**The psychiatric, psychosocial and physical health profile of young people with early psychosis: Data from an early psychosis intervention service**

**Abstract**

**Background:**

This paper outlines client and service data from an early psychosis service in New South Wales (NSW), Australia, and presents a client and service profile, with a focus on the psychiatric, psychosocial and physical health profile of young people with early psychosis. Implications for practice are discussed.

**Method:**

Client and service data were captured through a range of processes, and consists of a number of different datasets, specifically: a) client demographical information and service data as routinely collected (N=601); b) psychosocial data collected through a file audit (N=33), and c) client physical health data maintained by the physical health nurse (N=39). The service researcher extracted all data from each of the databases and analysed the data descriptively for client and service profile information.

**Findings:**

The client profile data indicate that early psychosis clients present with a range of psychiatric, psychosocial and physical health vulnerabilities. The data presented supports the need for mental health care to be provided in conjunction with primary health care, vocational and employment support, exercise and dietary interventions, and support with substance use. Furthermore, this paper highlights the importance of family inclusive practice and trauma-informed care in early psychosis services.

**Conclusion:**

The findings support calls for services to be integrated and young people to be responded to holistically through the integration of psychological, psychosocial and physical health care.

**Introduction**

This paper outlines client and service data from an early psychosis service in New South Wales (NSW), Australia, and presents a client and service profile, with a focus on the psychiatric, psychosocial and physical health profile of young people with early psychosis.

Psychosis usually emerges during adolescence or early adulthood, and this is the critical period that may determine the prognosis of the illness (Crumlish, Whitty, & Clarke, 2009; Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Kam, Singh, & Upthegrove, 2015). Intensive treatment in the early years of psychosis may lead to full symptomatic recovery or at least reduce the frequency and severity of future relapses (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Kam et al., 2015). In terms of treatment, there is a substantial body of literature that can guide practice, including a range of national and international guidelines and clinical standards for early psychosis services (Bertolote & McGorry, 2005; Bieling, Madsen, & Zipursky, 2013; Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Ehmann, Hanson, Yager, Dalzell, & Gilbert, 2010; Thompson, 2014). By and large, the clinical model is quite clear; treatment should be medium to long-term (around two years), be family inclusive and incorporate a range of interventions across the biopsychosocial spectrum (Bieling et al., 2013).

In recent years early psychosis guidelines have been expanded to include a focus on the physical health care (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; HeAl Declaration; Mental Health Commission, 2016). Access to physical health care is less than optimal within mental health facilities, and there is a call for greater integration of physical and mental health care (Lederman et al., 2016; Mental Health Commission, 2014a, 2014b; Rosenbaum et al., 2015). People with severe mental illness are at significantly increased risk of developing physical health problems, in particular metabolic and cardiovascular disorders, which are often left untreated and contribute to a reduced life expectancy of 10-25 years (Lawrence, Hancock, & Kisely, 2013; Lawrence, Kisely, & Pais, 2010; Lawrence & Kisley, 2010; Robson & Gray, 2007). A range of factors contribute to the high morbidity and mortality rates associated with severe mental illness, in particular the side effects of prescribed antipsychotic medication and a range of lifestyle factors such as poor quality diet, physical inactivity and high rates of smoking and alcohol consumption (De Hert et al., 2011; Deighton & Addington, 2015; Lambert, 2011; Lawrence et al., 2013; Malhi et al., 2010; Nash, 2011; Nyboe & Lund, 2013; Robson & Gray, 2007; Vancampfort et al., 2012).

Young people are particularly vulnerable to poor physical health, and they experience greater side effects to anti-psychotic medication than the older population (Alvarez-Jimenez, Hetrick, Gonzalez-Blanch, Gleeson, & McGorry, 2008; Eapen & John, 2011; Foley & Morley, 2011; Perez-Iglesias et al., 2014). In response to this evidence, practice guidelines for early psychosis now stress that physical ill-health must be prioritised as part of routine early psychosis assessment and treatment and that interventions should be guided by routine metabolic monitoring (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016). The importance of metabolic monitoring of mental health patients is also recognised by Australian government agencies, and public mental health services are now mandated to monitor clients taking antipsychotic medication for metabolic syndrome (Ministry of Health, 2012). This paper outlines client and service data from an early psychosis service in Australia.

