From efficacy to effectiveness: managing organisational change to improve health services for young people with deliberate self harm behaviour

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Abstract

Repeat Deliberate Self Harm is a recognised risk factor for completed suicide and therefore reduction by effective health service response represents a valid contribution to suicide prevention. However, only a small fraction of people with deliberate self harm presentations to general health settings actually reach specialist mental health follow-up appointments. Therefore, even if responses at that point are known to be effective they do not make a significant contribution to reducing repeat self-harm overall. We describe health system organisational change strategies to improve health service engagement for the target group, and present data demonstrating the effectiveness of these strategies.

Introduction

Suicide is responsible for 20% of all deaths among young people in Australia. Population rates are estimated to be 21 per 100,000 for males and 5 per 100, 000 for females (ABS 1994). The rate of completed suicides in young men has tripled since the 1960's. Suicide and attempted suicide is therefore a serious public health problem for Australia. The national youth suicide prevention strategy (National Advisory Council for Youth Suicide Prevention 1998) was a coordinated effort to tackle this problem. One contribution to reducing suicide rates occurs from interventions designed to reduce the rate of repeat self-harm behaviour. For such interventions to be successful, appropriate health system preventive action at the time of the initial self-harm event is required. This paper will discuss the organisational change issues necessary to ensure such interventions do occur in practice.

For every completed male suicide, there are approximately 30 to 50 attempted suicides; the figures for females are thought to be 150 to 300 attempts for every completed suicide (Victorian Task Force on Suicide Prevention 1997). There has been a common and incorrect assumption in both the health system and in the community that most unsuccessful attempts at suicide are not serious attempts at achieving death but are attention-seeking gestures (Platt & Salter 1987). Thus many family members and some health professionals dismiss or minimise the suicide risk inherent in what is called deliberate self-harm (DSH) behaviour. This is especially true when the DSH occurs amongst young people.

Despite this widespread conviction, there is clear evidence that many DSH attempters go on to complete suicide at some stage (Hawton et al. 1993; Spirito et al. 1994). Studies have found that at least ten per cent of clients who present to health services with DSH will have a repeat attempt within three months (Spirito et al. 1994). Thus, the provision of effective health system interventions to reduce the risk of repeat DSH has potential to reduce the completed suicide rate.

A recognised efficacious intervention to reduce risk of repeat DSH is cognitive behavioural therapy (CBT), (Salovskis et al. 1990; Linehan et al. 1991). However, fewer than 50% of people with a DSH attempt have health system follow up arranged (Nirui 1995; Linehan et al. 1991), and of those who are given an appointment, up to 75% may not attend (Piacentini et al. 1995). Actually getting people to the point where they may be offered CBT is in itself a challenge.

This poor follow-up rate may be a product of health services' responses to DSH presentations, therefore improving the response is potentially important in reducing completed suicide rates. A number of procedures have been demonstrated to be effective in achieving the improved response. These include the use of; (1) a facilitated referral system sometimes called a 'Green Card' (Moller 1989), (2) standardised measures in the clinical assessment of both risk and protective factors at the first contact point (Morgan et al. 1993), standardised measures of health outcomes (Cantor 1994), and systematised clinical interventions (including CBT) at follow up mental health (MH) appointments after a DSH crisis presentation.

To address each of these issues appropriately, health systems responses must be comprehensive. The essential components include; systems for accurate identification of DSH, processes for coordination across various service elements such as general practitioners (GPs), hospital emergency departments (EDs) and specialist MH teams; and effective individual treatment and assertive follow-up programs. Health service staff must have adequate training so that their attitudes, skills and knowledge in relation to DSH behaviour promote effective initial engagement and clinical intervention.

Promoting Organisational change

Achieving organisational capability in these areas requires identification of current impediments to such systems of delivery and ensuring DSH is a priority for the health system.

Once impediments to the delivery of health services in this coordinated way have been identified, systematic organisational change is required and appropriate change methodologies must be used. Total Quality Management (TQM) is one such organisational change tool. It is described as a process where the organisation involves every employee in planning and implementing the way processes and systems should work (Tobin & Norris 1998). Within this model, management has the role of assisting employees to change their work practice, and of ensuring policies and procedures are developed to support the changes.

This project introduced evidence based clinical practice across a wide variety of services within available resources in a manner intended to be sustainable following cessation of the project itself. At the same time, it evaluated the process of implementation and collected data on clinical outcomes of the target group.

