THE COMMON CLIENT COHORT PROJECT
LITERATURE REVIEW
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Introduction

Super users (sometimes known as frequent users) of human services represent a very small proportion of all consumers yet absorb a disproportionately large amount of services. They are responsible for extremely high costs to the community. Interagency collaboration and case coordination (targeting evidence based interventions at this group) may result in a reduction in their service consumption. There may also be reduced cycling and inappropriate use of services. Definitions and thresholds of excessive use, characteristics of frequent and super users, associated costs and the use of justice reinvestment and interagency collaboration are discussed in this literature review.

Search Strategy and Quality Assessment

The literature was located on the internet using databases available at Central Queensland University (CQU) Library, on the Queensland Health Clinician's Knowledge Network (CKN) and using the Google and Google Scholar internet search engines. Only literature that was freely available for download from these sources was used. A small number of sources from CQU and CKN were not available because they had only been published in the last twelve months. The table below indicates the databases that were searched.

Table 1. Databases used in locating the literature

Database	Topic
APAFT (Australian Public Affairs Full Text)	Social sciences and humanities
AustHealth / Informit Health Collection	Healthcare
CINAHL Complete	Nursing, midwifery and allied health disciplines
Cochrane Library	Evidence based practice in healthcare
ERIC (Education Resource Information Centre)	Education research and literature
Expanded Academic ASAP	All academic disciplines
Health Policy Reference Centre	Public health and policy, the healthcare system
MEDLINE Complete	Medicine, nursing, allied health disciplines
PsycArticles	Psychology
Psychology and Behavioural Sciences Collection	Psychology
Psyc-INFO	Psychology and related disciplines

PubMed	Healthcare and preclinical sciences
Sage	Business, health, engineering, sociology, psychology and education
Science Direct	Social sciences, science, technology and medicine
Sociology Source Ultimate	Human behaviour and interaction including demographics, political sociology, religion and socio-cultural anthropology

The research questions for the literature review were:
- What are the definitions, thresholds and characteristics of super users of human services and how are these people identified? (Local data was given preference).
- What are the potential cost savings if super use is reduced? (Local data was given preference).
- What are the features of interagency collaboration interventions used in Australia and around the world to combat super use of human services?"

Search terms included (main search terms in bold with limiters in italics):
- **super user/s, superutiliser/s, superutilizers,** frequent users/utilizers
- **justice reinvestment**
- *welfare services and coordination*
- **patient navigat*** (retrieves navigate, navigator, navigation) /health coach/social worker and any of:
  - *homeless*
  - *community-wide +/- intervention*
  - *multiple community services*
  - *child protection or safeguarding or child welfare*
  - *police or law enforcement*
  - *mental health and emergency*
  - *welfare services and emergency services*
  - *care coordination*
  - *communication*
- *consent*
- *threshold or threshold determination*
- **data sharing**

Over 3600 titles and abstracts were screened. The abstract, or if necessary, the whole document was checked if the title could not be used to determine the document's relevance. Items were excluded if they related to only one type of human service (e.g. mental health care), if they were not available on the web or at CKN or CQU, if they did not relate to cooperation between more than one human service type or organization, if they related neither to frequent nor super use of services or if the intervention described was neither relevant nor possible in Central Queensland (e.g. relating to the Affordable Care Act in the USA). Relevant items were downloaded and appraised for quality using the PHO Meta-QAT critical appraisal form for public health research (Ontario Agency for Health

Protection and Promotion (Public Health Ontario), Rosella, Pach, Morgan, & Bowman, 2015) and if relevant, other critical appraisal tools, such as the AACODS (Authority, Accuracy, Coverage, Objectivity, Date, Significance) tool for appraising grey literature (Tyndall, 2008) and the CASP (Critical Appraisal Skills Program) tools for appraising cohort studies, economic evaluations and qualitative research ("CASP Tools & Checklists," n.d.). Items that were judged to be of poor quality were not used and some items where the study is more comprehensively discussed elsewhere have not been included in this review. In total, 31 documents met the search and quality criteria and were thus included.

The quality of the research evidence available is moderate. Many reported cost reductions might actually be due (at least partly) to regression to the mean. There have been few randomised controlled trials done in this area but these would account for regression to the mean in the design and thus give a more accurate estimate of the true cost reduction after interventions were applied.