Service setting

The service provides an assertive outreach case management service for young people aged 12-24 who are experiencing various phases of psychosis; prodromal phases, acute phases, and early to late recovery. Young people accepted by the service are either experiencing the primary symptoms of psychosis with onset within the last two years, or are displaying the cluster of signs and symptoms of a prodromal phase characterised by attenuated psychotic symptoms and a marked deterioration in cognitive and psychosocial functioning (Modinos & McGuire, 2015; Yung et al., 2006).

Upon referral, clients are allocated to receive either a case management service or an eight week extended assessment. The eight week extended assessment is undertaken when there is a lack of clarity around the client’s presentation and symptomatology and further investigation is required. The eight week extended assessment process includes the clinical assessment of clients’ symptomology as well as organic investigations (blood tests, computed tomography scan or MRI and electroencephalography if clinically indicated). Psychosis is not associated with any characteristic laboratory results; the purpose of an organic investigation is to rule out other or concomitant illnesses. Following the extended assessment, young people are included in the program if psychosis is confirmed, or they are referred to more appropriate community services.

Upon acceptance, clients are allocated to a primary clinician for intensive case management and a range of psychological and psychosocial interventions for a period of up to two years. The most commonly used psychological interventions include psycho-education, motivational interviewing, Cognitive Behavioural Therapy for Psychosis (CBTp) and Behavioural Family Therapy. The care provided is person-centred, family inclusive and trauma-informed. Clients also receive regular psychiatric reviews; pharmacotherapy is the first line treatment in psychotic disorders, until symptoms have settled, however, the lowest possible dose to treat symptoms is used and informed consent is sought. For clients who enter the service on antipsychotic medication (often introduced in inpatient settings), treatment focusses on reducing the dosage or tapering clients off the medication where possible. Consumers and carers are given a choice around the use of medication and informed about the side effects associated. Caseloads are between 10 and 15 which is in line with the evidence (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016).

In terms of physical health care, local file audits conducted in early 2016 indicated that metabolic monitoring continued to be both incomplete and ad-hoc. This was despite prioritisation at both State and local level to embed physical health care and metabolic monitoring into routine mental health care. Clients were not adequately monitored for adverse physical health outcomes as per metabolic monitoring guidelines, and the electronic metabolic monitoring forms that should be completed as per the NSW Mental Health Clinical Documentation suite (Ministry of Health, 2012) were left uncompleted or are only partially completed. Our local experience is consistent with a study by Happell, Platania-Phung, Gaskin, and Stanton (2016) which also found that metabolic monitoring forms are not consistently completed, with those forms that are completed not utilised in a manner that maximises their potential.

One of the key barriers to metabolic monitoring reported by clinicians is multidisciplinary team working, where metabolic monitoring is considered the responsibility of all mental health workers regardless of discipline. Consistent with the literature, and despite efforts to support all health professionals to embrace physical health care monitoring as within the scope of their role, there continues to be a perception that physical health care monitoring is predominantly a nursing role (Ronsley, Raghuram, Davidson, & Panagiotopoulos, 2011). Clinicians are also reluctant to screen for physical health problems, without clarity around how to respond to the issues identified. They are uncomfortable relying on referring clients to GPs, as many clients do not have a regular GP, nor attend GP appointments.

