

Using an It Platform to Deliver Standardised Cancer Information at The Point of Care

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Objectives:

The delivery of optimal treatment to cancer patients requires clinicians to have a comprehensive understanding of contemporary literature, key evidence, and internationally acceptable standards. The rapid increase each year in the number of new treatment regimens and their complexity places additional demands on the already time-poor clinicians providing cancer treatments. A lack of currency will result in the clinician not being aware of positive and negative changes in their field, and potentially ordering ineffective or even hazardous treatments. Estimates from over a decade ago indicated that clinicians needed to read over 17 articles per day, every day of the year, to maintain knowledge currency in their health care speciality (Davidoff et al 1995). While access to the Internet has greatly increased the information sources available, time pressures make it difficult to answer information needs as they arise (Westberg and Miller 1999). An additional incumbrance arises when these time-poor clinicians operate in a remote or rural health setting without easy access to experienced peers or resources. It is anticipated that the availability of online standardised treatment protocols, based on synthesised evidence, 24 hours a day at the point of care will assist in maintaining currency, and ultimately improve patient outcomes.

Background:

There has been an enormous growth recently in the availability of new information in health care, and this is no more evident than in the area of cancer treatments. New treatments become available every year, and existing treatments are subjected to constant review and evaluation. Significant time and effort in the last decade has been directed at developing cancer-related guidelines in order to reduce variations in practice and introduce sustaining improvements in cancer care (National Institute of Clinical Studies 2006). A recent study of cancer clinicians in New South Wales (NSW) revealed no standardised approach to the pharmacological treatment of cancer patients, and a variety of methods and locations for acquiring current information (Tan et al 2006). Additionally, an investigation of rural and regional oncology services in Australia identified the need to improve cancer treatment services in these areas, and highlighted the large number of nurses in all states administering chemotherapy without a recognised certificate qualifying them to do so (Clinical Oncological Society of Australia 2006).

Clinicians are motivated by evidence that they are delivering the best possible care (National Institute of Clinical Studies), and in order to achieve this best practice, need access to reliable and current information that is applicable to their clinical environment. Access to information at the point of care is integral to any clinician, particularly for effective decision making and safer patient care. Even though little is known about information sources that guide chemotherapy treatment, it is recognised that clinicians use a variety of sources – their own experience, colleagues, local resources, online resources, electronic devices, and (rarely) hard copy text or reference books (Tan et al. 2006).

CI-SCaT (www.treatment.cancerinstitute.org.au), a web based information repository designed by a medical oncologist, provides comprehensive, peer reviewed, evidence based cancer treatment information at the point of care incurring no cost to the user. Originally developed to reduce unnecessary and often harmful practice variation, it assures that all health professionals participating in the patient's journey have access to the same universal information. The governance model requires face to face debates by clinicians to ensure

the evidence is blended with the realities of clinical practice, and that the treatment can be safely administered in the Australian setting whether it is rural, remote, or metropolitan. This can be a challenging and confronting process for clinicians, but provides them an opportunity to benchmark their practice.

Initially designed for use in one hospital, the Cancer Institute NSW assumed responsibility for the resource in 2004, and activated the website in late 2005. The uptake of CI-SCaT into the clinical environment occurred by natural drift rather than by planned dissemination, and its strong clinically embedded governance model ensured clinician buy-in from the outset. Its popularity has rapidly surpassed expectations, with monthly hits increasing from just fewer than 65,000 in August 2005 to 539,000 in March 2008, and monthly user sessions increasing from just under 2,000 in August 2005 to a current average of 15,000-20,000. The unexpected popularity led the Cancer Institute NSW to embark on a strategic review of the resource in order to determine the breadth of clinical application, any inherent barriers to its use, and future direction recommendations.

Methods:

A triangulated method was used in 2007 to obtain qualitative and quantitative data from a variety of relevant internal and external metropolitan and regional NSW and interstate stakeholders, and included individual interviews, focus groups, and an online survey. Major paradigms explored by an external consultant encompassed the geographical location of the users, what they used the resource for and how often, how it had changed their approach to treatment delivery, and their views of its strengths and weaknesses. This evaluation was also supported by web log statistics, including monthly hits, user sessions, items viewed, out of hours use, and number of available protocols.

Design:

Face-to-face and phone interviews incorporated a purposive sample of 21 stakeholders who were either medical officers, nurses, pharmacists, or consumers, and situated in urban, outer urban, rural, and regional NSW and interstate. Interviewees were aware of CI-SCaT and were mapped along a continuum, from clinicians who were fully supportive of the resource to clinicians who were strongly opposed to its use in the clinical environment. Nine internal stakeholders were also interviewed, and comprised Cancer Institute NSW executives and members of the CI-SCaT team, including the director, divisional director, program manager, and content authors.