Definitions and thresholds of excessive use and characteristics of super users

There are varying definitions of frequent or super use of human services within the literature. Each organization chooses its own definition and threshold for determining what qualifies as frequent or (the more extreme form) super use of its services. As an example, using the most common form in the literature, frequent and super use of the emergency department, the following definitions were seen:
- 4 or more emergency department visits in 12 months (5 studies)
- 5, 6, 7, 8, 10 or 12 or more emergency department visits in 12 months (1 study each)
- 10 or more emergency department visits in 6 months (1 study)
- 3 or more hospitalisations in 12 months (1 study)

Frequent users represent a small proportion of the population of emergency department users (around 0.3 – 5.0%) (Soril, Leggett, Lorenzetti, Noseworthy, & Clement, 2016) with a relatively stable demographic profile, although the actual individuals change over time (Johnson et al., 2015). They tend to be older, female, have multiple chronic conditions (e.g. asthma, cardiovascular disease), one or more mental health diagnoses and homelessness (Johnson et al., 2015; Soril et al., 2016).   Frequent users of the emergency department in health systems in Australia or similar to Australia's tended to have previous hospitalisations and high primary care use (Soril et al., 2016). These frequent users were more than four times as likely as infrequent users to have a mental health diagnosis, five times more likely to have substance abuse issues, twice as likely to be on a low income, two and half times as likely to have had a previous hospital admission and more than three times as likely to have previous mental health issues. Access to primary care was protective of frequent use. Globally, of those health systems studied (mainly the USA) (Soril et al., 2016) frequent users were more likely to be over the age of 65, to have previous in-patient acute care admissions, previous psychiatric hospitalisations, previous frequent use of the emergency department and in some health systems, a mental health diagnosis.

Soril et al (2016) conclude that frequent users may not differ from one health system to the next and similar interventions and policies may work in different health system settings.

A study by Suong Lee, Brunero, Fairbrother and Cowan (2008) in Sydney compared mental health consumers referred by police to the emergency department with those who attended without police involvement. Those referred by police were more likely to be younger, male, employed (although most were unemployed) and have a previous history of alcohol or other drug abuse. They were also more likely to present after hours and less likely to be admitted to hospital. Their main diagnoses were more often psychotic episodes or schizophrenia and less likely to be depression and anxiety than those who presented without police involvement. Mental health consumers who attended the emergency department with police involvement were different to those whose attendance did not involve police.

Homeless frequent and super users have been studied also. One study of chronically homeless frequent users of jail and public mental health services in Chicago (Harding & Roman, 2017) defined frequent users as having a current mental health diagnosis, two or more stays in a mental health program in the past 30 years, two or more jail admissions and a history of chronic homelessness. People in the 'persistently homeless' (a super user) group were 235% more likely than average frequent users to be reincarcerated at six months after release from jail. They needed assistance with job seeking and training, housing support and treatment for health and mental health issues such as trauma. They also needed intensive help with substance abuse issues. Those super users who survived to older ages were thought to have progressed to become 'lifetime cyclers', with increased street (rather than shelter) homelessness, more mental health admissions and continued cycling through institutions. People in the homeless super user groups thus appear to be more likely to have a repeat criminal conviction, be unemployed and have health and substance abuse issues.

Characteristics of homeless frequent users in Australia are less well studied, however they seem to be similar: A study of frequent users of homelessness services in Victoria (Hatvani & North and West Homelessness Networks, 2015) found that frequent users tended to have mental health issues, a history of incarceration, high levels of hospital admissions, be men more than women, have an overrepresentation of Indigenous people and people with intellectual disabilities, substance abuse issues, a history of violence and/or be a victim of violence and they tended to be single rather than in a relationship. A survey was conducted of 188 homeless people in Rockhampton during one week in 2015 (QCOSS, 2015). The methods of the survey were not well described in the available information, however the results are listed here as they are the only data available on homeless people in Central Queensland. The survey showed that children (aged 0-4, followed by those aged 5-9), were most likely to be at risk of homelessness. Males were overrepresented (there were 1.3 times as

many males as in the general Rockhampton population[1]), as were Aboriginal and Torres Strait Islanders (there were 4.7 times as many Indigenous Australians as in the general Rockhampton population[2]). Most were residing with friends/ family, in temporary accommodation or in emergency/crisis accommodation. More than half (55.08%) experienced substance abuse issues in their lifetime and more than a third (36.44%) were current daily users. Almost 40% of those surveyed had an existing mental health condition, a chronic health issue and substance abuse issues – this trimorbidity affected homeless families to a much lesser degree than homeless adults and young people. Almost 40% had been in prison at some point and most(63.56%) had been in the watchhouse. Just under a quarter would have been able to rely on mainstream resources to overcome homelessness. Just over half required intense short-term support and just under a quarter required permanent supportive housing to overcome homelessness. The issues for homeless people in Central Queensland appear to be mental illness, substance abuse, chronic health conditions and criminal offending; men and young children were overrepresented in this group, as were Indigenous people.