This project was one of the initiatives funded by the National Youth Suicide Prevention Strategy. It occurred within two regional health services in New South Wales, Australia. These comprised a metropolitan region, South East Health, serving a population of 750,000 people, and a rural region, the Northern Rivers Area Health Service with a population of 250,000. Both provide a range of child/adolescent and adult MH services covering both hospital and community settings. Their services are coordinated around geographical catchment population districts. For the purposes of this project, there were identified ten such districts services mental health across the 2 regions.

The socio-demographic profile and indices of need are highly varied. They include inner city districts with large numbers of homeless youth, beach cultures with high drug and alcohol abuse rates, regional and rural centres with significant percentages of single parent families and some districts with high Non English Speaking Background groups.

Health services for these communities are likewise diverse, and include; major teaching hospitals with fully staffed EDs, small hospitals in rural districts, community MH teams with variable crisis response capabilities and staff with differing levels of expertise in assessing and treating MH problems in younger people. Therefore, the project undertook a complex organisational change process, starting from varied baseline points determined by historical and current service delivery patterns.

The project aimed to enhance MH care for young people with DSH by improving particular components of health service systems. Specifically its objectives were to increase identification of DSH at point of contact, to implement facilitated referral systems to specialist MH services, and to encourage greater staff use of systematic assessment, intervention and outcome measurement tools.

Methodology

A steering committee managed the project. It comprised Area Directors of MH, a public health physician, a psychiatrist with specific expertise in suicidal behaviour and two senior project officers. It thus had authority to commit the services to the new direction, resources to drive the changes, expertise in determining the direction, and in evaluation methodology. The steering committee was supported by a number of project officers who worked directly with the local health services, assisting them with the collection of data, facilitating staff training and policy development and generally promoting aspects of the organisational change process.

Individual services were encouraged to move in the direction of evidence based care. The TQM approach encouraged them to identify their own goal along the route to evidence-based care.

Instruments

To evaluate the impact of the project on services, a self assessment tool for use by the ten individual service managers was devised. The major domains assessed by this tool were; (1) the crisis response, (2) acute intervention by specialist MH services (3) ongoing treatment and rehabilitation and (4) the quality of discharge management.

Across these four domains, the tool listed 81 individual organisational elements comprising components of best practice across the whole pathway of care. The items in the list included; appropriate tools for use by ED and MH staff, policies and protocols guiding each aspect of clinical care, including formal referral and discharge procedures, service capability to deliver CBT, and processes to ensure ongoing staff training. These elements assessed organisational capacity to respond to DSH behaviour. The self-assessment tool was named the Service Activity Scale (SAS).

The strategy of self assessment using the tool informed managers systematically of the elements of care that they should have in place. Additionally, its serial use at 3 time periods allowed measurement of progress towards improvements, and self-assessment helped to engage managers in the need for change. The SAS self-assessment was validated by independent checking for evidence of the presence of selected items, using a random clinical file audit at the end of the project. This process indicated a moderate to high level of agreement (Kappa 0.52) between the SAS score and elements noted in clinical files. Additional validation occurred by measuring service response times to DSH and comparing these with response times at baseline. Improvement in these response times was a proxy for improvement in service delivery systems.

To measure impact on clinical care and health outcomes for clients, a package was devised which contained standardised clinical assessment of risk factors and MH status. The elements of the package were derived from validated instruments in the research literature and modified for use by clinicians in routine clinical practice. These included the Adolescent Suicide Questionnaire (Pearce & Martin 1994), Centre for Epidemiological Studies Depression Scale (Radloff 1997), Child Behaviour Checklist (Achenbach 1991) and the Beck Hopelessness Scale (Beck & Steer 1993).

Many of the evidence-based practices proposed by the project met with reluctance on the part of many clinicians. They argued that there would be negative impacts on the client-therapist relationship, and that the changes proposed were essentially "research driven" and irrelevant to them. To overcome this resistance, a great deal of discussion was required to encourage clinicians in education about the evidence supporting these suggested interventions.

Changing clinical practice by increments

An example of the iterative process of engagement in change was the introduction of standardised assessment tools. Initially clinicians were requested to complete a long and detailed standardised assessment protocol for each person with a DSH presentation. This was rejected by clinicians because of the time commitment and its inappropriateness in the routine clinical context. An extensive process of negotiation followed. When agreement was reached, managers determined that their services would participate. The new shorter, more achievable protocol included; the Beck Hopelessness Scale (Beck & Steer 1993) instead of the Beck Suicide Intent Scale (Beck et al 1974), a routine risk assessment devised by the project team, use of one health outcome measure (Beck Hopelessness Scale). In some instances the negotiated outcome was that services were only required to undertake small aspects of change but most agreed to a service wide implementation of facilitated referral processes. The negotiations related to implementation took a full year to complete across the two Area health services.