To help overcome these barriers and enhance physical health outcomes, we developed and implemented a physical health model in June 2016. In this model, a designated nurse conducts a baseline physical examination of all clients as they enter the service, including baseline assessment of metabolic functioning and related lifestyle factors (such as diet and exercise) to rule out an organic basis to illness, guide appropriate treatment, and enable monitoring of side effects. If physical health issues are identified that are perceived as unrelated to the psychotropic medication prescribed, the nurse links clients in with a GP, and shares the clinical information identified. If the physical health problems identified are perceived as side effects to psychotropic medication, the nurse liaises with the treating medical officer/psychiatrist to explore alternatives and liaises with the young person and family/carers to identify ways in which the side effects can be managed. In line with practice guidelines, the nurse continues monitoring the physical health of clients regularly, after medication changes, repeated at one-month and then at least every three months (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016). While the model was initially conceptualised as a centre based initiative, clients demonstrated anxiety around their physical health needs and were reluctant to engage. The model changed to outreach visits and assessing/treating the person in their own home has been effective in enhancing engagement.

To operate alongside the personalised healthy living interventions provided by the physical health nurse, the service also offers a 16 week Healthy Living Group Program. The group program consists of psycho-educational, dietary and exercise interventions, and basically encourages clients to move and eat more healthily. The group exercise interventions are delivered by an exercise physiologist who provides a diverse range of exercise styles such as resistance training, cardio etc. The individual nursing intervention and group program are offered concurrently as a combination of both individual and group based healthy lifestyle interventions has been found to be more effective than either strategy in isolation (Bruins et al., 2014; Rosenbaum, Tiedemann, Sherrington, Curtis, & Ward, 2014).

These early psychosis services are delivered within a framework of continuous quality improvement and ongoing service evaluation practices (Bailie, Donoghue, & Dowden, 2007; Chovil, 2009). This means that data is collected and analysed routinely to identify service strengths and gaps and inform service improvement (Baum, MacDougall, & Smith, 2006; Koshy, Koshy, & Waterman, 2011; Schmittdiel, Grumbach, & Selby, 2010). The current paper outlines service and client data to describe the psychiatric, psychosocial and physical health profile of early psychosis clients, and outlines a number of implications for practice.

**Method**

**Data collection**

Client and service data were captured through a range of processes, and consists of a number of different datasets.

Client demographical information and service data is routinely collected and entered into a standalone Microsoft Access administrative database. Client data is entered into this database by administration staff once clients are accepted by the service. At the time of analysis, this dataset captured six years of data from January 2010 to December 2016, consisting of 601 clients.

To supplement this dataset with more detailed client information, in particular psychosocial data not routinely collected, we conducted a file audit in July 2016. Clinicians completed a form answering a range of questions about each of their current clients. Questions pertained to presenting issues, illicit drug use, socio-economic situation (housing, employment and education), availability of family support, family and carer involvement in care and vulnerabilities related to family of origin. The audit questions were developed in consultation with the clinicians to ensure the audit tool identified issues important to them (e.g. that can inform their practice) and also to ensure that the pre-identified categories from which clinicians could select for some of the questions were comprehensive and included all relevant options from their perspective. The aim of this audit was to gain further insight into the psychosocial profile of this population so as to inform the ongoing development of the service model of care. In completing the forms for each client, clinicians consulted their files to ensure the information was accurate. Furthermore, clinicians were instructed to only report on information they were sure about, and to tick ‘unsure’ if not entirely confident. Data were collected for each current client, a total of 33 clients, of which seven were receiving an extended assessment and 26 were accepted into the intensive case management program.

The physical health nurse maintains a client physical health database. As part of routine care, the nurse enters client information into the database at the time of each consultation. This database captures client information such as mental health diagnosis, current medication, referral source, weight, height, blood pressure, pulse, a range of blood measurements, client demographics, attendance, and interventions. In March 2017 the service researcher (first author) extracted client information from this database for analysis for each of the current clients at the time. Data included all appointments between the 1st of June 2016 and the 16th February 2017, and consisted of 39 clients for a total of 103 unique appointments. During this time, clients saw the nurse an average of 2.6 times, with a range of one to nine appointments per client. There was some overlap between the clients included in the file audit and the physical health database (n=12).

