'Like Herding Cats': Evaluating quality for continuous improvement in chronic condition self management training programs'

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Abstract

Chronic condition self management (CCSM) is a relatively new concept in health and medical practice, though one being increasingly promoted as a key strategy for addressing the growing burden of chronic disease around the world.

The Flinders Human Behaviour and Health Research Unit (FHBHRU), operating within the School of Medicine, Flinders University has been conducting a multi-tiered training program in chronic condition self management for diverse health professionals since November 2001 and particularly within the national 'Sharing Health Care Initiative'. This program has now involved over 1090 participants in 89 workshops delivered in all Australian capital cities, many regional centres and a range of remote Aboriginal communities.

More recently, FHBHRU has become involved in a range of policy and program development initiatives relating to CCSM education and training for both health professionals and consumers across Australia, including the preparation of comparable quality assurance standards and processes for a variety of well-established and new CCSM training programs.

This presentation will examine:

- Lessons learned from the evaluation of FHBHRU training workshops for health professionals;
- Design and development of statewide (South Australian) and national quality assurance standards and evaluation processes which support continuous improvement for health professional and consumer oriented CCSM training programs;
- Implications of these learnings and models for creating sustainable continuous improvement in large scale training program rollout.

Introduction

In 2001, the Flinders Human Behaviour and Health Research Unit (FHBHRU) was contracted by the Australian Government Department of Health and Ageing (DOHA) to develop and deliver a range of education and training for health workers in chronic condition self- management (CCSM) as a key part of the Sharing Health Care (SHC) Initiative. This followed from pilot work undertaken by the Unit (formerly the Coordinated Care Unit) during the SA HealthPlus Coordinated Care Trials, in developing a model to enhance self-management. This model, now known as the Flinders Model, is central to the workshops. The workshops were first piloted in 2001, commenced formally in March 2002 and are continuing until the present time.

These FHBHRU workshops were initially promoted to SHC Projects. There has, however, been an increasing demand from organisations and health services outside of these SHC projects. This paper is based upon evaluation surveys completed by participants in both SHC and non SHC training workshops until June 30th 2004. It addresses:

- A brief overview of the training program;
- An outline of key findings from the summative analysis of participant evaluation surveys;
- The journey of continuous quality improvement in this training program and the role of evaluation in this process;
- Lessons arising from this process and their implications for future evaluation practice.

Training Program and Evaluation Overview

The workshops varied in length from two hours to two days. A total of 1090 attendances at 89 workshops have been recorded until June 30th 2004. Of these, 49 workshops have been for SHC projects with 442 attendances.

Evaluation surveys were collected systematically from as many participants as possible. All participants in the Three Hour Overview Workshops were asked to complete an evaluation questionnaire at the close of the session and containing nine questions. Five questions required the participants to rate each statement on a four point scale, namely, strongly agree (1), agree (2), disagree (3) and strongly disagree (4). Each of these questions included space for comment and in addition there were four open-ended questions and one tick box question.

For One Day and Two Day Workshops it was expected that all participants would complete pre-and post-workshop questionnaires. The questionnaires were designed to determine:

- the participant's attitudes to self management. Attitudes were evaluated by looking at the importance that participants placed on various components of self-management; and
- the participant's confidence and ability to use self-management strategies.

Evaluating the importance and confidence of participants in implementing self-management follows directly from the work of Rollnick, Mason and Butler, (1999). Participants rated each statement on a five point scale, namely, strongly disagree (1), disagree (2), unsure, (3) agree (4) and strongly agree (5).

The post workshop questionnaire also contained a set of open-ended questions and rating scales for session content and presentation.

While regular evaluative 'progress reports' were submitted to DOHA during the training program, there was no requirement to collectively evaluate all of the workshops and /or funding to support this until May 2004 and as a result there was no specific, prospective framework created for this summative evaluation process. The evaluation questionnaires have also changed over time and amalgamation of some of the data has been difficult.

