EQUALLYWELL
2023 Symposium

Thank you to our wonderful sponsors.
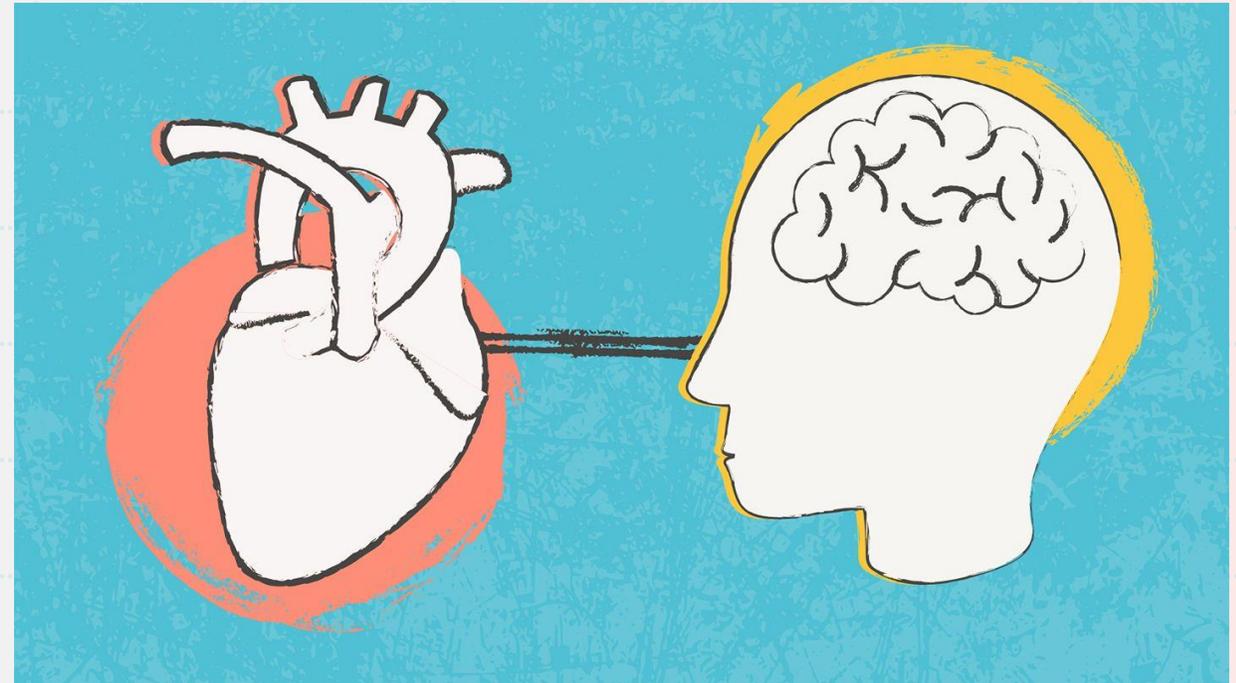
www.equallywell.org.au

Exploring modifiable cardiovascular risk factors in people with serious mental illness engaged with community care in Australia

Bella Mehrotra

Masters of Medical Research

Supervisors: A/Prof. Jason Peart, Prof. Amanda Wheeler & Dr. Jie Hu

Serious mental illness

- SMI = a group of diagnosable mental, emotional and behavioral conditions which impair daily functioning[1]
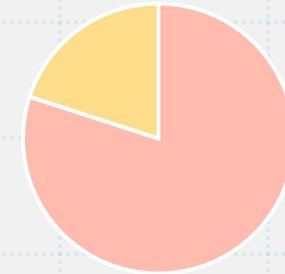
- Affects ~3.3% of Australian adults[2]

Gap in health outcomes for people with SMI

Life expectancy 14-23 years **shorter**[3]

Gap projected to **increase** over time[4]

80% of premature mortality due to **chronic physical** health conditions[5]

Avoidable through effective management in general population[4]

Cardiovascular disease in people with SMI

- Leading cause of death[6]

- 6x more likely to die[7]

- More prone to CVD risk factors at earlier age[8]

- Among most common physical comorbidities for mental illness[5]

Image: http://andrewcipriano.com/health-psychology-the-future-of-healthcare/

Aim: To explore and extend on current data on modifiable CVD risk factors and CVD management in people with serious mental illness engaged with community care in Australia

Objectives:

1. To explore baseline modifiable CVD risk factors in people with SMI engaged in care in Australia

2. To explore alternative perspectives on CVD risk management in people with SMI in the primary healthcare setting

Research plan: Overview

Conduct literature review exploring CVD and SMI

Obtain baseline data from *PharMIbridge* RCT[20]