**Data analysis**

The service researcher extracted all data from each of the databases and analysed the data descriptively using Microsoft Excel 2010 for client and service profile information. To assess data accuracy, the file audit data (N=33) (collected by clinicians) and physical health dataset (N=39) were cross checked against the larger administrative dataset for each individual client in terms of gender and age (as these variables were collected by all datasets), and the data were found to be reliable.

As the datasets are maintained in a clinical setting there are variable levels of missing data.

**Ethical considerations**

Ethical approval was not required. The project was reviewed by the Institution’s Research Governance Office to be exempt from ethical review by a Human Research Ethics Committee and deemed as a Quality Assurance or Evaluation Activity as per criteria set by NSW Health (2007). The project was reviewed and authorised by the delegated representative of the organisation, in line with the Health Records and Information Privacy Act (HRIP Act) (2002), Ethical Considerations in Quality Assurance and Evaluation Activities developed by the National Health and Medical Research Council (NHMRC) (2014) and the National Statement on Ethical Conduct in Research (2015).

The study was conducted in accordance with the National Statement on Ethical Conduct in Research (2015) and no ethical challenges were experienced. Clients were handed an information statement and informed that their information will be captured in a standalone database and analysed for research and evaluation purposes by CCLHD. They were informed that if they did not wish for their information to be used, they could opt out by informing a staff member.

**Findings**

### Over a six year period (from 2010-2016) the service assessed and provided treatment to a total of 601 clients, averaging one hundred per year. Nine percent (9.02%) identified as Aboriginal and Torres Straits Islander.

### Based on the administrative dataset, clients are primarily referred to this team after being assessed by the mental health service’s acute care team (30.09%), an inpatient admission (18.97%), or presentation to the emergency department (11.97%), GPs (8.72%), non-acute public mental health services (7.2%), self-referral (6.67%), NGOs (6.5%), private psychiatrists/psychologists/counsellors (4.62%), youth health services (2.54%), drug and alcohol services (2.22%) and juvenile justice services (0.5%).

As per Table 1, the average age is inconsistent across the different datasets, ranging from 18 to 20. This variation can be attributed to changes in service entry criteria in 2011 when the service was redesigned to provide care to young people to the age 24. Prior to this young people were referred to adult services at the age of 18 (hence the lower average age in the database that spans back to 2010).

More clients are male (64.23% - 69%) than female (31%-35.77%).

Insert Table 1

The average length of stay for clients accepted by the service for case management is 266 days (range: 58 to 1453 days). This excludes clients who did not engage with the service following initial referral and assessment or those who received an extended assessment only (length of stay <58 days, n=107).

**Psychiatric and psychosocial profile**

As per the inclusion criteria of the service, all young people referred to the service are experiencing a first episode psychotic disorder/symptoms of psychosis or sign and symptoms that indicate an at risk state or prodromal phase. While psychosis or perceived risk of psychosis is the primary presenting issue, many clients present with multiple mental health concerns. At the point of intake, non-psychotic comorbidities were documented in the administrative dataset for over half of patients (55.9%). Based on the file audit the vast majority of clients experienced multiple mental health concerns (97%, n=32, N=33), and over half had four or more mental health problems documented in their files.

As per Table 1, there is some variation across the datasets in terms of presenting issue/diagnosis. This is due to the difference in data collection. The presenting issue/diagnosis included in the larger administrative dataset is based on either referral documentation and/or a preliminary assessment by an early psychosis clinician, generally a mental health nurse, collected at the point of intake. The presenting issue/diagnosis included in the file audit is based on the allocated case manager’s experience of the client as documented in the file notes, as well as formal diagnosis for those clients that have been diagnosed by our medical staff, throughout treatment. This dataset is more reliable in the sense that it provides a more comprehensive understanding of the client’s mental health concerns. Based on this dataset, the most common mental health issues experienced by this population are, in order of prevalence, anxiety (60.61%, n=20), drug induced psychosis (48.48%, n=16), depression (42.42%, n=14), schizophrenia (33.33%, n=11), trauma (child sexual abuse, family violence, sexual assault) (33.33%, n=11), attachment issues (for example, as the result of inconsistent parental availability) (30.30%, n=10), developmental delay (24.24%, n=8), self-harm/suicidal ideation (18.18%, n=6), brief reactive psychosis (15.15%, n=5), transient psychosis (15.15%, n=5), prodromal (12.12%, n=4), and bipolar (6.06%, n=2).