When the summative evaluation was contractually specified, the aims were to provide:

- a summary of the participants by profession, workshop attended and post workshop activities;
- changes in participant attitudes and beliefs as measured by the workshop evaluation questionnaires;
- data from the Sharing Health Care Initiative projects and the FHBHRU privately run workshops, included both separately and in aggregated form in an evaluation report.

Key Findings from the Summative Evaluation

Participants Attitudes and Beliefs

Overall, participants:

- showed a high level of interest in self-management and models that enable self management to be implemented;
- rated the usefulness of the Flinders tools as high;
- indicated that their understanding of the principles of self-management had improved significantly following the workshops;
- indicated that their rating of the importance of key self-management tasks in the management of chronic conditions improved significantly.

Participants from the longer, more skills based one or two day workshops also showed significant improvement in their rating of the confidence they felt in using the tools associated with the Flinders model on the post test.

Workshop Content and Delivery

Participants consistently indicated a high level of satisfaction with:

- workshop content and its usefulness;
- the delivery style of the facilitators;
- interaction with other participants;
- the opportunity to work with volunteer clients. (in the 2 day workshops);
- support material.

Challenges for Implementing the Flinders Model

Participants consistently identified a similar range of issues relating to implementing the Flinders model. These related to:

- the time required to deliver the model within current funding provisions
- support from management for practice change;
- support from general practitioners; and
- current work roles and the expectations of that role.

Support and Followup

Follow-up was available for two-day workshop participants to support the skill acquisition that leads to behavioural change. Individual feedback to participants when they submit completed care plans has now replaced the teleconferences offered initially. Submission of three care plans is required for a "Certificate of Competence". Early evidence suggests that this approach increases the likelihood of behavioural change among these participating health workers.

In addition all participants are encouraged to use the Unit for support and advice, were linked to the FHBHRU website and have received regular newsletters.

Some Surprise Results

Length of Workshop - Comparing the results of these 'Understanding' statements from the One and Two Day Workshops reveals an unexpected pattern – the consistently higher ratings from the former type of workshop. This may be explained however by the deeper learning which occurs for participants during the second day (when practice with a 'live patient', discussion of this experience and practical implementation planning are the focii). Such deeper learning may change perceptions of understanding, and form a more realistic appreciation in participants minds about 'how much I now know about what I still need to learn'. This speculation however clearly demands follow-up evaluative evidence to test it.

Preparation for Learning ? - In broad terms, well over 90% of respondents indicated that the aims of these workshops (ie to increase knowledge and understanding) had been achieved for them personally,

as indicated in Tables 3, 4, 5 and 6. Notable in each of the 4 questions relating to this however is that SHC results are consistently more positive (ie. a higher proportion of 'Strongly Agree' responses) than those from the Non-SHC workshops. This may have been due to the SHC Projects providing a more informed context for participant learning (ie. they were better prepared by their SHC project manager prior to the workshop). This is another question which invites further investigation.

Recommendations

On the evidence collected from the evaluation surveys, it was suggested that 'the FHBHRU workshops have had a significant positive effect on health practitioners' attitudes and beliefs about CCSM concepts and tools' and that on this basis, the following recommendations were proposed.

1. That the FHBHRU continues to offer:

- Short sessions which aim to inform and encourage discussion about CCSM;
- Longer format (eg two day) workshops that aim to increase the CCSM skills of participants;
- Support for participants post workshop to gain a "Certificate of Competence" in order to embed these skills;
- Training of "Trainers" who can provide CCSM workshops to other health professionals.

2. That the FHBHRU consider the details of workshop participant feedback as a key part of the periodic rigorous review and continuous improvement of workshop provision.

3. That the FHBHRU adopt an expanded and more systematic approach to the evaluation of practitioner behaviour change after workshops.

4. That the FHBHRU continue to actively support workshop participants as they implement the model within their clinical situation.

5. That the FHBHRU actively track the development of all clinical applications.

6. That the FHBHRU develop and promote clear quality assurance standards and processes for promoting continuous improvement in its own training and in the Flinders model of CCSM training delivered by other non-Unit trainers.