The May 2007 CI-SCaT Nurses Reference Group provided an ideal opportunity to canvas the opinions of 65 Australian nurses from every state and territory. This group of high CI-SCaT users was subdivided into three groups, and an experienced external researcher facilitated discussion around the resource strengths and perceptions of use barriers in their clinical environments. An 18-item questionnaire was also administered in these focus groups, with a 92% response rate.

Lastly, an online survey of regular users of the resource was conducted over a 2-week period in early May. The 33-item survey was accessible on the CI-SCaT homepage, with email links to the survey distributed to a wide range of known resource users. 222 respondents completed the survey (95% CI +/- 6.6%), comprising a range of users including nurses (45%), medical officers (18%), pharmacists (15%), and others (managers, administrators, reference group members, consumers) who were reasonably equally distributed between Sydney metropolitan areas, rural NSW, and interstate.

Results:

The overall results indicated that 92% of clinicians perceived CI-SCaT to play an important role in providing cancer treatment information and 87% recommended the resource to their peers. Additionally the evaluation demonstrated that CI-SCaT empowers selected groups of health professionals. The frequency of CI-SCaT use by this group was high, with 41% accessing it at least daily, and 73% accessing it at least weekly. The most common reasons for accessing CI-SCaT included for increasing personal clinical knowledge (69%), clarifying

treatment details (66%), downloading patient information sheets (64%), and educating novice practitioners (59%). With regards to cancer treatments, 91% of respondents agreed that CI-SCaT played an important role in their cancer service, with 72% indicating increasing reliance on CI-SCaT for treatment information. Half of the respondents also revealed that it was the policy of their institution to make CI-SCaT their main provider of treatment protocol information. There were high levels of agreement that the resource is easy to use and understand (86%), that the IT platform is reliable and stable (84%), and that CI-SCaT staff were helpful in assisting users to make the best use of the service (77%).

Focus group results revealed widespread support for CI-SCaT amongst nurses, particularly those practising in rural and remote areas where oncology specialists may only visit once per week or even once per month. This cohort also identified the existence of numerous barriers to using the resource, including inadequate information technology infrastructure and issues related to facility endorsement from both medical and nursing executive. The stakeholder interview results paralleled the interview and focus group findings, with an additional discovery that CI-SCaT provided educational support to increasing numbers of nurses working in oncology and haematology units who have limited cancer training and experience. They specifically reported that the resource empowered them and their patients, and enabled safer delivery of treatment outside metropolitan centres.

Discussion:

In less than three years, CI-SCaT has become the default source of information amongst cancer clinicians, with very few sites, other than major teaching hospitals, still actively engaging in developing their own protocols. Accessing and adhering to CI-SCaT information, which is derived from combining multidisciplinary peer review with evidence, provides a level of benchmarking assurance and improves the risk management for the facility. There is a general expectation amongst users that CI-SCaT will become even more important over time, given that its currency of information is dynamic and the required effort of protocol development in individual facilities is burdensome. The most consistent concern was the ongoing workload involved in keeping protocols up to date and regularly reviewed, along with the sheer volume of work it takes to commence and complete a new class of protocols. The two major barriers to its use at the facility level appear to be related to information technology infrastructure and upper management endorsement.

The professional group deriving the most benefit from CI-SCaT appears to be nurses, who have indicated that the availability of literature supporting each protocol has enabled them to initiate objective conversations with medical staff about consistent, evidence based practice. The resource appears to democratise access to information for clinicians, patients, and the community, and its multidisciplinary approach helps to define professional roles within the treatment delivery cycle. A small number of medical staff expressed concerns that the widespread online availability of cancer treatments had the potential to reduce medicine to a 'cookbook' approach, however this criticism displays a failure to appreciate the degree of flexibility within the information and that clinical routines, protocols, and 'recipes' are a necessary aid in critical decision making within an environment of clinicians that spend 50% of their time gathering, sharing, analysing, or seeking information (Young 2000). The majority of medical officers, however, acknowledged its Australian-based value, and viewed it as a trustworthy source of information that reflected local conditions.

Conclusion:

CI-SCaT is a unique innovative resource providing evidence based peer reviewed treatment protocols for use at the point of care, and has become the default source of information amongst cancer clinicians in the majority of cancer services facilities in Australia. Its clinical governance demonstrates that an information technology platform can be used successfully to deliver standardised information to clinicians, and improve their access to current and accurate treatment recommendations.

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