Throughout the project, specific education about identification and management of clients with DSH and their families was provided at all sites in some form. In MH services, this involved training in the use of standardised risk assessment and intervention packages including CBT. For staff of hospital EDs, training was directed to identification of DSH, and how to facilitate referrals for specialist MH assessment and treatment. Initially the project team had considered developing packages for ED staff that increased their ability to manage DSH behaviour. However, it became clear that many were reluctant to undertake this because of an attitude that suicide issues were the business of MH, not EDs.

Project officers funded by the project grant were used to facilitate the process of change. They supported clinicians in various ways. These included; ensuring that multiple copies of assessment packages were available, providing information about using the tools, organising training programs, developing tracking systems for services and designing, customising and printing the facilitated referral systems such as the "Green Card". They also provided regular feedback to clinical staff, on grouped patient outcomes as these were collected, and to chief investigators about issues and problems related to implementation.

Data collection and analysis

Data was collected manually by the project officers. They collected de-identified and aggregated clinical data from clinical staff, serial SAS scores from managers, and information about pathways through care from services. This information included; time period between crisis contact and first MH follow-up, and reasons for attendance/non attendance at the first follow-up appointment. Service utilisation data was compared to baseline data obtained from an audit of clinical records related to a similar group for the year prior to the commencement of the project (1997).

Analysis of variance was performed to assess the degree of change in service provision over the life of the project, based on SAS scores. Changes in clinical ratings were determined using T-Tests, comparing initial assessment with that obtained at the 28 day follow-up. T-Tests were also performed to compare data between baseline file audits and completion of the project.

A comprehensive account of the process of implementation was maintained in writing by the project officers. This included process diaries detailing content of all meetings (de-identified of course). These described the mood of the meeting, expressions of support or hostility related to implementation of the project initiatives and clinical staff anecdotes about implementation issues. This was supplemented by individual project officer's views of the organisational influencers. Formal correspondence and steering committee minutes were appropriately collated. At periodic intervals, these written records were discussed by the steering committee, and subjective evaluation occurred of progress in relation to organisational culture change. As a result, subtle changes in implementation strategies were devised. These included; steering committee members becoming

directly involved at individual service sites where progress was halted. For example at one site where psychiatric registrars were expressing resistance to the implementation of any standardised assessment process, the Area Director negotiated an accepted level of involvement with the coordinator of registrar training.

Consumer feedback about what aspects of service were most likely to facilitate their attendance at MH follow up, was obtained by contacting a group of both attendees and non-attendees, to ascertain reasons for their decision. Contact with them occurred either by face to face (attendees) and by telephone interviews (attendees and non attendees), between three weeks and three months following their scheduled first appointment with a follow-up service. This contact was often attempted out of hours and on weekends, and up to nine attempts were made to contact some individuals if required. The interviews comprised a number of yes/no and open ended questions about the treatment offered/provided, and their perceptions of their own risk of repeating the self-harm behaviour. Those under the age of 18 had similar questions asked of their family member wherever it was appropriate to do so.

A questionnaire was administered by mail to a sample of staff at a number of sites. This sought formal feedback about the impact of the project, from staff of EDs and MH, including nursing unit managers, departmental managers and clinicians.

Results

Changes in service capacity were achieved. Changes in self-assessment of organisational capacity to provide more appropriate interventions for the target group were demonstrated at all sites. This was measured by changes in the total SAS scores. A significant increase in the total SAS score was found across all services ($F(2,27) = 4.59$, $p < .05$).

In three of the four domains of the SAS, significant increases were found. These were, crisis response ($F(2,27) = 8.44$, $p < .01$), acute responses by the specialist MH services ($F(2,27) = 4.25$, $p < .05$) and the quality of discharge ($F(2,27) = 4.26$, $p < .05$).

For the domain ongoing treatment and rehabilitation, there was no significant difference between the three measurement points. Improved attendance at follow-up appointments was noted.

An improved process for referral of clients from crisis contact point to specialist intervention services was implemented at all sites. At three sites with similar organisation and management structures, the impact of these changes on client attendance at follow up were compared. At the two sites where a local derivation of the "Green Card" was used, there was more improvement than at a third site where a less specific response referral was made. The less specific referral involved telling the patient that they could go to specialist service, and giving them details of how to contact the service. This difference reached significance levels. Approximately 84% of clients who received a "Green Card" referral, attended their first appointment, compared with 40% who receive the other less specific form of referral ($\chi^2 = 24.32$, $p < .001$).

There was an increase in the number of appropriate referrals of clients with DSH from hospital EDs to MH services from 73% (1997) to 83% (1998). Over in the same period, the time interval between the crisis contact and first MH follow-up appointment decreased from an average of 2.9 days in 1996 to 1.9 days at the end of 1998.

