

Metrics, Measures and Meanings: Evaluating the CareSearch Website

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Authors

DR JENNIFER TIEMAN

PhD, MBA, BSc(Hons). Director and Co-Chief Investigator, Australian Knowledge Network in palliative care. Since her appointment in 2006, Dr Tieman has been responsible for the development of the Australian Knowledge Network in palliative care. This national resource provides information for those providing, and affected by, palliative care. The Network is primarily concerned with knowledge retrieval, dissemination, and the investigation of approaches that encourage the use of evidence in health. Dr Tieman has also been involved in the development of key guidelines for palliative care, including the NHMRC endorsed Guidelines for Palliative Care in the Community Aged Care Setting (COMPAC) and guidelines for palliative care in residential aged care settings (APRAC).

ASSOCIATE PROFESSOR PETER MARTIN

MB, BCh, BAO, PGDipPM, MMed, FChPM. Peter is an Associate Professor at Deakin University, the Director of Palliative Care for Barwon Health, and Chair of the CareSearch National Reference Group. His clinical and research interests include cancer anorexia / cachexia syndrome and medical informatics in palliative medicine. Peter also has a strong teaching interest in healthcare communication skills.

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About this White Paper

This publication is a RePaDD White Paper and Research Report.

The RePaDD White Paper and Research Report Series provides researchers and policy makers with evidence-based data and recommendations. By organising, summarising, and disseminating previous and current studies, the series aims to inform ongoing and future research in palliative care, death, and dying.

Contact

Enquiries regarding this White Paper and Research Report should be directed to the lead author, Dr Jennifer Tieman.

Phone: +61 8 7221 8237

Email: jennifer.tieman@flinders.edu.au

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Acknowledgement of Country

Flinders University was established on the lands of the Kurna nation, with the first University campus, Bedford Park, located on the ancestral body of Ngannu near Warriparinga.

Warriparinga is a significant site in the complex and multi-layered Dreaming of the Kurna ancestor, Tjilbruke. For the Kurna nation, Tjilbruke was a keeper of the fire and a peace maker/law maker. Tjilbruke is part of the living culture and traditions of the Kurna people. His spirit lives in the Land and Waters, in the Kurna people and in the glossy ibis (known as Tjilbruke for the Kurna). Through Tjilbruke, the Kurna people continue their creative relationship with their Country, its spirituality, and its stories.

Flinders University acknowledges the Traditional Owners and Custodians, both past and present, of the various locations the University operates on, and recognises their continued relationship and responsibility to these Lands and waters.

About the RePaDD

Death and dying will affect all of us. The Research Centre for Palliative Care, Death, and Dying or RePaDD works to make a difference to the care of persons at the end of life.

We examine the universal experience of dying and create innovative solutions for people living with a life-limiting illness, their carers, and the clinicians caring for them. Our members lead major national palliative care projects in Australia. Our team of multidisciplinary researchers and experts work collaboratively with various organisations and funding agencies to deliver impact. We also strengthen research capacity by offering evidence-based resources, researcher education, and training and scholarships.

Our research

We focus on the following research areas:

Palliative care across the health system: We conduct clinical and service studies and develop online palliative care resources and applications. Our work in this area contributes towards ensuring that quality palliative care can be delivered in all healthcare settings - whether in hospitals, aged care, homes, hospices, clinics, or the community.

Death and dying across the community: We examine and respond to community and consumer attitudes, views, and needs with respect to death and dying and palliative care. Our research in this area empowers the wider community to make informed decisions by raising awareness and building death literacy.

Online evidence and practice translation: We build, synthesise, and disseminate the evidence for palliative care. We also create innovative digital solutions to improve evidence translation and use. Our research in this area builds palliative care capacity of the health and aged care workforce, access and use of information by health consumers and the community.

Further information can be found at flinders.edu.au/repadd

About CareSearch

The CareSearch Project consolidates online palliative care knowledge for health professionals, people needing palliative care and their families, and for the general community. Our project is responsible for two major websites, the [CareSearch website](#) and the [palliAGED website](#). The CareSearch Project also works closely with a number of other projects to maximise impact within the sector.