Construct new data set of variables related to CVD risk

Perform descriptive statistical analysis using SPSS
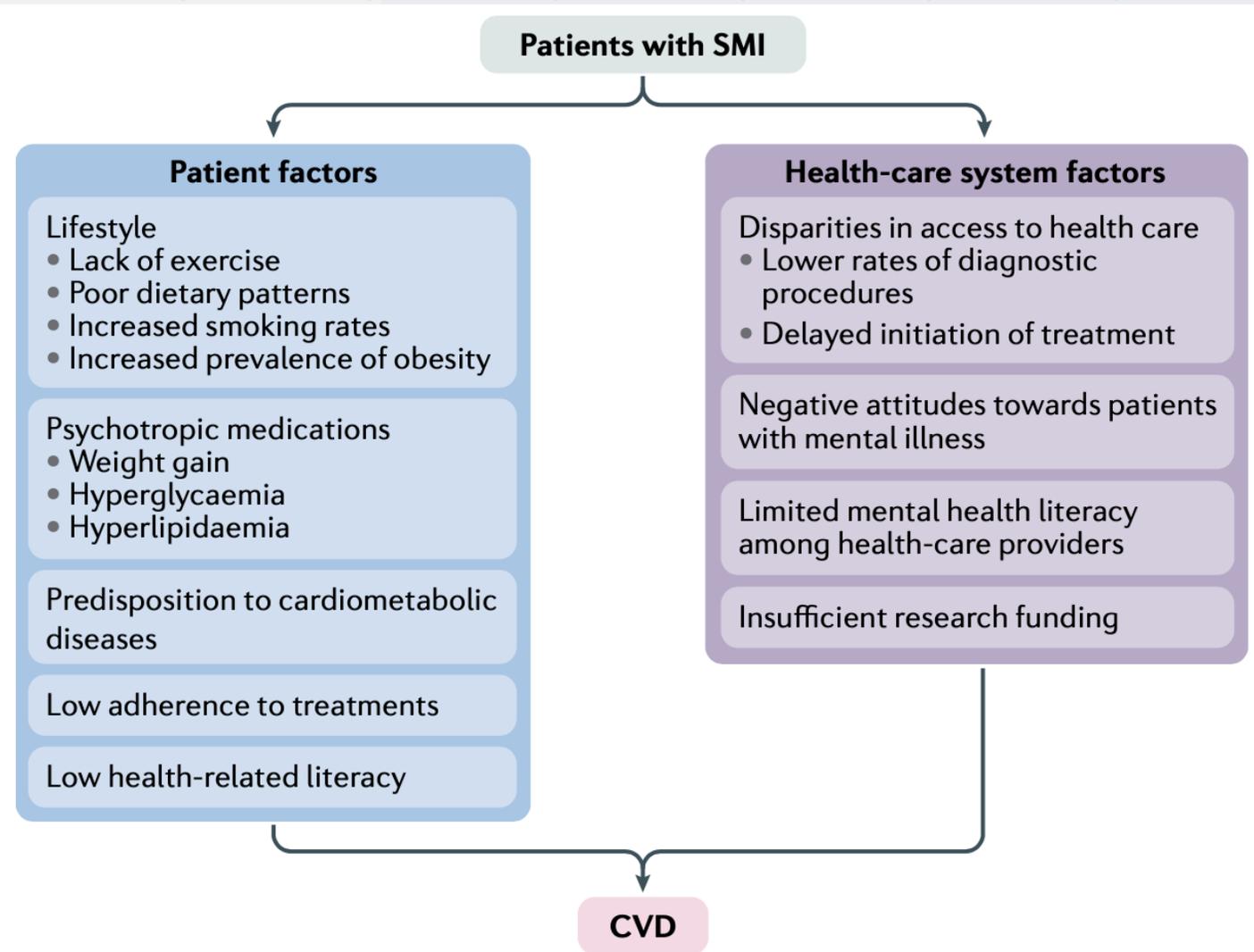
Explore results through qualitative interviews

Research plan

Conduct **literature review** exploring CVD and SMI

CVD risk in people with SMI

- Increased **modifiable** risk factors[9]

