)>.



- Oncology Nursing Society: <<http://www.ons.org/publications/journals/news/>>.
4. Conference announcements are extremely useful in monitoring developments in any field and also if one wishes to participate. Conferences are mostly organised by professional organisations. The following are some examples:
    - Association of Pediatric Oncology Nurses (APON) – conference announcements are made on their website at <<http://www.apon.org/i4a/pages/index.cfm?pageid=207>>. More information is included in the newsletter to members.
    - Oncology Nursing Society (ONS) – conference announcements are made on their website at <<http://www.ons.org/>>. They also offer links to other related conferences (<http://www.ons.org/nursingEd/Conferences/>), which makes this a site worth monitoring.
    - International Society for Nurses in Cancer Care. Conference announcements are made on their website at <<http://www.isncc.org/>>.
    - Multinational Association of Supportive Care in Cancer. Conference announcements are available on their website at <<http://www.mascc.org/index.php>> and they offer links to other related conferences on <[http://www.mascc.org/index.php?load=pro\\_conferences](http://www.mascc.org/index.php?load=pro_conferences)>.
  5. WWW discussion groups and electronic mailing lists. Examples include the following:
    - Oncology Nursing Society (ONS) discussion forums are available at <<http://www.discussion.ons.wego.net/>>. Membership is not required to participate, but registration to a specific forum is necessary in order to receive e-mail notification of new postings.
    - Medicine Online Cancer Discussion group: <<http://www.meds.com/cancerlinks.html>>.
  6. Web pages with newsworthy content. There are many websites worth monitoring. Although time consuming it might be worth the time and effort. The following are a few examples. There are many more.
    - *Cancersourcekids.com*: <[www.cancersourcekids.com](http://www.cancersourcekids.com)>.
    - *OncoLink*: <<http://cancer.med.upenn.edu/>>.
    - *People Living with Cancer*: <[www.oncology.com](http://www.oncology.com)>.
  7. Article alerting services, including commercial SDI. There are also a number of excellent article alerting services available. Unfortunately these can be very expensive. Examples include the following:
    - *Cancerlit database* (Dialog file number 159) and *Medline database* (Dialog file number 155) – Available from Dialog at <[www.dialog.com](http://www.dialog.com)>. Email alerts are sent out when new records that meet with the search profile are added to the database.

— *ScienceDirect* <[www.sciencedirect.com](http://www.sciencedirect.com)>. Email alerts are sent out when new records that meet with the search profile are added to the database.

There are also other forms of WWW CAS, such as push technology, weblogs, newspapers and newspaper alerts and website update notification services. These will, however, not be dealt with in this paper.

## 5 THE ROLE OF LIS PROFESSIONALS

Disintermediation will mean that oncology nurses will take responsibility for their own CAS, and that LIS professionals will only offer support in getting them started, as well as with more advanced applications. Disintermediation should, however, not just be about encouraging them to search for information on their own, but to truly enable them to understand the spectrum of the information sources available to them, how to analyse their information needs and expectations, how to put the sources to use, and how to adapt when their information needs changes.

In sharing the concepts of CAS and disintermediation with oncology nurses, LIS professionals need to consider the supportive role they can play. They should for example access the resources a particular group of oncology nurses have access to, and also help them to explore new sources on their own. These include traditional sources such as libraries, as well as resources available via the WWW. It might be a good idea to map these sources, including WWW CAS, and to explain the strengths and benefits of each, and how it can help oncology nurses to cope in their specific dynamic environment.

### 5.1 Assessment of prior attitudes and skills

Since the use of WWW CAS will be influenced by computer and information literacy skills, and especially skills in using the WWW, these need to be assessed before actually helping oncology nurses to set up their own CAS. In addition, it might be useful to do a survey of the particular group's prior skills and attitude. The following should be considered:

- Need for information: retrospective, factual as well as current awareness;
- Preferences for information sources (e.g. books, journal articles, conference papers, websites);
- Current use of information services and experience with these services;
- Knowledge of the oncology nursing information infrastructure (e.g. key journals, publishers, professional associations, conferences, discussion lists, etcetera). If limited, LIS professionals should help them to exploit the possibilities;

- How their work positions and tasks relate to their positions (e.g. sister, unit manager, nurse). It has been shown that tasks can have a substantial influence on information seeking behaviour (Vakkari, as cited by FOURIE 2004);
- Motivational factors (e.g. opportunities to publish, conference attendance, involvement in professional societies, internal awards and promotion, patient gratitude);
- Feelings about CAS (e.g. interested, skeptical).

## 5.2 Few suggestions on actual support

After assessing prior skills and attitude, LIS professionals should help oncology nurses to select suitable CAS. They should, however, also show them how to identify new sources, and to assess the value of a particular CAS. If a CAS does not deliver useful information over a period of time, it should not be used.

Although oncology nurses will be using the services on their own, it is especially important for them to know that they can call on the help of LIS professionals.

When marketing WWW CAS to oncology nurses, different approaches can be followed such as

- Personalised CAS for individual nurses;
- CAS for a group of nurses such as an oncological unit;
- General CAS for oncology nurses, for example, a professional association for oncology nurses.

## 5.3 Assuming stress and frustrations

Although there are many benefits to CAS, they are not without their problems and frustrations. If these are foreseen, and actually discussed with oncology nurses, it might be easier for them to deal with such frustrations. There is no single source that will cover all the information required by oncology nurses. If they use a combination of sources, they, however, will have to deal with overlap. If they cover a broad spectrum of information to ensure that they pick up as much information of interest as possible, it will probably also mean that they will have to deal with information overload. Such frustrations should be foreseen. Although it is not always easy to find solutions, oncology nurses should at least be made aware of the frustrations they can expect and how they should weigh these against the benefits of using CAS. Furthermore LIS professionals can proactively arrange for follow-up sessions with oncology nurses to discuss problems and frustrations –but in the context of the benefits that they have gained from using these services.

LIS professionals should also share their experiences and knowledge of information seeking behaviour with the user group. Aspects such as

anxiety experienced, frustrations in finding information, the different stages of information seeking, the dynamic nature of information needs, etcetera, should also be discussed with users. FOURIE (2004) deals in more detail with findings from web information seeking studies, as well as models of information behaviour.

Apart from information overload, the following are some of the problems that need to be mentioned: the need for further filtering, the fact that many of the services are time-intensive to monitor, and that many of the services available on the WWW for free, are not tailor-made for the target group or as CAS. It is especially important to help oncology nurses to identify ways in which they can personally benefit from CAS and put the information to use instead of just citing the general perceptions of how one can benefit from CAS.

## 6 CONCLUSION

From the preceding discussion it should be clear that oncology nurses can benefit from CAS. It is, however, up to LIS professionals to use their skills in intermediation to take a proactive approach to encourage and empower oncology nurses to use CAS. By encouraging disintermediation with regard to current awareness, they can actually create an exciting niche for themselves. In such a niche, they can focus on needs analysis, exploiting rapidly developing and changing information infrastructures, and promoting the use of information and knowledge creation. If we consider the earlier description of an oncology nurse and her/his task as well as the explanation of empowerment, it is clear that LIS professionals who are promoting disintermediation also make a small contribution to the welfare of cancer patients and their families.

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