7. That the FHBHRU plan to licence those that have trained and investigate the licensing of organisations implementing the Flinders model.

7. That adaptation of the Flinders model to provide a "short" version is considered as a means of addressing some of the difficulties participants noted in planning to implement the model.

8. That the key barrier to the uptake of the Flinders model in general practice must be addressed by DOHA- that of the lack of specific recognition of CCSM work within MBBS EPC guidelines.

Further details will be available early in 2005 from this analysis in a report currently being finalised for DOHA by the Flinders Human Behaviour and Health Research Unit, and titled 'Evaluation of the aggregated Flinders Human Behaviour and Health Research Unit Chronic Condition Self-Management Training Workshop Data'.

3. Formative Evaluation and the Journey of Continuous Improvement in Training and Evaluation

As previously noted, formative evaluation data was collected from each training delivery in order to produce regular progress reports for DOHA. This data was largely of the 'happy scale' variety and built upon the relatively naïve assumptions of a 'linear change' training model (ie. training -> behaviour change -> practice change).

For the trainer(s), a focus upon delivery rather than evaluation of this delivery lead at times to a lack of emphasis on the latter activity in workshops and occasional lapses in data collection.

Nevertheless, examining this feedback data and a strong team commitment to producing effective outcomes and quality improvement continued to provoke reflective thinking about the training program, resulting in frequent incremental program changes and occasional more radical upgrades. These changes ranged from refinements to program content, tailoring for specific audiences and trialing of new learning activities to the testing of new presentation formats and more engaging, meaningful followup activities (ie. presentation of three care plans for a 'Certificate of Competence' rather than participation in a teleconference).

How was evaluation implicated in this process? In broad terms this involved an increasing questioning of both our training and evaluation models, and the incremental introduction of changes to address the problems identified. This included a recognition that our informal sources of evaluation were highlighting issues which our formal evaluation model had failed to.

The 'Stages of Change' model of Prochaska and DiClemente (1983) provided us with a potentially invaluable theoretical starting point for considering some of these issues. These authors describe a readiness for individual behavioural change in terms of 5 steps: pre-contemplation, contemplation, planning, active change and change maintenance. This appeared to be a key insight for both training and clinical change processes. Our experience and reflection led us to place some significant caveats upon this conceptualisation however, and in particular that this model:

- cannot be accepted as a linear, uni-directional process;
- should not overlook the individual experience of often simultaneously managing a number of behavioural changes and at different stages in the process; and
- should encourage the 'Stage 5' (change maintenance) exit point as an opportunity for the individual to celebrate his or her achievement then consider the next behavioural change progression.

With that said, an adaptation of the clinical tool developed by the Canning Division of General Practice (WA) to evaluate 'Stages of Change' in our CCSM training program may yet prove useful to us.

Hall (2001) reframes and extends this approach in terms of 'Levels of Use of an Innovation', teasing out seven levels: non-use; orientation; preparation; mechanical use; routine; refinement; integration; and renewal. Furthermore, he and his colleagues have created a 'Level of Use Branching Interview' to systematically map the decision-making pathways of this 'LoU' (Loucks, Newlove and Hall, 1975). This evaluation tool would appear to offer a practical, thorough and generic means of determining the extent and cognitive means by which our training has been integrated into practice. It is a tool we will explore for selective, 'strategic interviews' in the future.

From another crucial perspective however, such representations fail to recognise that successful workforce education and training change initiatives are delivered in a context which extends beyond individuals to include team, organisational and systems factors. Such factors may involve for example team dynamics, leaders, mentoring, workplace culture, strategic plans, funding arrangements, policy and legislation (Roche 2001), some of which were identified in the summative report as 'challenges' facing trainees in planning for the implementation of the Flinders model.