Increased use by clinicians of standardised assessment tools was small. During the 2 years of the project, 565 clients were identified at the crisis contact point, but only 25% received a standardised assessment package at their first MH contact and only 4.5% received it at the 1 month follow-up. However, the majority of compliance with this aspect of the project occurred in the final 6 months of the project. 298 people were identified in this time period and 30% received the standardised package.

Data on improved client health outcomes was limited. Of the 565 clients included in the project, only 25 could be followed up after MH intervention for reasons described below. For this small sample, mean scores at commencement were 8.1 (Beck Hopelessness Scale) and 34.5 (Centre for Epidemiological Studies-Depression Scale). At the one month follow-up, these mean scores were 5 and 23 respectively.

The numbers of clients whose specialist MH intervention included CBT was too small for comparative analysis. The reasons for this will be discussed later.

Client feedback suggested need for improved convenience of appointments. Of the 565 clients identified at crisis point, a sample of 65 was contacted comprising attendees at follow up (54) and non-attendees (11). Two main reasons were given for non-attendance. These were first, inappropriate timing and inconvenience of the appointment. Appointments provided within 24 hours of the crisis presentation and at a venue known to the person were said to be more helpful by people contacted. A second reason given for non-attendance was denial by clients (and their families where relevant) of any ongoing self harm risk, and hence lack of need for follow-up.

Staff feedback about the project was positive. A sample of 52 staff received a questionnaire, with a 46% response rate (n=24). 17 of the 24 respondents indicated that the project had been useful to them. The most useful aspects included; introduction to the idea of standardised assessments, the development of the facilitated referral system, implementation of more formal follow up procedures for clients, and greater access to education and training. Staff reported that they felt more confident in working with the client group.

This staff survey was supplemented by summed information from the project officers. They reported that, as the project progressed, there was a gradual reduction in oppositional attitudes to the project. However, of all the changes introduced, the one resisted most strongly by staff was the use of standardised tools and instruments.

Discussion

The YARDS project had its main focus on the implementation of evidence based practice within health service systems. We hoped to assess the impact of these new procedures on MH outcomes for the client group. Our results illustrate that the first aim was achieved but the second was not. In fact, much of the project time was consumed in driving sustainable organisational change necessary to achieve the first aim.

Organisational Change the highest priority.

As the primary need for major organisational systems change was recognised early in the project, we recognised the necessity to adapt the methodology from its initial focus on implementation and evaluation of effectiveness. Instead, the new direction emphasised system reorganisation as the primary goal. Rather than view this change of direction as an impediment, we adopted TQM as our fundamental change framework. From this perspective, we used each service response to a proposed YARDS project initiative as a data point newly informing a revised direction. Thus documenting, understanding and incrementally overcoming resistance was accorded greater importance than trying to collect data using project staff, at the expense of clinician engagement and service system change. The fact that service improvements occurred across 10 individual sites is recognition of the value of using project staff to facilitate change. Unfortunately, this approach occurred at the expense of low levels of data collection related to client health outcomes.

An alternative would have been using project funding to develop pilot initiatives and evaluate them, in effect replicating efficacy studies. At the end of such pilot projects there is usually a return to a previous service delivery pattern or a requirement for additional resources to maintain the new initiative. Our method achieved change that was sustained after project staff were withdrawn.

Concurrent and post hoc analysis of our change process allowed us to identify several component parts of the change strategy. These included: (1) a systems approach incorporating both top down (management commitment) and bottom up (clinical staff engagement) practices; (2) the presence of a key senior and influential clinical staff member (clinical driver) within an individual service to facilitate clinician engagement; (3) the setting of realistic objectives which were within the capacities of the services; (4) evaluating services and providing incremental feedback in a systematic manner.

Management commitment required to prioritise Deliberate Self Harm Behaviour

At the beginning of the project, only child and adolescent MH services recognised DSH as a high priority issue. Achieving use of evidence based practice in relation to DSH required redirection of resources to this target group, a decision which first involved persuading the directors of adult MH services that DSH was a priority.

Their initial views were consistent with the previously stated priorities of Australian MH services where there had been a focus on the needs of people with chronic (often psychotic) illnesses. This sometimes occurred at the expense of less service provision for other MH issues. The second National Mental Health Plan (Australian Health Ministers 1998) has as one of its goals that MH services adopt a broader, more comprehensive approach.

The YARDS project is an example of local adaptation to change conceived at the national level. It involved not only adult MH service change but also shifting attitudes of staff in EDs from a perception that DSH behaviour was more of a nuisance than a health problem, towards an acceptance of it being an important health issue.