- Failures of the healthcare system to address these
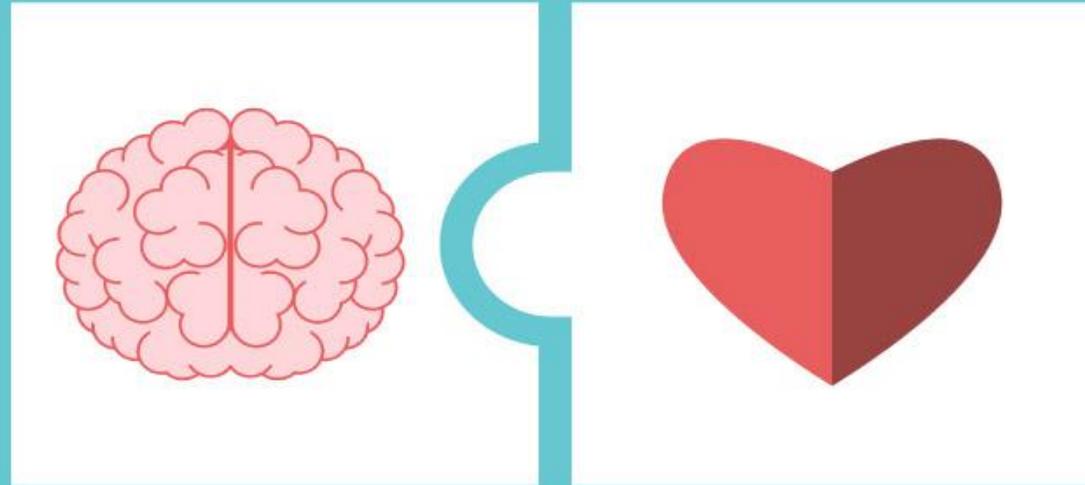

Figure 1. Factors associated with CVD morbidity and mortality in patients with SMI[8]

SMI and CVD risk behaviours

- Symptoms of mental illness
  - Amotivation
  - Executive dysfunction
- Low self-esteem
- Financial barriers
- Lack of social support
- Sedative side effects of psychotropic medications

Relationship between CVD and SMI

Directly proportional

Bidirectional

Barriers to health

Poor clinical management[10] of:

1. Prevention and risk factor intervention

   • Insufficient screening of CVD and CVD risk factors[11]

   • Fragmentation between healthcare services[12]

   • Diagnostic overshadowing[13]

   • Underreporting of physical health concerns[14]
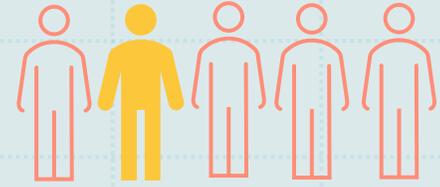
Only **1 in 5** healthcare consumers with SMI received inquiries about their physical health[15]

Barriers to health

2. Long-term treatment methods

- Lack of consideration for lifestyle interventions[18]

- Overreliance on psychotropic medications[10]

- Under prescription / lower quantity prescription of medications for CVD[16,17]

Discrimination and stigma:

- Stereotyped as 'too unstable, lazy, unmotivated'[19]

Research plan

Conduct literature review exploring CVD and SMI

Obtain baseline data from *PharMIbridge* RCT[20]

Construct new dataset of variables related to CVD risk

Bridging the Gap between Physical and Mental Illness in Community Pharmacy

Overview

Community pharmacies are well positioned to be mental health friendly healthcare destinations.

PharMIbridge was a co-designed and goal directed service to optimise the quality of life, physical and mental health and medication use for people living with a severe and persistent mental illness (SPMI).

Who was involved?

25 community pharmacies from 4 regions (regional Victoria, Northern Sydney, Hunter New England, Australian Capital Territory).

Adults living in the community using medicines (e.g. antipsychotic, mood stabiliser) to manage SPMI, such as schizophrenia, bipolar disorder or major depression.

Connections with other healthcare practitioners and community services.

pharMIbridge
bringing your physical and mental health together with your pharmacist's support

This activity was funded by the Australian Government.

PharMIbridge service

Health review

Health assessments and review of health concerns / needs, including psychological distress.

156 consumers completed the health assessment.

Medication review

Medication list reviewed; assessment of medication-related problems and severity of these.

170 medication-related and 474 health issues were identified.

Action plan

Individualised plan sent to GP/psychiatrist/other support people.

Could include referrals to other services and health professionals.

Goal planning

512 health-related goals discussed in partnership and personalised action plan co-developed.

Follow-up

Individualised follow-up over 6 months and ongoing support.

Average of 2.75 follow-ups per consumer (range 1-7 for 149 consumers).

Final review

Final medication review and health assessments, including goal progress.

135 consumers completed the final assessment.

How were pharmacists supported?

Mental Health First Aid training and role-plays.

Engagement with people with lived experience and pharmacist mentors.

Expert modules to support consumer goal planning and physical and mental wellbeing.

Standardised tools and templates.

How were participants referred?

People self-identified.

Referral from other health care professionals.

Identification via pharmacy records and established relationships.

In-pharmacy promotion of *PharMIbridge* as a mental health friendly setting.