Further information can be found at caresearch.com.au

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Executive Summary

Evaluation plays a critical role in the design, development, management and improvement of online resources. In addition to enabling developers to assess the success of a given project, the collection and review of data can help to inform decision-making about online products, activities and services.

The CareSearch palliative care knowledge network is an online resource consolidating evidence and quality information for palliative care health professionals, patients and their families. This White Paper reports on the development and implementation of an evaluation framework to assess the use and usefulness of the CareSearch website.

The evaluation framework comprised four focus areas - *Access*, *Use*, *Usefulness* and *Process* – and a series of activities and projects were undertaken to assess the effectiveness of the project and resource in each of these areas. Usability testing led to iterative improvements in the graphic design and site architecture, and feedback surveys helped to identify potential users who were unaware of the site and determine levels of satisfaction of existing users. Site metrics established patterns of use and areas of interest, and correspondence analysis and resource requests provided measures of quality and use.

Further evaluation studies will be undertaken against this framework to show whether online delivery of information can result in changes to clinical practice.

Ultimately, it is hoped that the simple conceptual framework for the evaluation of online resources described in this White Paper will contribute to a much-needed reorientation of focus - from the assessment of the content and structure of online resources to an evaluation of their purpose and utility.

Introduction

Evaluating the success of a project or activity can be a complex process influenced by the purposes of the evaluation as well as the methods and measures used in carrying out the evaluation. Evaluation has often been used as a way of assessing the “success” of a project. It can be linked to economic rewards such as continued or expanded funding. It has also been used as a way of ensuring accountability in the delivery of projects ensuring that agreed benchmarks or goals are achieved. Increasingly its role in improving activities through developmental activities or through subsequent iterative cycles has been recognised. In all these aspects its fundamental role is to assist in decision making.

In 1997, Patton eloquently described the purpose of evaluation in the following terms:

As not everything can be done,
there must be a basis for deciding
which things are worth doing
(p.4).¹

This definition recognises a relationship between decision making and assessment that lies at the heart of evaluation activities. Importantly it recognises that assessment relates not only to a mechanism for measuring activity or outcomes but also to the need to determine what is valuable and should therefore be measured.

This challenge of finding what is important to evaluate raises many issues. Rowena Cullen has highlighted a number of these considerations in her papers dealing with evaluating

digital libraries in the health sector.^{2,3} These papers describe approaches used in collecting data and efforts to identify evaluation dimensions in this field.

The nature of the Information and Communications Technology (ICT) environment introduces potential confounders. Trying to establish an association between the introduction of a resource such as a website or specific knowledge contained within a website and a change in action or behaviour is both conceptually and practically difficult. Yuosf’s recent review of evaluation frameworks used in health informatics and information systems further suggests that these frameworks emphasise different aspects relating to human, organisational and technical factors of system design, development and use.⁴

The CareSearch Project

When an illness cannot be cured, the focus of care changes to helping patients to have the best quality of life possible while managing their symptoms. Palliative care addresses physical, emotional, spiritual and social needs associated with death and dying.⁵ Palliative care will affect all of us at some stage in our lives whether as a patient, carer, family member, neighbour or friend. Yet it has been as hard for those living with life-limiting illnesses to find reliable and trustworthy information about palliative care. It has also been difficult for health care professionals to find the underlying evidence. In effect, there has been a gap between the knowledge base for palliative care and its intended users and recipients.

In response to these needs, the Australian Government Department of Health and Ageing funded CareSearch, an online palliative care resource located at www.caresearch.com.au, and launched in May 2008. The project includes:

1. A multi-layered website to meet the information and resources needs of all providing or affected by palliative care including palliative care specialists, researchers, educators, general health professionals such as GPs, nurses and allied health professionals, volunteers, patients, family and carers.
2. A repository of Australian palliative care “grey” literature.
3. A research data management system to support the development of the evidence base for palliative care.
4. Links to National Palliative Care Program initiatives and to other health and social care initiatives that affect palliative care.
5. A framework of information, tools and functions to support the translation of evidence into practice.

Evaluation has been a key component of the project’s activity and has informed the development of the resources as well as assessing their use.