All clients (both those accepted for the full program as well as extended assessment only) were prescribed psychotropic medication, primarily antipsychotic medication (95%, n=37, N=39), and 38% (n=15) were taking more than one psychotropic medication. Many of these were commenced on psychotropic medication during an inpatient admission, which was then reviewed by the medical team.

The antipsychotic medication young people were taking at the first appointment with the physical health nurse (N=39) included aripiprazole (35.90%, n=14); olanzapine, (25.6, n=10); risperidone, (15.38%, n=6); paliperidone, (10.25%, n=4); quetiapine (7.69%, n=3). Other psychotropic medications included antidepressants (all classes) (23.07%, n=9), mood stabilizers (lithium, 10.25%, n=4; sodium valproate, 5.12%, n=2). As outlined later, some of these medications were causing side effects and were reviewed and changed in accordance with the evidence (Positive Cardiometabolic Health algorithm).

Over two thirds of clients (69.70%, n=23, N=33) reported using illicit drug. All clients who reported drug use, used cannabis (n=23), usually in combination with one or more other illicit drugs (45.45%, n=15). After cannabis, the most used drugs were ice (crystal methamphetamine) (27.27%, n=9), amphetamines (21.21%, n=7), followed by ecstasy (18.18%, n=6). Only two clients (6.06%) reported cocaine use. These percentages are likely to be higher as clinicians only reported the illicit drug use they had been informed about by the client; it is possible that some clients had not shared such information with the clinician.

The majority of clients live with one or both parents (72.72%, n=24, N=33), and the remainder live with friends or relatives (15.15%, n=5), alone (6.06%, n=2), in supported housing (3.03%, n=1) or homeless (3.03%, n=1).

Nearly forty percent (39.39%, n=13, N=33) of clients were not engaged in education nor employment. Around a third (30.30%, n=10) were studying (completing high school or tertiary education) and another third (30.30%, n=10) were employed either full time (15.15%) or casually/part time/as a volunteer (15.15%). Nearly half (42.42%, n=14) of clients had not completed high school education beyond year ten. Two clients were still completing high school, and 30.30% (n=10) had completed year 12 only. A fifth (21.21%, n=7) had completed tertiary studies. All clients who are not working nor studying are linked in with employment support services. Around two thirds of clients received Government financial support; 27.27% (n=9, N=33) received a youth allowance, 24.24% (n=8) received unemployment benefit, and 18.18% (n=6) received a disability support pension.

As outlined in Table 2, clients presented with a range of family related vulnerabilities; in particular, a high proportion of clients report a family history of mental illness, a family history of substance abuse, significant family conflict, unstable housing, and exposure to domestic violence. Nearly a fifth reported a family history of attempted or completed suicide. Over half of clients (54.55%, n=18) reported three or more of the vulnerabilities outlined in Table 2, and nearly half (42.42%, n=14) reported five or more.

Insert Table 2

The service has a commitment to family and carer inclusive practice and where possible the clinician will engage family and carers in treatment. Despite attempts from clinicians to engage families and carers, a quarter of young people (24.24%, n=8) had no family or carer involved in their care at all; however, of these, five had at least one friend involved instead. In terms of barriers to family engagement, clinicians reported the most significant barrier as families not wanting to be involved (71.43%). Other, but less significant barriers, are the young person not wanting family involvement (14.29%) or no available family to be involved (14.29%).