Study population

- ~348 participants
- **Healthcare consumers living with SMI** from participating pharmacies
- Recruited by trained pharmacy staff

Selection Criteria[20]
Age 16 years and above
Receiving at least one antipsychotic or mood stabiliser for at least 6 months
Complex medication need or unmanaged physical health problems
Provided informed consent

Data collection

- Baseline data collected via online questionnaire

  o Included established tools e.g. PAVS and ASSIST

  o Support from trained pharmacist to complete (if needed)

- Medication dispensing information recorded from pharmacy software and in discussion with pharmacist

PAVS = Physical activity vital sign (American College of Sports Medicine)[22]
ASSIST = Alcohol, Smoking and Substance Involvement Screening Test (World Health Organisation)[23]

Data analysis: CVD-related variables

Demographic	Physical	Lifestyle	Healthcare services
• Age • Gender • Ethnicity • Education • Employment • Diagnosed mental illness	• Weight • Height • BMI • Abdominal girth • Blood pressure • Long-term physical health condition/s	• Smoking • Drug and alcohol use • Physical activity • Dietary choices	• CVD risk assessment • Glycated Hb measurement • Participation in health programs / services • Prescription of CVD medication

Research plan

Conduct literature review exploring CVD and SMI

Obtain baseline data from *PharMIbridge* RCT[20]

Construct new data set of variables related to CVD risk

Perform **descriptive statistical analysis** using SPSS

Risk factors: Physical

Risk Factor	Consumers with SMI (*PharMIbridge*) N=348	General population* N=21,000
Weight (kg) (N=285)	92.7	Male: 87.0 Female: 71.8
BMI (N=282)	31.7	28.1
Systolic BP (mmHg) (N=262)	130.4	122.6
Diastolic BP (mmHg) (N=262)	84.2	76.8
Abdominal girth (cm) (N=187)	106.2	Male: 98.0 Female: 87.9

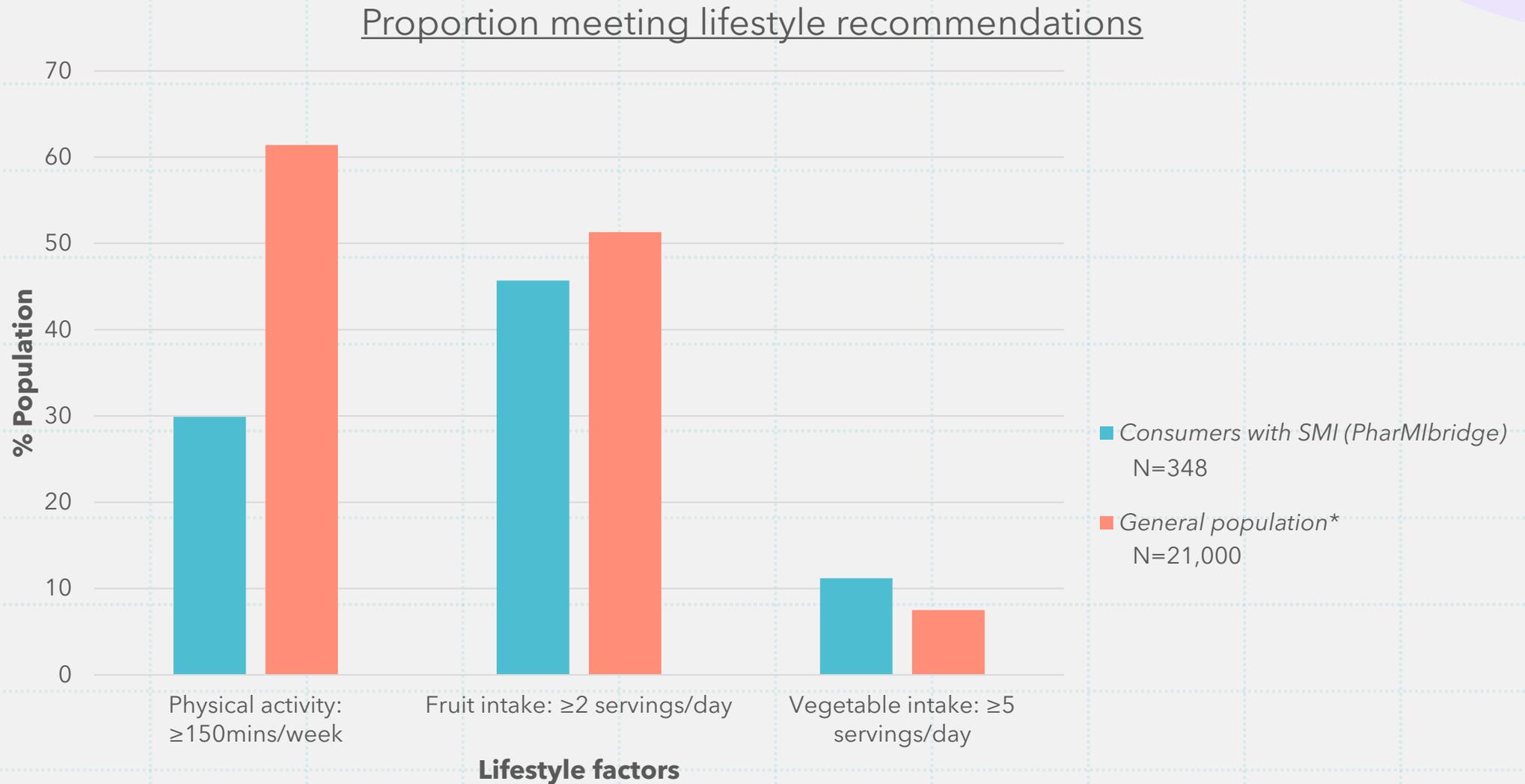*General population = 2017-18 Australian National Health Survey[21]