If evaluation is to inform a wider understanding of the impact of education and training and the barriers to achieving this impact, it clearly needs to move in tandem with a more systemic model of education and training and beyond quality assurance focused on 'process evaluation' (ie. 'how well was training delivered) and towards 'performance evaluation' in terms of both short (eg. acquisition, behavioural intentions) and longer impacts (eg. workplace change) (Armstrong 1997).

Kirkpatrick (1994, 1998) suggests that training outcomes be evaluated on four levels:

- Reaction: participant perceptions of training;
- Learning: reported positive changes in knowledge, skills and attitudes;
- Behaviour: individual work practice changes;
- Results: organisational outcomes and benefits.

FHBHRU came increasingly to see that their evaluation strategy was limited to the first two of these.

Armstrong (1991, 1996) has expanded Kirkpatrick's list to more systematically address major outcome stages and potential 'blockage points'. These include:

- Reaction;
- Learning Acquisition;
- Behavioural intentions;
- Work behaviour including actual behaviour and performance quality;
- Changes in others;
- Organisation changes (eg. plans, reviews);
- Performance (eg. outputs, productivity, effectiveness).

Responding to the need for a more inclusive but readily collectable indicator of training impact, FHBHRU introduced 'behaviour intention' questions in late 2003, with evaluation of the further stages limited by available funding.

Simmons (2004) has recently signalled FHBHRU the means of systematically mapping and evaluating the barriers to consumer uptake of diabetes management strategies and potentially health behavioural change in general using a 'trans-theoretical model'. His 30 barriers are clustered into 5 categories:

- Psychological: motivation, health beliefs, stages of change;
- Educational: limited knowledge of condition, services;
- Internal Physical: co-morbidities, treatment side-effects;
- External Physical: finances, access to services; and
- Psychosocial: prejudice, lack of family support, unsatisfactory care.

Simmons argues for a 'structured approach to these barriers (to) rip them away'.

Building a suitable evaluation tool to identify and assess the barriers for health professionals seeking to implement CCSM may enable both the trainers to shape the workshops and health professionals to develop strategies to more effectively address these barriers.

Armstrong (1997) advocates that training evaluations include identification of 'the difficulties and how they could be overcome' in subsequent workplace practice. This activity has been built into an 'action planning' session in longer training workshops and has continued to produce informative and data.

Taking this on step or two, Armstrong (1997) also proposes the use of organisational benchmarks against which performance might be measured. FHBHRU is currently applying this approach in a mapping the uptake of CCSM in the curriculum of health and medical courses nationwide and with this experience, will consider for future planning evaluations.

Finally, Armstrong (1997, p62) argues that systematic evaluation for performance improvement 'is most successful when it is integrated with strategic planning' and ' involves people at all levels' such as might be indicated in individual and team appraisals and strategic planning documents. This is an evaluation challenge which lies ahead of the FHBHRU team but one they plan to advocate for inclusion in key policy documents at organisational, state government and national levels.

4. Lessons arising from the Summative Evaluation

Stufflebeam (2001: 185) highlights 4 core criteria for an effective meta-evaluation:

- Utility providing practical information to meet the needs of the primary audience;
- Feasibility practical, cost-effective and politically feasible to implement;
- Propriety ethical conduct regarding evaluation subjects and those affected by outcomes;

• Accuracy - information that is valid and reliable for its intended use.

Major lessons derived from the Summative Evaluation are sketched below, then reviewed finally with these criteria.

Lack of a Summative Evaluation Prospective Strategy – Immediately the requirement of producing a summative evaluation for DOHA came into focus the challenges of creating a 'retrospective strategy' for implementing this evaluation also begun to present themselves to the FHBHRU team. Like much organisational decision making, the significance of creating this broader evaluation framework was clouded by the pressures of meeting everyday contractual obligations and a predominant culture of reactive, incremental change. This local pattern was probably a mirror of similar processes at work in the Commonwealth bureaucracy, with perhaps an additional uncertainty about the value of investing in 'strategic evaluation' (ie. as distinct from program / project 'monitoring'). For whatever reasons, the team came to realise that they had seriously miscalculated the importance of establishing this evaluation framework when the training program begun, and faced a considerable series of patching up' problems as a consequence.