For over half of clients (54.55%, n=18), clinicians reported that they perceive the family dynamic as impeding recovery. Primary reasons given for this were disconnection between the young person and his or her family (72.72%, n=13), chaotic family systems (55.55%, n=10), poor understanding/insight (50.00%, n=9), parental mental illness (44.44%, n=8), family burnout (27.78%, n=5), grief around/poor acceptance of the young person's mental health problems (22.22%, n=4) and religious reasons (5.56%, n=1).

# Physical health profile

Table 3 outlines the physical health profile of clients based on first appointment data collected by the physical health nurse (N=39). The timing of the first appointment with the physical health nurse varied across clients, and while the intention was to conduct a comprehensive physical health assessment within the first month of referral, this did not happen consistently and some clients had been with the service in excess of six months before the assessment was completed.

Insert Table 3

As per Table 3, the nurse identified a range of physical health problems. Nearly half of clients were identified as at risk of metabolic syndrome (with some but not all of the markers, i.e. increased blood pressure, high blood glucose, weight gain and abnormal cholesterol levels) (48.7%; n=19, N=39), nearly a quarter had all of the markers for metabolic syndrome (23%, n=9), and one young person was identified as pre-diabetic (in the higher range). Following the initial physical health assessment, if indicated, some young people were further screened for specific health problems. This process identified a range of health problems, including hyperprolactinemia (n=7) (high levels of prolactin), liver dysfunction (n=10), anaemia (n=2), high white blood count (n=1), Hep C (n=1). Five young people were identified as having no immunity to Hep B.

The health issues identified were addressed through a range of methods, including interventions provided by the nurse, by the psychiatrist or medical officer in charge, and/or referral to a GP, dentist or other specialist (eg. liver clinic). The nurse routinely liaised with the client’s GP and helped establish new client GP relationships for those clients who did not already access primary health services (36%, n=14). Nursing interventions such as lifestyle interventions (education around alcohol and drug safety, sexual safety, exercise, smoking cessation, etc.) and commencement of vaccination schedule were routinely provided by the nurse. If the physical health issues identified were likely to be a side effect to antipsychotic medication, the nurse liaised with the medical officer/psychiatrist around how to manage the side effects. For example, seven young people had hyperprolactinemia (high levels of prolactin) and experienced symptoms that impacted negatively on their quality of life, such as erectile dysfunction, gynecomastica (growth of male breast tissue), lactation, menstruation irregularity. As hyperprolactinemia is a common side effect to certain antipsychotic medications (atypical antipsychotics, such as olanzapine and risperidone), these young people were changed to either a lower dosage or a different antipsychotic medication (usually aripriprazole, as this is used to lower prolactin levels). One young person was identified as pre-diabetic and commenced on metformin. Metformin is the first-line medication for the treatment of type II diabetes and is indicated for clients who are prescribed antipsychotic medication and who have, or are at risk of, metabolic syndrome (Prajapati, 2014; Zheng et al., 2015). As recommended in practice guidelines (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016) the nurse also conducted oral health screening and identified that the majority of young people did not have a dentist but needed to see a dentist (61.1%, n=24). Only 38.46% already had dentist (n=15); the physical health nurse made referrals for those who did not.

**Implications for practice/Discussion**

The profile of young people with early psychosis outlined here supports calls for early psychosis interventions to be holistic and include a range of psychiatric, psychosocial and physical health interventions (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Killackey, 2009). While pharmacotherapy plays an important role in the treatment of psychotic disorders, this should be offered in conjunction with psychological, psychosocial and physical health interventions (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Killackey, 2009; National Institute for Health and Clinical Excellence, 2008). Most treatment guidelines now make specific recommendations about the inclusion of psychosocial and physical health interventions in the treatment of psychosis (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; National Institute for Health and Clinical Excellence, 2008).

**Psychiatric and Psychosocial care**

The psychosocial profile described in this paper supports calls for greater inclusions of psychosocial interventions such as vocational support and family interventions in the treatment of early psychosis (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Killackey, 2009). The onset of psychotic disorders can derail development in a number of maturational tasks including individuation from family, completion of education and initiation of a career (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Killackey, 2009).