Psychosocial risk factors impact on health status and will therefore have an effect on the amount a person uses human services. Wardian, Thaller and Urbaeva (2015) report on a cross-sectional survey of the association between the number of sources of psychosocial disadvantage and self-reported health status in a representative sample of the Arizona (USA) population. Risk factors measured were:
- belonging to a racial minority group,
- being divorced, separated or widowed,
- not having achieved a high school education,
- being unemployed,
- having a low income and
- the presence of psychological distress.

Almost 60% of participants had a score of zero or one psychosocial risk factor. There was no significant difference in health status between those with no or one risk factor, however racial minorities and females were at significantly increased risk of poorer health status with just one risk factor. As the number of risk factors increased, health status decreased significantly.   The threshold at which psychosocial risk factors reduce health status appears to be two for the general population and one for women and ethnic minorities.

Costs of frequent and super use of human services

The costs of frequent and super use to the community are extreme and measures to reduce the economic cost and use of services are reported to produce substantial savings. Regression to the mean[3] should be considered in the

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[1] Based on Estimated Resident Population (ERP) of Rockhampton Local Government Area, 2015 (ABS, 2015)

[2] Ibid.

[3] "Regression to the mean is a statistical phenomenon that can make natural variation in repeated data look like real change. It happens when unusually large

analysis of cost reductions. Geographic mapping may be useful to identify sites of increased service requirements and data on service usage will identify characteristics of user groups that should be targeted. Data sharing may assist in both identifying users and additional needs. Interagency collaboration may reduce costs from excessive and inappropriate service use.

A large reduction in cost may not necessarily reflect the effect of an intervention: In Johnson et al (2015) cost reductions of 44% in the emergency department were not related to any intervention (there was no intervention used), but rather were due to regression to the mean, patient death and attrition from the health care provider. Pre-post designs have shown that supportive housing reduces the costs of homelessness to a large degree however pre-post evaluation design does not take into account regression to the mean and may inaccurately claim reductions in costs. Cost estimates should be measured a number of times and a randomised controlled design should be used as regression to the mean may explain some of the reductions in cost in previous studies.

A small amount of studies around the world relate to geographic mapping of costs (e.g. by home address), community concerns (including violent offences) and community assets. Subsequent targeting of interventions at risky locations may be useful. In a community in Connecticut (USA) 34 addresses (labeled hot spots) accounted for nearly 70% of total hospital expenditure. Almost half of the poor housing and violent crimes were located within 250 feet of a hot spot but only 20% of community assets were located within this distance (Holzer, Canavan, Cherlin, & Bradley, 2014).

Allard, Chrzanowski and Stewart (2017) studied the relationship between criminal careers, costs of offences and geographic address in a retrospective cohort study. It included people born in 1990 who committed offences in Queensland between 2000 and 2010 when they were aged between 10 and 20 years old. They found that chronic offenders made up 5.2% of the population but 45.8% of costs of these offences. Moderate and chronic offenders together represented 15.8% of the cohort but 70% of costs. The 5% most disadvantaged communities were found to have higher concentrations of chronic and costly offenders. Each individual on a chronic offending trajectory cost the community twenty times more than each individual on a low offending trajectory. Disadvantage had a small effect on trajectory group membership and individuals in the chronic and moderate groups were more likely to have resided in more disadvantaged communities at their first offence. Neighbourhood factors such as disadvantage may play an indirect role in criminal trajectories. Targeting interventions at moderate and chronic offenders is likely to be more effective at reducing costs than giving interventions to all offenders indiscriminately.

The quality of the primary studies on costs of super use in the emergency department was moderate to low, however the systematic reviews were of

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or small measurements tend to be followed by measurements that are closer to the mean." (Barnett, van der Pols, & Dobson, 2005, p. 215).

moderate to high quality and suggested that there may be an advantage in targeting interventions at frequent and super users. The issue of regression to the mean was not always addressed. Althaus et al's (2011) systematic review reports that a randomised controlled trial (Shumway, Bocellari, O'Brien, et al (2008) found that cost savings in case management interventions to reduce super use would be equivalent to the cost of the intervention.