Risk factors: Physical

Prevalence of long-term physical health conditions
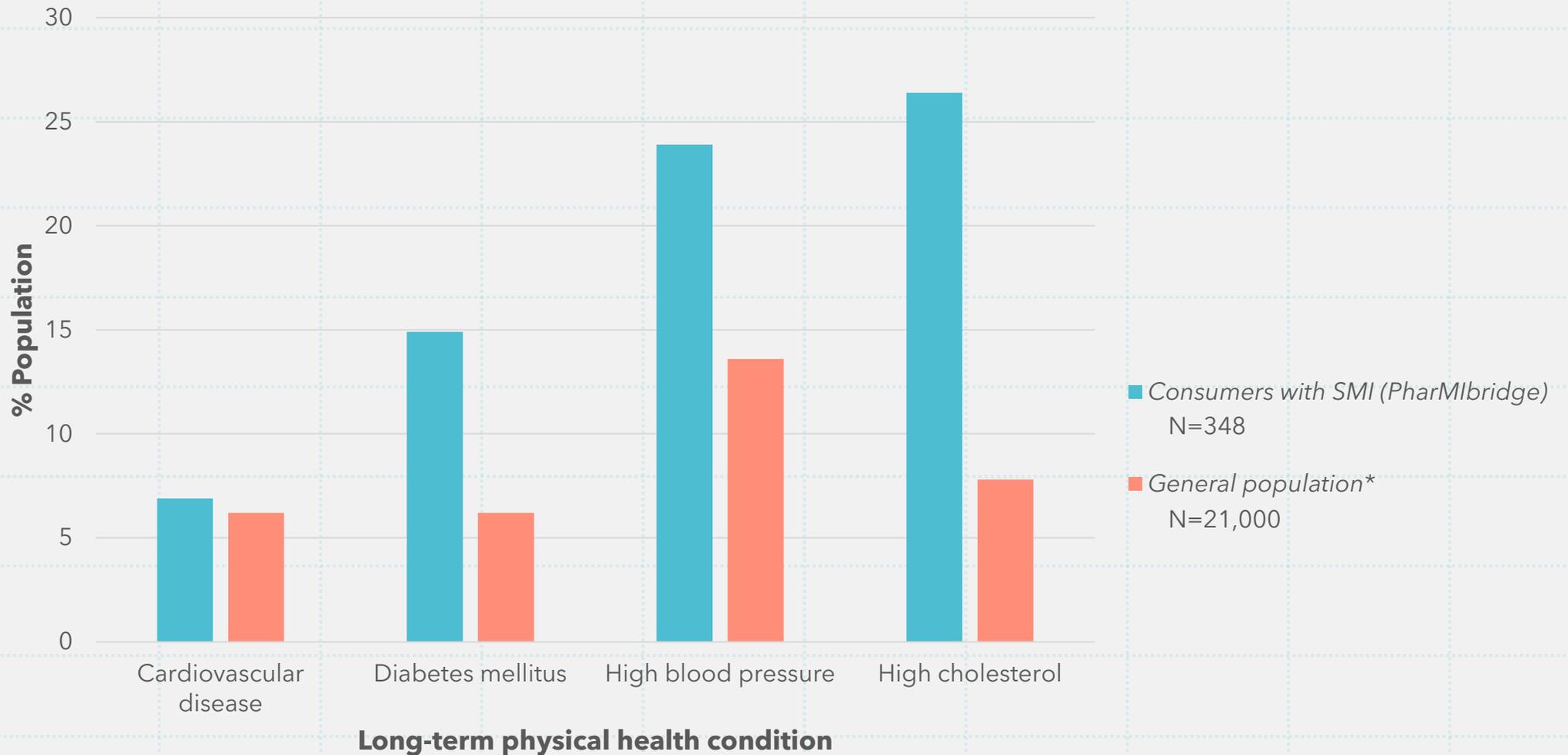
*General population = 2017-18 Australian National Health Survey[21]