The family of origin related data presented in this paper support calls for early psychosis treatment to include family focussed interventions (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Killackey, 2009; Ruggeri et al., 2015). Family-based interventions recognise the important role of families and family dynamics in adolescent mental illness (Bickerton, Ward, Southgate, & Hense, 2014; Killackey, 2009). Psychosis (both emergent and established) can have an enormous impact on the family system, and can lead to suffering for both the person with the illness and their families (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Leggatt, 2007). The importance of family involvement is particularly true for early psychosis as the majority of young people are living with their families at the time of onset (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016). Family interventions seek to improve the psychosocial environment and maximise the adaptive functioning of the family by promoting coping skills, affect regulation, support and education (Bickerton et al., 2014; Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; McNab & Linszen, 2009; Schley, Radovini, Halperin, & Fletcher, 2011). Clinicians primarily draw on Behavioural Family Therapy in their work with families, as this is a psycho-educational approach that seeks to enhance the family’s resilience, problem solving capability and adaptive functioning. The current data also calls for early psychosis services to be trauma-informed as many of the clients report traumatic childhood experiences (as per Table 2). The significance of childhood trauma in the development of mental illness is increasingly recognised and has informed a focus on the delivery of trauma-informed care in mental health reform agendas (Mental Health Commission, 2014b; Mental Health Coordinating Council, 2013).

The education and employment data presented support the need for early psychosis services to facilitate access to educational and vocational services (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Killackey, 2009; Major et al., 2010). The onset of psychosis most often falls in a key period of vocational development and, as a result, education is often not completed or completed at a standard lower than may have otherwise been achieved, and employment is not gained or maintained (Killackey, 2009). Our local data is consistent with other estimates that indicate that around forty percent of people with first episode psychosis are unemployed (Killackey, 2009; Killackey, Jackson, Gleeson, Hickie, & MCGorry, 2006; Killackey, Jackson, & McGorry, 2008). Unemployment is associated with increased marginalization, poorer health outcomes, lower self-esteem and increased substance use, and employment is an important path back to functional recovery (Killackey, 2008, 2009).

In regard to substance use, the finding that over two thirds of clients reported using illicit drug, supports the need for early psychosis services to provide interventions to treat substance use issues, either provided by the clinician or in collaboration with a drug treatment service (Drake, Mercer-McFadden, Mueser, McHugo, & Bond, 1998; Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Edwards, Hinton, Elkins, & Athanasopoulos, 2003). Locally, the service predominantly draws on motivational interviewing to motivate the young person to change, without attempting to convince the person of the need to change or instructing them about how to change. This is primarily achieved by psycho-education and by increasing the young person’s awareness that substance use may impede the achievement of personal goals (Drake et al., 1998).

**Physical health care**

The physical health profile described in this paper supports calls for greater inclusions of physical health interventions (Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Killackey, 2009). The physical health profile of clients shows that many young people either have or are at risk of metabolic syndrome. This supports calls for regular physical health care check-ups with structured metabolic monitoring for this population as part of routine care (Eapen & John, 2011; Ellis, Shirzadi, & Grzeskowiak, 2008; Hasnain et al., 2009; Lambert, 2011; Nash, 2011; Waterreus & Laughame, 2009; Wu & Zhao, 2008). There is a risk of severe harm, or death, associated with a lack of medication monitoring, which makes it a clinical governance issue for mental health service managers (Nash, 2011).