Developing the Methodology Framework

When considering the role of evaluation for the project and the various purposes and approaches that could be used, the need to create a structure that linked potential activities into a conceptual framework and provided a basis for determining the priority of evaluation activities was recognised. The core deliverable for the project was to create an online network resource for the palliative care clinical and consumer community.

Potentially, evaluation can play a central role in iteratively improving resources during design and development phases. However, formative and process evaluations do not provide information about the use and impacts of the resource on intended and actual users. Summative evaluation is needed to determine whether these objectives are being met. An evaluation framework was needed that could organise the many purposes of evaluation and uses of evaluation findings. Program logic was used to help characterise the various players, purposes and short and long term outcomes.⁶

The overarching structure of the evaluation framework was built around four simple focus areas:

Access: The resource is built to enable access by intended users

This focus area emphasises development activities and promotes

formative evaluation activities to provide feedback dynamically to the project. It also enables best practice standards to be addressed.

Use: The resource is used

This focus area looks at measures of use. It uses measures such as site visits and page views to track web use. Participation data provides information on use of registered functions and resources. Specific evaluation activities such as feedback surveys of online visitors or awareness and use surveys of intended user groups provide further evaluation data.

Usefulness: The resource makes a difference

This focus area addresses whether the resource made a difference to actual practice. This work looks at how the resource contributes or affects the intended health activity or decision making. These studies are still in train or in the development stage.

Process: The project is well managed

This focus area provides ongoing feedback as to the conduct of the project itself. It identifies project milestones and tracks process indicators such as volunteer contributions to the project.

The overarching evaluation framework provides a focus for evaluation activities and projects that are

developed and analysed independently but that can contribute to a broader picture of the functioning of the resource. It also encourages a deeper consideration of the possible role of the website's content within a clinical setting which in turn leads to discussions as to how to evaluate this possible role and contribution.

Various evaluation activities have been developed to meet the specific objectives within these focus areas, and to answer particular questions. Different methodologies are used depending on the specific issue being investigated. Where possible data that is being collected as part of normal activities is used for evaluation purposes.

The framework of evaluation activities that have been completed or are in planning or data collection phases are described in Table 1. Examples of the findings and their implications for the project are also included in the table.

Table 1. Evaluation Activities within the Evaluation Plan

Evaluation Focus Area	Evaluation Question	Evaluation Method	Activity Status	Examples of Findings and Project Implications
<p><i>Access: The resource is built to enable access by intended users</i></p>	<p>Are intended users ICT ready?</p>	<p>eHealth literacy survey</p> <ul style="list-style-type: none"> • Consumer • clinician 	<p>Complete</p>	<p>Digital divide means that not all intended users will be able to access through the internet</p> <p>Create print ready pages.</p> <p>Promote offline distribution</p> <p>Establish readability standards</p>
	<p>What content should be included and who are the intended users of the site?</p>	<p>Consultation workshop</p> <p>Presentation feedback exercises</p> <p>Stakeholder meetings</p>	<p>Complete</p>	<p>Particular groups have specific content needs.</p> <p>Need to create different pathways</p>
	<p>Is the web design and page layout user friendly?</p>	<p>User testing exercises</p> <ul style="list-style-type: none"> • In-house • External usability acceptance testing 	<p>Complete</p>	<p>Dual navigation menu is acceptable</p> <p>Home page needed to be redesigned to facilitate movement</p>
	<p>Are there technical issues?</p>	<p>Web expert review</p>	<p>Complete</p>	<p>Wasted “prime “ real estate on home page</p>

Evaluation Focus Area	Evaluation Question	Evaluation Method	Activity Status	Examples of Findings and Project Implications
	What is best practice in web design?	Evidence search and team assessment	Complete	Research evidence informs content development and web design
Use: The resource is used	Are people coming to the website?	Web metrics program	Ongoing	Increase in visits, page views Changing patterns of sections Time variables
	Do external organisations and agencies promote CareSearch?	Media monitoring Web scanning	Ongoing	Web links and electronic newsletter inclusions highlight organisations and groups promoting the resource. Enables marketing refinements
	Where do site users come from?	Referring site analysis	Complete	Shows that many hospitals and academic departments include links that are used. Demonstrates the importance of search engine referrals
	What information needs bring users to the site?	Search term analysis	Complete	Page position for CareSearch on search engine results led to search engine optimisation for some pages