A relatively small number of frequent users of the NSW Ambulance service represent a high proportion of calls to the service. It was recognised that these patients might not have been getting the best care and the Frequent User Management (FUM) program was developed in response. These consumers attended a meeting with all relevant service providers and had input into the interventions to be used to reduce their callouts. There was an overall reduction in both use and cost of 68% in 2014 (the number of service visits reduced from 621 in the first quarter of the year to 201 in the fourth quarter and the total reduction in costs in this time was $AU 865 220 (Ambulance Service of New South Wales, 2014)). The vast majority of graphs of individual service use show a definite downward trend following the intervention, some to zero however it should be noted that this was not a randomised controlled trial and there may have been some regression to the mean. Costs appear to have decreased with this intervention.

The costs of homelessness in Rockhampton to the Rockhampton Hospital and Ambulance service have also been measured (QCOSS, 2015). Over six months, the average cost of emergency department visits for the 20 individuals who used this service was over $12 000 per person. One family cost the service more than $18 500 over six months (homeless families were counted separately to homeless individuals). The cost of hospitalisations for the same period for seven individuals who used this service was over $27 000 per person. One family's use cost more than $18 500 over six months. Ambulance use for 16 individuals cost over $4000 per person. Homelessness appears cause a significant monetary cost to the Central Queensland community.

Parsell, Petersen and Culhane (2016) examined the cost offsets of supportive housing in Brisbane (Australia). This was a retrospective study of 41 tenants of one supportive accommodation building in Brisbane. In this study, service usage costs for health care, criminal justice and homelessness services in the 12 months while the person was homeless (immediately prior to receiving supported accommodation) were compared with service usage and the cost of the supported accommodation in the first twelve months of the tenancy. Average cost information and service usage histories for the tenants came from: public hospitals, public mental health services, ambulance, corrections, courts, police and specialist homelessness services. Alcohol and other drug services did not participate, which may have resulted in an underestimation of cost reductions. Cost savings are listed in the table below. There were some concerns that limit the study's usefulness in measuring cost reductions and its generalisability: This study did not take into account regression to the mean, the sample was small and convenient, the proportion of people who gave consent to participate was relatively low and there were wide variations in the use of

services between tenants. The authors note that it is vital that we don't just focus on monetary cost savings as this may result in hard to reach populations being ignored. This study supports the statement that how people access services is mediated by the resources available (Parsell et al., 2016).

Table 2. Cost differences in Parsell et al (2016)

	12 months prior to tenancy commencement	12 months post tenancy commencement	Difference between pre and post costs
Average per participant	$ 48 217	$ 35 117	- $ 13 100
Total for all participants	$1 976 916	$ 852 314	- $1 124 603

<u>Data sharing</u>

Data sharing between organisations may result in a greater number of frequent users or a previously unknown potential for intervention being identified. A retrospective cohort study by Rhodes, Kothari, Dichter, Cerulli, Wiley and Marcus (2011) found that intimate partner violence is not well identified within the emergency department when records are compared with police data. Data sharing between organisations working with the Common Client Cohort may identify additional needs and opportunities for intervention for consumers.

Emergency department datasets have been shown to substantially improve detection of assault and violence over police recorded data. (Up to 25% of emergency department recorded assaults are not recorded by police (Quigg, Hughes, & Bellis, 2012 in Droste, Miller, & Baker, 2014)). Potential advantages of emergency department data sharing include: identification of problematic venues, liquor outlets and high-risk neighbourhoods and by targeting the most effective application of limited first response resources such as police and ambulance. In this study, the pooling of anonymised emergency department data created a much clearer picture of the problem and immediately suggested strategies for intervention.

In a well conducted systematic review Droste et al (2014) investigated the evidence for the effectiveness and feasibility of interagency data-sharing of emergency department recorded assault information to direct interventions reducing alcohol-related or nightlife assaults, injury or violence in a systematic review conducted in Australia. They did not discuss super users per se, rather the investigation was on the identification of high risk venues. All 8 studies reviewed (seven from the UK, one from Australia) found that data sharing of this type is useful, however most studies were cross-sectional and a randomised controlled trial (triangulating emergency department, police and ambulance data sources) is necessary to strengthen the evidence for this conclusion.

Droste et al (2014) suggested that the effectiveness of data sharing can be improved when there are strong partnerships between the organisations involved and when frontline staff receive feedback on the community impact of

the intervention. Data should be collected at triage, according to one study (rather than a retrospective chart audit). Feasibility concerns about data sharing were minimal: including cost, emergency department staff workload burden, impact to patient safety and anonymity, risk of harm displacement to other licensed venues or increase to length of patient stay; one study reported a potential harm displacement effect to streets surrounding intervention venues. There was an increase in data collection from 20% coverage of ED attendances to 70% of attendances in one study when staff received feedback in the form of crime reports and the community impact of the intervention (Boyle, Snelling, White, Ariel, & Ashelford, 2013 in Droste et al., 2014, p. 333). Data sharing may improve the potential for outcomes in the community by increased recognition of opportunities for intervention, and is improved when staff receive feedback on its success.