The physical health profile of clients, in particular the finding that nearly half of clients were at risk of metabolic syndrome, supports a call for antipsychotics to be used with caution and in conjunction with other evidence-based treatments (Thompson, 2014; Victorian Consumer Workforce Partnership Dialogue Forum, 2015), as well as routine physical health monitoring. While the current model has been effective at increasing metabolic monitoring and intervening in accordance with the evidence, this has not been without challenges. In particular, the model was initially conceptualised as centre based, but young people would not engage. We changed the model to outreach and this has been much more effective at facilitating engagement. Also, initially the young people were reluctant to undergo a physical health assessment and, in particular, expressed concerns and anxiety around having blood tests. We found that having a nurse that is both mental health and physical health qualified has helped manage this barrier. The nurse draws on her physical health training to conduct the assessments but utilises her mental health training and skills to help clients manage their anxiety and other mental health symptoms. The nurse also uses the appointment time to administer antipsychotic depot injections if required. This supports the case managers by freeing up time to deliver psychological and psychosocial interventions. Linking clients with GPs is another challenge, as many young people do not attend GP appointments. To help link clients with GPs, we believe that warm transfers are critical and, where possible, that the nurse attends the first appointment to discuss the assessment findings/identified health concerns with the GP directly.

Another barrier pertains to the group intervention, in particular the exercise component. A significant body of evidence indicates that individual interventions are best delivered alongside groups interventions, in particular interventions aimed at preventing weight gain by increasing physical activity and addressing poor dietary choices (Curtis et al., 2015; Eapen & John, 2011; Early Psychosis Guidelines Writing Group and EPPIC National Support Program, 2016; Lambert, 2011; Poulin et al., 2007). Weight gain is a significant issue that mediates adverse cardio-metabolic health in this population (De Hert et al., 2011; Foley & Morley, 2011; Mitchell, Vancampfort, De Herdt, Yu, & De Hert, 2013), and the prevention of weight gain should be an integral part of the management of adolescents on anti-psychotic medication (Curtis et al., 2015; Eapen & John, 2011). Estimates indicate that between forty and eighty percent of clients with psychosis are overweight or obese (Eapen & John, 2011; Feiler, Chen, Pantelis, & Lambert, 2012), and this is consistent with our local observations. Nearly half (42.8%, n=15) of young people reported on in this study were overweight or obese at the time of the initial physical health assessment.

While clinicians are committed to enhancing the levels of physical activity in young people through exercise, they do not feel confident in providing exercise interventions and require support and training in this area. This is consistent with observations made in the literature which highlights workforce capacity is a key barrier to implementing physical activity interventions for mental health clients (Rosenbaum et al., 2015). To overcome this barrier, we engaged an exercise physiologist to help deliver the exercise component of the Healthy Living Group Program. It is increasingly recommended that people with mental illness receive exercise interventions that are guided or designed by clinicians with expertise in exercise prescription such as exercise physiologists or physiotherapists (Probst, 2012; Stanton, 2013; Stanton, Rosenbaum, Kalucy, Reaburn, & Happell, 2014; Stubbs et al., 2014). Accredited exercise physiologists are trained in providing evidence-based exercise interventions to individuals at high risk of developing, or with existing, chronic and complex medical conditions and injuries (Lederman et al., 2016). The provision of exercise interventions is not traditionally within the scope of mental health nursing, and an integrated approach to service delivery is required to ensure exercise interventions are implemented in accordance with the evidence (Rosenbaum et al., 2015). While we have made considerable effort to engage all young people in group lifestyle interventions and would like to see this embedded into routine care, participation numbers are low, and more needs to be done to facilitate engagement.

**Conclusion**

The profile of early psychosis clients supports previous calls for interventions to be holistic and include a range of psychiatric, psychosocial and physical health interventions. In particular, the findings support calls for services to be integrated and young people to be responded to holistically through the integration of psychological, psychosocial and physical health care. The data presented support the need for mental health care to be provided in conjunction with primary health care, vocational and employment support, exercise and dietary interventions, and support with substance use. Furthermore, this paper highlights the importance of family inclusive practice and trauma-informed care in early psychosis services. While this paper is limited in scope as most of the data is derived from two small datasets, it contributes to our understanding of the psychosocial and physical health profile of consumers with early psychosis, and describes how the service responds to the psychosocial and physical health needs of this population.

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