Internal Evaluation – One significant weakness in the FHBHRU approach to evaluation was that those compiling the evaluation reports and analysing results were also the workshop trainers – key 'objects' of the evaluation. While there are clearly advantages in using 'insiders' to undertake an evaluation activity, and these were demonstrated in the continuous improvement process implemented, there are also drawbacks, and the team has been grappling with these. Among these weaknesses were the potential for 'vested interest' bias and the analytic myopia which can result from being 'too close to the action'. Using repeated quantitative and qualitative measures and supporting report conclusions with this data were employed as checks on these potential problems but this was hardly an ideal solution.

'Blunt Tools' – The absence of an experienced external evaluator acting as consultant at the beginning of the program lead to the pragmatic adoption of some relatively 'blunt' evaluation tools – 'happy tick' scales which in the 'glow' of the immediate post-workshop context may have had limited validity in predicting the longer term attitudes towards and application of the Flinders tools presented. This is illustrated in the following table.

	Strongly Agree	Agree	Disagree %	Strongly Disagree %	Total no of respondents
SHC	52	47	1	-	123
Non SHC	31	69	-	-	75
Total	41.5	58	.5	-	198

Table 1: I have a better understanding of self-management as a result of the workshop (Question 1)

Table 2: I understand how the assessment instruments (PIH & C&R) can be used to assess a patient's current self-management practice (Question 2)

	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %	Total no of respondents
SHC	45	52	3	-	123
Non SHC	26	74	-	-	75
Total	35.5	63	1.5	-	198

 Table 3: I understand the use of the Problem & Goals approach (Question 3).

Strongly Agree	Agree	Disagree	Strongly Disagree	Total no of
%	%	%	%	respondents

SHC	47	52	1	-	123
Non SHC	31	69	-	-	75
Total	39	60.5	.5	-	198

The range in these results across these three sequential questions and between groups however hints that that these questions may be at least sensitive enough to register the impact of other factors at work here.

Further, the unexpected result indicating that two day workshop participants consistently rated their 'understanding' of the tools lower than participants in one day workshops may suggest that these tools were also sensitive enough to distinguish learners who were becoming aware of the complexity of the tools and the challenges of their application. Nevertheless, some longer term impact assessment, at least one month after training, would have proven useful as a check on the 'glow' effect. Regrettably however, the original questionnaires were destroyed, thwarting any attempt at matching individuals at this stage.

Diverse Formats - To address the needs of participants, a range of workshop formats were delivered. The most common were three hour overview sessions and full two day workshops, although one hour, half day and one day workshops have also been given. The shorter sessions tended to be information rich while longer sessions also aimed to teach participants specific skills that result in behaviour change for consumers with chronic conditions. Comparing outcomes from all of these activities may have been fruitful (eg. satisfaction levels, knowledge retained) but was made somewhat difficult by the differing objectives of these workshop types and prevented by the use of different evaluation questions and formats.

Table 4: Workshop and participant numbers

Workshop Type	3 hr	6 hrs	1 Day	2 Day	Train the Trainer	Total
Participants Nos.	306 (140)	33 (33)	86 (67)	669 (248)	34 (12)	1128 (500)
No. of workshops	28 (13)	3 (3)	7 (6)	46 (24)	5 (3)	89 (49)

(Figures in brackets () indicate number of SHC Participants.)

Diverse Workshop Participants

A wide range of workers from across the health workforce were involved in these training workshops including Aboriginal health workers (45 SHC, 63 total), allied health professionals (185 SHC, 453 total), nurses (142 SHC, 340 total) and medical practitioners (48 SHC, 148 total). The diversity of these occupations may be represented in the following table. This diversity potentially warranted an occupational analysis of training responses and outcomes, although this has not been attempted by FHBHRU to date.

