A learning structure for Zero Suicide

Current levels of data collection

Suicide deaths both under care and post discharge are routinely reviewed. Deaths under care result in a Serious Incident Review with recommendations for service revision and development. Deaths of discharged patients result in a medical review and report to the coroner, depending on the circumstances a service level review may also be initiated.

Serious suicide attempts are not currently registered with the SMHS however a suicide attempt register is proposed (with information collected from the Emergency Department, Christchurch Hospital). These records would then be cross reverenced with the SMHS documentation to create a richer data set.

Real time feedback from patients is not currently collected by the SMHS, there are no regular patient level feedback systems in place however the technology for real time data collection is currently under development by the Mental Health Commission

Constructing testable hypotheses

In order for the CDHB to make ongoing incremental gains towards achieving the goal of Zero suicide it must construct a testable structure of the underlying processes which it is trying to influence and for the means by which it will achieve that influence.

The HFHS hypothesis is that by providing high quality treatment for depression (by a variety of specified means) and by attending to high risk times, suicides will be prevented. The unstated hypotheses might be that high quality treatment (as evidenced by the feedback tool) results in lowered symptoms and lowered suicide risk and that at other times acute risk prevention tools are required to achieve the same effect.

Clear underlying hypotheses for suicide prevention have the advantage that they are testable over time, when lacking in explanatory power new hypotheses can be introduced and tested in their stead. The value of pressing for compliance in the use of existing tools could be weighed against the need to develop new tools or new hypotheses for suicide prevention. This would result in a learning system with ongoing gains over time.

Layers of hypotheses

We could start with a high level hypothesis for suicide prevention e.g. "that when a person has their basic needs met, is not in distress and is in the company of others they will not commit suicide". This hypothesis is testable and naturally leads to supporting preventative actions that can be taken.

The next layer down of hypothesis might be stated that "a high quality service (as defined by the Berwick criteria) which has engaged and aligned the person and their supporters in a treatment plan will result in reduced distress, attention to the persons basic needs and provide access to support at times of crisis".

Below this layer sit the actual elements of service delivery.

- Providing timely and accessible information, assessment and treatment.
- Treatment packages which include self hep and specialist interventions for common presentations
- Crisis plans for suicide risk which attend to the three factors in the primary hypotheses and include education on suicidal ideation.
- Immediate feedback systems to determine if the service has achieved its quality goals
- Safe environments for patients whose immediate risk of suicide remains high or who are unable to meet their basic needs.
- Engagement of families and supports
- Appropriate information flows to other services and professionals

In order to deliver these services the CDHB will then have to provide and organise

- Appropriately qualified and trained staff, rosters etc
- Structured elements of service delivery, policies, checklists, documentation etc
- Information systems to support the above
- Suitable physical environments, transport etc

Data gathering

There are three layers of feedback proposed in this paper; completed suicides, suicide attempts seen in the Emergency Department and data from the electronic feedback tool.

Completed suicides provide the strongest data around the effectiveness or limitations of service delivery but are uncommon, delaying service analysis (until sufficient data is gathered), reducing the generalizability of findings and providing only limited feedback about a wide range of service initiatives.

Suicide attempts provide more frequent feedback but also introduce confounding factors such as deliberate self-harm events.

Quality reports from patients and staff provide wide ranging and detailed information. These collections are subject to significant inter-individual variation and are best used on an aggregated basis for service development.

The NZ Health Quality and Safety Commission recommend 4 domains of patient experience data collection, namely; "communication, partnership, co-ordination and physical +emotional needs" (KPMG 2013). Within these domains somewhat arbitrarily lie five further areas of more detailed data collection

> **That the CDHB create and maintain a register of medically significant suicide attempts for the purposes of cross referencing against other health records.**
>
> **That the CDHB initiate an electronic feedback system, for patients and staff, based primarily on the quality measures and that this feedback be collected routinely throughout the patient journey.**
>
> **That this data be used for analysis in the Zero Suicide initiative.**

To this data can also be added compliance checks and audits against service standards

Hypothesis testing

As the scale of the Zero Suicide project is large and will function best when introduced in a comprehensive fashion to services progressive introduction of the initiatives will be required. This will allow for the use of a "stepped wedge" trial design, with randomisation of introduction between services (Brown and Lilford 2006) and a scientific evaluation of the outcomes. The Zero Suicide initiative complies with the two criteria for such a design, the initiatives are expected to be beneficial and the roll out will take time, largely due to training requirements. Ultimately even the underlying hypotheses about suicide prevention can be tested by this method.

The data collection allows for recursive layers of testing. Is the CDHB delivering the intended services? Are those services satisfactory for the patients? Are there particular presentations that we struggle to achieve satisfaction with? Is service delivery better for individual staff members or teams? Do new initiatives result in greater satisfaction or better outcomes for our patients? Do our service delivery quality measures (internal conformity and reported satisfaction) relate to rates of suicide attempt or completed suicides?

New service initiatives

Ultimately it is intended that the new system delivers a service that satisfies our patients, achieves remission of distress, improves their functioning in the community with appropriate supports, increases resilience to stress and by these means prevents suicide attempts and completed suicides.

Of the residual group experiencing adverse outcomes we would hope to understand any barriers to those services being satisfactorily delivered in order to address those barriers.

Patient groups who make suicide attempts or complete suicide despite reporting satisfactory service delivery challenge us to identify unaddressed needs in order to develop new services.

Patient groups with reported dissatisfaction with services and adverse outcomes challenge us to improve service design and delivery.

Groups in the community who attempt or complete suicide challenges us to improve access pathways.

That the CDHB establish an expert group to support the analysis of data collected for the Zero Suicide initiative and that this group make recommendations for further quality improvements and new service initiatives.

References

Brown, C. and R. Lilford (2006). "The stepped wedge trial design: a systematic review." <u>BMC Medical Research Methodology</u> **6**(1): 54.

KPMG (2013). Development of patient experience indicators for New Zealand. Wellington NZ, NZ Health Qulaity and Safety Commission: 114.