Interagency collaboration to reduce service use

Interagency collaboration may also reduce costs. McKenna, Furness, Brown, Tacey, Hiam and Wise (2015) conducted a study in metropolitan Victoria (Australia) to investigate the usefulness of an approach where police attending emergency call-outs could initiate the attendance of a combined police and mental health clinician second response team. During six months of operations, 16% of people in crisis went to the ED compared with 100% for other times of the day. The team diverted people in crisis to the least restrictive environment, which usually meant being assessed in the community and subsequently referred to a variety of community mental health and social care agencies. Direct access to mental health inpatient services for those in mental health crisis was also facilitated more smoothly. The economic implications were not measured. The qualitative study associated with this intervention (McKenna, Furness, Oakes, & Brown, 2015) suggests reasons and ways that the intervention may be useful. Mixing staff from different providers may improve services and direct consumers to appropriate agencies.

Justice reinvestment

Justice reinvestment is the term used for transferring funds out of prisons and investing that money into the community to reduce disadvantage and prevent crime. High crime rates are usually concentrated in areas of structural disadvantage – e.g. low socio-economic status, unemployment, poverty, segregation, a high proportion of single parent families, residential instability and a large proportion of racial/ethnic minority groups (Allard et al., 2017). Providing stable housing and employment and reducing financial inequalities have been shown to reduce crime. Justice reinvestment is particularly recommended for the Indigenous peoples of Australia, although it is noted that it costs more to run these programs as remoteness increases. This approach helps to deal with the many, complex problems that previously incarcerated individuals have and helps to break the cycle of crime (Australian Red Cross, 2016; Smart Justice Australia, 2015; Solonec, 2014; Spiers Williams, 2016).

When justice reinvestment was applied in Tasmania between June 2005 and June 2014, the adult prison population fell by 6%. During the same period, there was an increase in the general population of the same amount. The rate of adult imprisonment reduced by 25% during this time but this benefit was not seen in other states, where instead there was an increase of 33% (Australian Red Cross, 2016).

There are four steps to justice reinvestment (Australian Red Cross, 2016; Solonec, 2014):
1. Data analysis and mapping. This is an analysis of the communities where prisoners come from and where the offences occurred to identify communities and populations at high risk and to understand why offences occurred and where funds should be directed.
2. Development of options for change to generate savings and improve the community. This step involves consultation with and engagement of the community.
3. Implementation of the options developed in step two, quantification of savings and reinvestment of the money in high risk communities.
4. Measuring and evaluating the impact of the process.

At the beginning, clear aims that define what is considered success must be developed. A sufficient timeframe (e.g. five years) is necessary to allow a long enough period for true community ownership, follow-through of the interventions (not just set-up) and proper assessment of the impact. There should be independent evaluation of the program to ensure lessons learned are not lost, which should include measurement before and after the intervention and a cost-benefit analysis (Australian Red Cross, 2016; Solonec, 2014).

Justice reinvestment must be locally driven and owned by the community. It must have a balance of involvement of government, experts and the community. There should be a broad representation of stakeholders and the community should decide how the money is spent (Australian Red Cross, 2016; Solonec, 2014).

Interagency collaboration

This section discusses interagency collaboration as a means for reducing the excessive service consumption of frequent and super users. Benefits of interagency collaboration are listed. The governance structure of a Queensland interagency collaboration organisation is described. Recommendations from the literature are given to describe how to form effective partnerships. Partnering with Indigenous communities is also discussed. Finally, pitfalls to avoid and considerations for evaluation are mentioned. Collaboration between different agencies brings results in terms of service usage and health outcomes both in the general community and in Australian Indigenous communities.