Risk factors: Lifestyle

Proportion meeting lifestyle recommendations

% Population

70
60
50
40
30
20
10
0

Physical activity: ≥150mins/week

Fruit intake: ≥2 servings/day

Vegetable intake: ≥5 servings/day

Lifestyle factors

■ *Consumers with SMI (PharMIbridge)*
    N=348

■ *General population**
    N=21,000

*General population = 2017-18 Australian National Health Survey[21]

Risk factors: Lifestyle

Alcohol consumption

- 24.2% consuming alcohol at moderate to high risk (N=327)

- Average 11.27 standard drinks/day amongst daily or almost daily drinkers
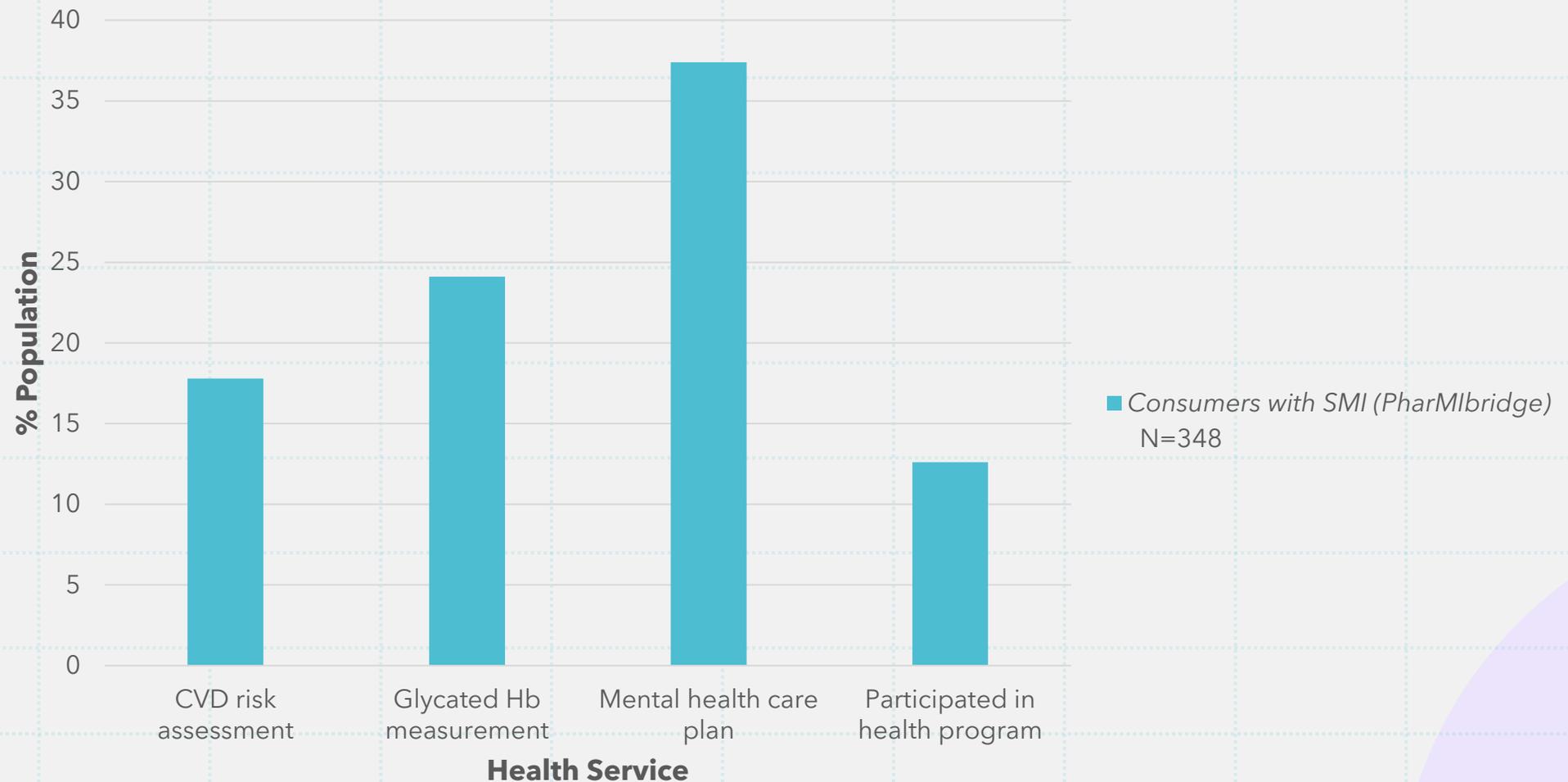
Smoking