Management commitment can only be maintained if structured change is realistic.

The self assessment process using the SAS revealed those aspects of evidence based practice lacking in individual services, and facilitated managers making rational choices about the best direction for improvement. This allowed realistic service developments to be planned, commencing at known and measurable baseline points.

The developments introduced included; improved identification of persons presenting with DSH; training ED staff in more appropriate initial engagement; and developing structured, cognitively oriented interventions at the first MH contact. Allowing such wide variations allowed each individual service to be in control of achieving a more evidence-based approach.

A number of staff attitudes and belief systems were identified as obstacles. For example, many staff of hospital EDs considered themselves ill equipped to manage people with DSH behaviour, and argued that the problem should be the responsibility of MH services. On the other hand, many MH staff, as well as maintaining that their priority was people with psychotic illness, believed they did not have the necessary skills to assist EDs.

In several of the 10 services, an early focus was on bringing together these two services, assisting them with the development of effective communication, and providing staff training and support. This consumed a larger proportion of the project resources and time than had been anticipated, and delayed the adoption of other service changes.

"Top down" leadership and "Bottom up" clinician engagement

Management commitment varied according to organisation priorities. When those services with early and strong uptake were compared with late adopters, it became clear that the former had a large number of change initiatives in progress, so that YARDS was simply one of several priorities. The strongest uptake occurred in one service where several completed suicides contributed to a greater sense of urgency. During the project the NSW Department of Health released several prescriptive policies regarding suicide prevention and management. This proved to be an impetus to managers to accord YARDS a higher priority status.

Service and clinical practice change was facilitated by providing feedback on current services. For example, client feedback that appointments should be at more convenient times, closer to the time of crisis and personalised so that they would know details of what their follow-up would comprise, provided an incentive for systems to change. This supported research evidence that a "Green Card" facilitated referral system was more effective. Thus clinicians started to use this system more enthusiastically.

Other important feedback was that some clients and their families persisted in denial of ongoing risk following a DSH attempt. This provides false reassurance to clinicians and contributes to failure of assertive follow-up. Understanding these high levels of denial of risk, and receiving information from the literature about the lack of validity of assumptions of low risk, provided staff with incentives to change.

Engagement of MH staff in clinical practice change was achieved best in services where an important opinion leader from amongst the staff group embraced the YARDS project concepts and supported them. Opinion leaders argued for the utility of standardised tools, and assisted staff in analysing them and in most cases proposing alternatives. Support also increased when the instruments were scored by the project officer and a report provided directly to the clinician.

Education has low effectiveness in engaging clinicians.

A number of staff indicated that they did not understand the project and believed that the YARDS initiatives were merely "research". This occurred despite the provision of a large number of education and information dissemination sessions. Such difficulty with communication became more apparent as the project progressed. We realised that nothing about communication could be taken for granted. Every assumption that a message had been received, disseminated, or acted upon had to be challenged and the project officers acknowledged that multiple repetitions of every message was required at every point in the project.

Managing the funding body

A number of changes in the objectives and methodology of the project were necessary during its life. These included reducing the emphasis on training MH clinicians in CBT, and focussing more on improving early responses to the client group by health services generally. In addition there were numerous changes made to the standardised assessment packages upon which health outcome evaluation was based. Concern was expressed by the funding body that data collection on client outcomes was not meeting anticipated targets. We provided several incremental explanations to the funder, to reassure them that despite its numerous changes in methodology, the project was producing valuable information to add to nationwide understanding of preventable factors in youth suicide. We were able to demonstrate our efforts were appropriately targeted by having success in obtaining grant funding to evaluate sustainability after the project was completed.

Conclusions

From a public health perspective, the problem of non-compliance with follow-up treatment of people who present with DSH must be addressed in a systematic way. Further research whose primary aim is the evaluation of efficacy of specialist clinical interventions should not be considered as a national or local priority until greater numbers of people who attempt DSH can be engaged realistically with health services.

To implement evidence-based health care requires that more attention be paid to achievement of service delivery system change than to determining new levels of evidence in this target group. This conclusion may have important implications for other initiatives to implement system wide evidence based health care.

One of the major achievements of this project has been the documentation and analysis of the processes necessary to facilitate organisational change within health services.

By contrast, funding for pilot projects is more commonly sought and received by enthusiastic individuals or groups who are not always in a position to facilitate such significant clinical practice change within complex organisations, and are usually unable to manage organisational change itself. Our experience with the difficulties of achieving system wide change would suggest that project funding should not go to individuals committed to an ideal of evidence based care unless they are in partnership with others who have power to influence change.

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