Benefits of interagency collaboration have been found around the world (Bai, Wells, & Hillemeier, 2009; Corporation for Supportive Housing (CSH), 2009; Flaming, Lee, Burns, & Sumner, 2013; Hall, 2008; Home Office, 2014; McKenna,

Furness, Oakes, et al., 2015; Pathways Community HUB Institute, 2016; Stewart, Lohoar, & Higgins, 2011). These sources report the following benefits:
- cost savings from eliminating duplication in services.
- identification of additional opportunities for interventions to reduce consumers' overall use of service through prevention.
- improved outcomes from evidence-based interventions by service providers.
- a more accurate assessment of risk and need driven by information sharing between agencies.
- fewer consumers being lost in the system. Improvement in service satisfaction ratings.
- improved standards, respect, understanding and relationships between the professionals involved. Professionals take away new knowledge and skills from working with eachother.
- more efficient processes and use of resources.
- a movement away from departmental 'silo-based' frameworks to a culture where services are committed to a common cause.
- improvement in service coordination, and increased interagency support and referrals (e.g. some mainstream services working with Indigenous families for the first time).
- shared problem solving.

The governance structure of the Gold Coast Domestic Violence Integrated Response (GCDVIR) (Finn & Compton-Keen, 2014) may be useful as a model for the Common Client Cohort project. GCDVIR is a coordinated response to domestic violence by a number of government and non-government organisations at the Gold Coast in Queensland. The GCDVIR model includes:
- a memorandum of understanding signed by all partners.
- memoranda of understanding between some key organisations.
- a practice protocol and referral tool for housing.
- a high risk protocol which informs case management, referrals and direct liaising with police and corrective services.
- processes and documentation including client contracts, risk assessments and reporting.
- monthly meetings attended by all organisations as well as quarterly planning meetings.
- training for partners.
- the victim is made the centre of all actions.

Other factors recommended in the GCDVIR report (Finn & Compton-Keen, 2014, pp. 41–57) and relevant to the Common Client Cohort project include:
- the introduction of a common assessment process.
- documenting relevant policy and protocols, e.g. each agency's role and interaction with the hub, information sharing protocols[4].
- a common database.

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[4] The Queensland Government released information sharing guidelines in relation to domestic and family violence in May 2017 (Department of Communities, Child Safety and Disability Services, 2017).

- documenting the requirements of an effective integrated response.
- documenting the purpose and framework for any interagency initiatives.
- incorporating participation in the Common Client Cohort into relevant agency position descriptions, staff and organisational plans and performance reporting.
- developing an evaluation framework.
- developing a plan for staff development and the introduction of minimum standards and qualifications.

Many of these recommendations for and features of GCDVIR are also found in a variety sources on interagency collaboration. Other key documents relating to setting up an interagency network include those by the Home Office (2014), Pathways Community HUB Institute (2016) and Stewart et al (2011). These documents (except for Finn and Compton-Keen (2014)) can be found by searching the title on the internet, or using the URLs in the References of this literature review.

Interagency collaboration should include all relevant stakeholders and be outcomes focused, having clear objectives from the very beginning (Finn & Compton-Keen, 2014; Home Office, 2014; Pathways Community HUB Institute, 2016; Stewart et al., 2011). Documents describing the relationship between each group are required (Pathways Community HUB Institute, 2016). Roles and responsibilities of each member should be clear and the group needs to have a strong information sharing protocol (Home Office, 2014; Pathways Community HUB Institute, 2016). These may take the form of a memorandum of understanding between partners (Finn & Compton-Keen, 2014), or a legal agreement (Pathways Community HUB Institute, 2016). A standardised intake process and standardised assessment and referral tools are required (Finn & Compton-Keen, 2014; Pathways Community HUB Institute, 2016). Agencies should consider having a way to flag the records of consumers identified as requiring the services of the partnership (Harding & Roman, 2017). There should be clear agreement on funding with all costs identified at the beginning of the project and all agencies contributing in some way. Expected costs and contributions should be monitored (Pathways Community HUB Institute, 2016). Interagency models in other places contain a centralised hub with a manager and administration staff. Case coordinators who work with consumers are provided by the participating agencies and remain employed by those agencies (Home Office, 2014; Pathways Community HUB Institute, 2016). If possible, case coordinators should be located at the same place as the manager and administration staff (Home Office, 2014). It is recommended that case coordinating staff be rotated through the hub to improve its profile in the agencies (Home Office, 2014). Consider the platform for information sharing and possibly use a shared database (Home Office, 2014). As a minimum, the team should include a health professional (as health professionals are more likely to communicate information with other health professionals) and someone from the not for profit sector (as consumers view people from the not for profit sector as providing an independent voice to advocate for them)(Home Office, 2014).