- 41.8% smoking at moderate to high risk (N=328)

- Median 15 cigarettes/day amongst daily or almost daily smokers

92% (N=348) of mental health consumers have 3 or more CVD risk factors

Medication

- 24.7% (N=348) prescribed CVD medications with relevant indications

- Of those **not** prescribed CVD-related medications:

  o 43.2% (N=162) had CVD-related long term physical health condition/s

  o 90.1% (N=262) had 3 or more CVD risk factors

Research plan

Conduct literature review exploring CVD and SMI

Obtain baseline data from *PharMIbridge* RCT[20]

Construct new data set of variables related to CVD risk

Perform descriptive statistical analysis using SPSS

Explore results through **qualitative interviews**

Qualitative interviews

15-30 min semi-structured interviews

Participants: Peer support workers (N=10)

Exploring perspectives on CVD risk in primary care setting

Summary

People with SMI experience…

- Increased prevalence of
  - CVD risk factors (physical & lifestyle)
  - CVD precursor long-term physical health conditions
- Low engagement with health services for physical health concerns
→ High rates of morbidity and mortality from CVD

Acknowledgement and thanks

Thank you to all the consumer, peer worker and pharmacy participants

Thank you to my colleagues and co-authors:

Jie Hu[1], Sara S McMillan[1,2,5], Jack C Collins[3], Claire L O'Reilly[3], Sarira El-Den[3], and Amanda J Wheeler[2,4,5]

1. School of Pharmacy and Medical Sciences, Griffith Health, Griffith University, Brisbane, Australia
2. Centre for Mental Health and Menzies Health Institute Queensland, Griffith University, Brisbane, Australia
3. The University of Sydney School of Pharmacy, Faculty of Medicine and Health, The University of Sydney, Camperdown, Australia
4. Faculty of Medical and Health Sciences, University of Auckland, Auckland, New Zealand
5. Centre for Mental Health, Griffith University, Australia

References

1. World Health Organisation. (2018). Guidelines for the management of physical health conditions in adults with severe mental disorders. Geneva. https://www.who.int/publications/i/item/978-92-4-155038-3

2. Whiteford, H., Buckingham, B., Harris, M., Diminic, S., Stockings, E., & Degenhardt, L. (2017). Estimating the number of adults with severe and persistent mental illness who have complex, multi-agency needs. Australian & New Zealand Journal of Psychiatry, 51(8), 799-809. https://doi.org/10.1177/0004867416683814

3. National Mental Health Commission. (2016). Equally Well Consensus Statement: Improving physical health and wellbeing of people living with mental illness in Australia. Sydney. https://www.equallywell.org.au/wp-content/uploads/2018/12/Equally-Well-National-Consensus-Booklet-47537.pdf

4. Roberts, R. (2019). The physical health of people living with serious mental illness: A narrative literature review. Charles University. https://www.equallywell.org.au/wp-content/uploads/2019/06/Literature-review-EquallyWell.pdf

5. Lawrence, D., Hancock, K. J., & Kisely, S. (2013). The gap in life expectancy from preventable physical illness in psychiatric patients in Western Australia: retrospective analysis of population based registers. BMJ, 346(7909), 2539-2539. https://doi.org/10.1136/bmj.f2539

6. Australian Bureau of Statistics. (2017). Mortality of People Using Mental Health Services and Prescription Medications, Analysis of 2011 data. Canberra. Retrieved May 5, 2022, from https://www.abs.gov.au/ausstats/abs@.nsf/productsbyCatalogue/EB5F81AAC6462C72CA2581B40012A37D?OpenDocument#:~:text=The%20standardised%20death%20rate%20for%20males%20who%20accessed%20mental%20health,deaths%20per%201%2C000%20population%20respectively

7. National Mental Health Commission. (2016). Equally Well Consensus Statement: Improving physical health and wellbeing of people living with mental illness in Australia. Sydney. https://www.equallywell.org.au/wp-content/uploads/2018/12/Equally-Well-National-Consensus-Booklet-47537.pdf

8. Nielsen, R. E., Banner, J., & Jensen, S. E. (2021). Cardiovascular disease in patients with severe mental illness. Nature Reviews Cardiology, 18(2), 136-145. https://doi.org/10.1038/s41569-020-00463-7