Table 5 : Attendance Results - Health Workforce Groups



Diverse Trainers - Seven FHBHRU trainers have conducted these workshops, and either individually, in pairs (the usual format for longer sessions) and as a team. From a quality assurance view in relation to individual trainers and a cost-benefit view of 'single vs pairs of trainers a comparison of outcomes from these difference trainers and options would appear justified.

Diverse Contexts – Training was delivered in all Australian states and territories. Table 3 shows that the distribution of training activity across states has varied significantly to date, from a low of 3 in Victoria to a high of 20 in NSW with notable peaks in South Australia (15) and Tasmania (11). These patterns tended to reflect the variable level of interest from SHCI projects in each state for using the Flinders model and the degree of financial and policy commitment from state governments to implementing CCSM (eg. high in NSW).

State		3 Hour	1 Day	2 Day	TTT	Other	Total/ State
	SHC	2	2	1	1		6
ACT	Non						
	SHC						
New South	SHC		2	1	1		
Wales	Non	7		8	1		20
vv ales	SHC	/		0	1		
Northorn	SHC	1		5			6
Torritory	Non						
Territory	SHC						
	SHC	4		2			6
Queensland	Non						
	SHC	2		6	1		15
South	SIC	L		0	1		15
Australia	Non			5	1		
	SHC			-			
Tasmania	SHC	6		1		1 x	
	SIL	0		4		change	11

Table 6: Number of workshops held per State

State		3 Hour	1 Day	2 Day	TTT	Other	Total/ State
	Non SHC						
	SHC						3
Victoria	Non SHC			3			
Western	SHC	1	2	1			5
Australia	Non SHC			1			
Total		23	6	37	5	1	72

In addition to these longer sessions and workshops, during this time the Flinders team presented over 250 shorter sessions (ie. less than 3 hrs in length) about the Flinders model of CCSM to diverse audiences and at conferences, workshops, seminars and lectures around Australia. Furthermore, training was provided in settings ranging from very remote Aboriginal community halls to rural city health centres and capital city acute hospitals. More analysis is desirable to determine the relative impact of these contexts on training outcomes.

Changing Evaluation Strategies and Tools - Evaluation was undertaken as systematically as possible for all workshops, with an overall response rate of 90% of participants completing surveys. There have been some changes in the survey questions during this period however, making data set comparisons difficult at times. These ranged from the minor eg:

- I have a sound understanding of (OR *I understand*) the principles of chronic condition selfmanagement);
- I help my client define their problem(s) from their perspective (OR *Define the problem from the client's perspective*);
- I systematically assess a client's self-management practice (...to understand how people are self managing).

to the potentially significant eg:

- I can contribute to development of Multi-Disciplinary (EPC) Care Plans for clients (OR *I* understand how to use the EPC Items for care planning);
- I have a sound understanding of (OR *I understand*) the principles of chronic condition selfmanagement;
- I can assess a client's self-management practice systematically (OR *I can assess how a client self manages* OR *The workshop has improved my ability to assess a client's self-management practice systematically*).

More major changes to the workshop format and evaluation survey resulted in the exclusion of data from 11 workshops and over 227 participants. A relatively small number of surveys with few answers completed were also not included in this report.

Greater consideration of the impact of these changes and ideally some comparison of outcomes between different questions would appear recommended for the future.

Conclusions

Stufflebeam's (2001) four meta-evaluative criteria offer a brief tool for rating this evaluation overall. In terms of utility, the objectives set for the summative evaluation appear to have been well met, with information made available to meet the specified needs of the primary audience (DOHA). It remains

debatable however as to whether these objectives were sufficient or the methodology as productive as it could have been for the DOHA program managers, trainers or the wider audience of project stakeholders.

The evaluations undertaken were clearly practical, cost-effective and politically feasible to implement in most respects and would seem to have been conducted in an appropriately ethical way in relation to participants and those affected by outcomes.

As to the accuracy of the information generated, it appears generally valid and reliable for its intended use, though with some significant caveats as discussed. A range of recommendations for improved accuracy and usefulness of this information through more foresightful evaluation planning, rigorous design and extensive, computer-based data analysis.

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