Interagency collaboration with Indigenous communities has similar principles, however the evidence is not clear whether lessons learned in the mainstream can be equally applied in an Australian Aboriginal or Torres Strait Islander setting (Stewart et al., 2011). It is essential that there is community consultation and engagement from the outset of the project, building on the strengths of the community in its design (Mace & Powell, 2012; Stewart et al., 2011). This way the interventions are likely to be culturally appropriate, maintained in the long term and well targeted to community needs (Mace & Powell, 2012). Projects should be prioritised with the help of the community and both Indigenous and non-Indigenous staff must be supported (Stewart et al., 2011). Both organizational (e.g. government) and Indigenous culture must be respected (Mace & Powell, 2012; Stewart et al., 2011). The development and maintenance of trust is vital, since trust has been eroded by historic and recent government practices and service delivery (Australian Red Cross, 2016; Mace & Powell, 2012). Interventions should target a specific problem and be 'fit for purpose' (Stewart et al., 2011). All staff should complete cultural training (Pathways Community HUB Institute, 2016). These principles particularly apply to working with Aboriginal and Torres Strait Islander peoples, however they could apply to all interagency collaboration projects.

It should not be assumed that the project would automatically succeed – a number of pitfalls have been observed in similar previous projects and these need to be overcome: It is essential that there is strong managerial support and enthusiasm for the project. Without strong leadership the project will fail (Home Office, 2014). The importance of cultural barriers between organisations should not be underestimated – these need to be overcome (Home Office, 2014). Process mapping is recommended so that practitioners know the routes into and out of the model; this makes the system seamless for the consumer (Home Office, 2014). Effective communication and marketing strategies are important to avoid personnel reverting back to old processes (Home Office, 2014). When more than one agency has contact with a family there can be a 'diffusion of responsibility' (Stewart et al., 2011). Shared information and expectations about who will do what can reduce this and ensure that the necessary tasks are completed (Home Office, 2014). Funding arrangements should be flexible, with sufficient input to complete the project (Home Office, 2014; Pathways Community HUB Institute, 2016). Flexible cultures that foster innovation are also important (Stewart et al., 2011). Finally, reporting mechanisms that feedback on agencies' performance can help to address gaps that may occur if one agency is not pulling its weight (Stewart et al., 2011). All of these factors are essential to the project design.

Sufficient time is necessary to effectively engage the community and evaluate success. Evaluations should be independent and evidence based (not just narrative accounts). Outcomes such as effectiveness of coordination of services and collaboration should be measured, but also cost savings and changes to health, employment and education and criminal behaviour. There is currently much less evidence available on changes in outcomes for service users than that interagency coordination leads to more efficient use of resources and enhanced working relationships (Stewart et al., 2011).

Conclusion and Recommendations

Interagency collaboration is likely to produce results in terms of reductions in super and frequent use of human services in Central Queensland. Attention should be given to the definition of a super user, the geographic areas where they are to be found, important factors to consider in the design and methods of evaluation of the project. The question to consider is, 'Can we do it better together, and if so, how?'

Characteristics and thresholds

The following characteristics should be used to identify super users of services:
- mental illness (excluding substance abuse),
- homelessness,
- substance abuse,
- criminal offending,
- being a victim of crime e.g. intimate partner violence,
- chronic illness,
- low income,
- ethnicity, particularly identification as an Aboriginal or Torres Strait Islander,
- intellectual disability,
- gender,
- relationship status (e.g. single),
- failure to finish Year 10,
- frequent emergency department and/or hospital admissions

In particular, the presence of the following psychosocial risk factors should be measured because having one of these (for women and ethnic minorities) or two (for the general population) is associated with poorer health status:
- ethnicity/cultural background, particularly identification as Aboriginal or Torres Strait Islander,
- relationship status, in particular being divorced, separated or widowed,
- whether the person finished year 10,
- employment status,
- income level and
- the presence of psychological distress (a standardised scale should be used for all consumers, selected with the help of a mental health professional).

Definitions and thresholds at which consumers are deemed to be eligible for inclusion in the Common Client Cohort should be determined by the agencies involved. Each threshold should be set at the beginning, documented, transparent and applied consistently.

Geographic boundaries

The geographic boundaries for the project should be set at the beginning of the project before identification of super users and data collection begins. The

14

options are by Local Government Area (LGA) or by Statistical Area (the relevant type is SA4 (Central Queensland) or SA3 (there are four SA3s in Central Queensland)).

The relevant LGAs for Central Queensland are:
- Banana
- Central Highlands
- Gladstone
- Livingstone
- Rockhampton
- Woorabinda

The relevant SA3s for Central Queensland are:
- Biloela
- Central Highlands
- Gladstone
- Rockhampton

Boundaries of the relevant LGAs, SA4 and SA3s are available at http://www.qgso.qld.gov.au/products/maps/qld-lga-asgs-2016/index.php, http://www.qgso.qld.gov.au/products/maps/qld-sa4-asgs-2016/qld-sa4-asgs-2016-central-queensland.pdf, and http://www.qgso.qld.gov.au/products/maps/qld-sa3-asgs-2011/index.php, respectively. SA3s can be further divided into SA2s. SA2 boundaries are available at: http://www.qgso.qld.gov.au/products/maps/qld-sa2-asgs-2016/index.php.