9. Bartlem, K. M., Bowman, J. A., Bailey, J. M., Freund, M., Wye, P. M., Lecathelinais, C., McElwaine, K. M., Campbell, E. M., Gillham, K. E., & Wiggers, J. H. (2015). Chronic disease health risk behaviours amongst people with a mental illness. Australian & New Zealand Journal of Psychiatry, 49(8), 731-741. https://doi.org/10.1177/0004867415569798

10. Morgan, M., Peters, D., Castle, D., Hopwood, M., Moy, C., Fehily, C., Sharma, A., Rocks, T., McNamara, K., Cobb, L., Duggan, M., Dunbar, J., & Calder, R. (2021). Being Equally Well: A national policy roadmap to better physical health care and longer lives for people living with serious mental illness. Mitchell Institute & Victoria University. https://www.vu.edu.au/sites/default/files/being-equally-well-roadmap-mitchell-institute.pdf

11. Lemogne, C., Blacher, J., Airagnes, G., Hoertel, N., Czernichow, S., Danchin, N., Meneton, P., Limosin, F., & Fiedorowicz, J. G. (2021). Management of Cardiovascular Health in People with Severe Mental Disorders. Current Cardiology Reports, 23(2). https://doi.org/10.1007/s11886-020-01436-5

12. Das, P., Naylor, C., & Majeed, A. (2016). Bringing together physical and mental health within primary care: a new frontier for integrated care. Journal of the Royal Society of Medicine, 109(10), 364-366. https://doi.org/10.1177/0141076816665270

13. Castle, D. J., Buckley, P. F., & Gaughran, F. P. (2017). Physical Health and Schizophrenia (Oxford Psychiatry Library). Oxford University Press. https://doi.org/10.1093/med/9780198811688.001.0001

References

14. Smith, D. J., Langan, J., McLean, G., Guthrie, B., & Mercer, S. W. (2013). Schizophrenia is associated with excess multiple physical-health comorbidities but low levels of recorded cardiovascular disease in primary care: cross-sectional study. BMJ Open, 3(4), e002808. https://doi.org/10.1136/bmjopen-2013-002808

15. Kaine, C., Lawn, S., Roberts, R., Cobb, L., & Erskine, V. (2022). Review of Physical and Mental Health Care in Australia. Lived Experience Australia Ltd.

16. Mitchell, A. J., Lord, O., & Malone, D. (2012). Differences in the prescribing of medication for physical disorders in individuals with v. without mental illness: meta-analysis. British Journal of Psychiatry, 201(6), 435-443. https://doi.org/10.1192/bjp.bp.111.094532

17. Woodhead, C., Ashworth, M., Broadbent, M., Callard, F., Hotopf, M., Schofield, P., Soncul, M., Stewart, R. J., & Henderson, M. J. (2016). Cardiovascular disease treatment among patients with severe mental illness: a data linkage study between primary and secondary care. British Journal of General Practice, 66(647), e374-e381. https://doi.org/10.3399/bjgp16x685189

18. Britt, H., Miller, G. C., Henderson, J., Bayram, C., Harrison, C., Valenti, L., Pan, Y., Charles, J., Pollack, A. J., Wong, C., & Gordon, J. (2016). General practice activity in Australia 2015-16. Sydney University Press. http://hdl.handle.net/2123/15514

19. Sheals, K., Tombor, I., McNeill, A., & Shahab, L. (2016). A mixed-method systematic review and meta-analysis of mental health professionals' attitudes toward smoking and smoking cessation among people with mental illnesses. Addiction, 111(9), 1536-1553. https://doi.org/10.1111/add.13387

20. Wheeler, A. J., O'Reilly, C. L., El-Den, S., Byrnes, J., Ware, R. S., & McMillan, S. S. (2020). Bridging the gap between physical and mental illness in community pharmacy (*PharMIbridge*): protocol for an Australian cluster randomised controlled trial. BMJ Open, 10(7), e039983. https://doi.org/10.1136/bmjopen-2020-039983

21. Australian Bureau of Statistics. (2017-18). National Health Survey: First results. ABS. https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey-first-results/latest-release

22. American College of Sports Medicine. (n.d.). Healthcare provider resources. https://www.exerciseismedicine.org/eim-in-action/health-care/resources/

23. Humeniuk RE, Henry-Edwards S, Ali RL, Poznyak V and Monteiro M. (2010). The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): manual for use in primary care. Geneva, World Health Organization.

Summary

People with SMI experience…

- Increased prevalence of
    - CVD risk factors (physical & lifestyle)
    - CVD precursor long-term physical health conditions
- Low engagement with health services for physical health concerns
→ High rates of morbidity and mortality from CVD