Evaluation Focus Area	Evaluation Question	Evaluation Method	Activity Status	Examples of Findings and Project Implications
	What pages are being used?	Page popularity analysis	Complete	All sections in the website are being used.
	Are palliative care workers using the site?	Palliative care service survey	Complete	70% of those working in specialist palliative care are aware of the site and 50% use it.
	Do site visitors find the site useful?	Online feedback survey	Complete	Site visitors found the site easy to use (94%), credible (99%) and would recommend it to others (96%)
	Are services and organisation interested in learning more?	Request and presentation log	Ongoing	80 organisational requests for resources in first six months 20 requests for presentations
	Do other indicators provide proof of interest?	Newsletter registrations Registration for functions	Ongoing	Monthly email distribution list: 1,400 Nurses newsletter: 300
Usefulness: The resource makes a difference	Are people using the resources in practice?	Correspondence analysis	Ongoing	Requests for additional specialist information demonstrate that the available information has been used.
	Is the resource supporting other activities?	Participation measures	Ongoing	There is significant Involvement with other palliative projects.

Evaluation Focus Area	Evaluation Question	Evaluation Method	Activity Status	Examples of Findings and Project Implications
	Are there surrogate measures that indicate usefulness?	Download metrics	Complete	Download requests for draft palliative care community guidelines were high. Patterns of access of online learning module suggest that users are involved in continuing education.
	Do GP use and make use of the information in the GP pages?	Site log analysis GP focus groups	Complete	GP pages are being viewed. The content is valuable. GPs need to be supported in finding and using resources due to workload.
	How do clinicians and consumers use the resources?	Focus group Planned	Planned	
	Does access to the online information and evidence change practice?	Controlled trial	Planned	
	How has a Research Data management System influenced evidence generation in palliative care?	Stakeholder/user interviews	Planned	

Evaluation Focus Area	Evaluation Question	Evaluation Method	Activity Status	Examples of Findings and Project Implications
<i>Process: Project is well managed</i>	Are project deliverables being achieved?	Project tracking system	Ongoing	All reporting milestones met
	Can we demonstrate engagement with the community?	Contributor log	Ongoing	Over 130 volunteer contributed to the project in 2008.
	Does the project meet national and international standards?	Accreditation	Complete	Compliance with Health Insite and HONCode
	Are we contributing to the knowledge base?	Conference presentation Journal publications	Ongoing	14 conference presentations in 2008 4 journal articles in 2008

Discussion

Evaluation provides a valuable approach to developing and assessing projects that exist in online environments. As ICT projects can be expensive, formative evaluation processes such as user testing can provide key information at critical points of the design and development. As few as five user testers can identify up to 85% of possible errors and issues.⁷ Importantly, if done during the development phase, these issues can be rectified prior to release.

Often the outcomes or impacts of ICT projects are indirect. Simplistic evaluation strategies can finish with the creation of the system, program or website. The evaluation framework developed for the CareSearch project sought to extend this thinking through the cycle of development to an examination of planned and unintended uses and impacts.

The focus on evaluation has had a number of effects within the project. Firstly, it has reoriented the focus from content and structure to purposes and utility. Engaging with intended users has driven the project to find solutions and resources to support user's needs and activities. For example, user testing and consultation activities have identified where forms and databases need modifying to improve the user's experience.

Looking at purposes has ensured that available ongoing measures are interrogated for their meaning. Site logs and web based data collections are analysed for changes in pattern. Data that is collected is extracted for sample periods to assess how elements and components are used.

For example, analysis of referring site URLs showed that hospital and university sites were including links on their websites or intranets that were being used by staff or students.

Future work on impacts and outcomes of the online resource will provide information on whether desired changes in knowledge and/or behaviour can be delivered through the online resource and how the system can be modified to improve transmission and uptake of information. While this work will be particularly challenging in terms of identifying the most relevant measures and means of assessing impacts and outcomes, it also could provide the most valuable information about online resources.

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