A wide variety of statistical data by LGA, SA4, SA3 or SA2 is available on the Queensland Government Statisticians Office (QGSO) website at http://statistics.qgso.qld.gov.au/qld-regional-profiles and areas can be combined into one for comparison with the whole area or with Queensland data.

LGA boundaries are not expected to change in coming years and may be more relevant to service provision. The other advantage of LGAs is that Woorabinda is counted separately to the rest of the areas, which may be relevant as its demographic and cultural characteristics are different to the rest of the region. It is recommended that the Common Client Project use LGAs, or alternatively, SA3s, to define geographic boundaries.

Important factors to consider

The following items are essential – without them the project may not succeed. It is recommended that they be included on the agenda of all leadership meetings:
1. Senior managerial support.
2. Cultural barriers between organizations.
3. Process mapping.
4. Communication and marketing.
5. Sharing of information and expectations.
6. Funding.

7. Flexible cultures that foster innovation.
8. Feedback on agencies' performance.

There will be both feeder organisations that identify super users and solution organisations that apply interventions. Some organisations may fit into both of these groups. Both types of organisations and as many agencies as possible should attend leadership meetings. Each organisation invited to be included in the collaboration should ask itself, 'Can we provide a better service if we are part of the interagency model?'

Other important factors to consider:
1. Include all relevant stakeholders in monthly meetings and quarterly planning meetings.
2. Remain focused on outcomes. Outline clear objectives at the start.
3. Agree on roles and responsibilities of all partner organisations and staff with each organization signing a memorandum of understanding that details these. Some key organisations may wish to have individual memoranda of understanding with specific partners. Ask organisations to incorporate the Common Client Cohort project into relevant position descriptions.
4. Have a strong information sharing protocol.
5. Arrange a standardised intake process, assessment and referral tools and protocols.
6. Obtain clear agreement on funding input. Identify all costs and have all partners contribute in some way. Ensure funding is sufficient and arrangements are flexible.
7. Include a dedicated manager and administration staff for the hub.
8. Case coordination staff should remain employed by partner agencies and rotate through the hub. Expected level of skill and qualifications should be clear. Consider colocation of staff.
9. As a minimum, the team should include a health professional and someone from the not for profit sector.
10. Have an information sharing platform or database. Each person should be clear on what information can be shared – this may require a memorandum of understanding. Ask organisations to have a way of flagging in their own databases the identification of a client as requiring or being eligible for inclusion in the Common Client Cohort.
11. Ensure community engagement and consultation, particularly in Indigenous communities. Respect Indigenous culture.
12. Apply a strengths based approach.
13. Enlist the help of the community/consumer in determining priorities for interventions.
14. Interventions should target specific problems.
15. Complete process mapping before beginning. (Practitioners should know which processes feed into the model and the routes out of the model so that the system is seamless for the consumer).
16. Have an evaluation plan ready from the beginning of the project.

Evaluation

Evaluation requires a long timeframe (e.g. two to five years before and after the intervention). Evaluations should be evidence based, not just narrative accounts of success. Measure outcomes such as

- coordination of services and links between organisations.
- working relationships between staff: standards, respect, understanding, knowledge and skill improvements.
- cost savings.
- efficiency of use of resources – reduction in duplication of services.
- identification of additional needs of the consumer and whether these were also met. Additional referrals made.
- changes in health, employment and educational status of consumers.
- changes in offending, recidivism, conviction and incarceration of consumers.

A statistician should be consulted about the design of the evaluation, in particular measurement of cost reductions. The issue of regression to the mean in the estimation of cost reduction is important. Consider a randomised controlled design, measuring costs several times and identifying users as those with excessive use over a long period of time (e.g. five years previously), rather than including users whose excessive service consumption is temporary.

Conclusion

Interagency collaboration and case management shows much promise for reducing overuse of human services in our area, however it requires effort. The question that needs to be answered by every organization to be involved is, 'Can we do it better together?' That is, 'Do the benefits of collaboration outweigh the significant costs in time and resources?' There must be a need for improvements to current service delivery. Interagency collaboration is a method that may help to reduce excessive use of services in Central Queensland.

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