EPIDEMIOLOGICAL ASSESSMENT

Prevalence of coexisting substance use and mental health conditions in Nottingham and Nottinghamshire.

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GOVERNANCE

This project was overseen by the Substance Use/Mental Health Pathway Development Group. Members of this group included representatives from the following organisations: Change Grow Live; Double Impact; Nottingham City Council; Nottingham and Nottinghamshire CCGs; Nottingham Recovery Network; Nottinghamshire County Council; and Nottinghamshire Healthcare NHS Foundation Trust. This group reviewed, commented on, and approved the protocol and final report but were not involved in delivery, data analysis or report writing.

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EXECUTIVE SUMMARY

Introduction

New services for people with coexisting substance use and mental health (coexisting conditions) are being developed within Nottingham and Nottinghamshire. The local prevalence of this population is currently unclear. This epidemiological assessment aims to inform future service planning.

Methods

Prevalence was assessed in three contexts: primary care, secondary care (mental health) and substance use services. Coexisting conditions were assessed using different criteria and measurement tools in each setting. Care should therefore be taken in comparing prevalence rates across settings.

Data was collected for the 2021-22 period from four different patient cohorts: general primary care population, substance use-only, mental health-only, and coexisting conditions patients. Demographic information for each of the cohorts was compared. Local area geographical comparisons were also conducted where possible.

Results

The estimated local prevalence of coexisting conditions was lowest in the primary care patient population (0.07%), more substantial in mental health services (19%) and highest in substance use services (32-78%).

The coexisting condition population were disproportionately male, (younger) middle-aged, and White, with a high level of deprivation. The observed geographical differences in prevalence were consistent with place-based differences in deprivation, with Nottingham City having the highest prevalence rate.

It was not possible to make a reliable estimate of unmet treatment need amongst patients accessing services due to poor recording. Nonetheless, the data from this assessment suggested that approximately 80% of coexisting condition patients within secondary care are not receiving support from substance misuse services. Meanwhile, 20-30% of coexisting condition clients within substance use services are not receiving any form of mental health support.[1]

Recommendations

1. Develop a specialist coexisting condition pathway for patients with severe symptoms.
2. Conduct staff training needs assessments in (i) mental health services and (ii) substance use services.
3. Provide training to non-specialist staff in conducting basic assessments and brief psychosocial interventions for coexisting condition patients with mild-moderate symptoms.
4. Improve substance use data recording by either: (a) including substance use services within a shared care record system or (b) introducing a substance use screening tool, such as ASSIST-LITE, which can be routinely used in primary and secondary care for at-risk groups (deprived areas, identified mental health problems).
5. Improve mental health data recording: conduct an audit of missing data within substance use services and train staff to ask brief questions at assessment

[1] Precise counts cannot be given due to missing data.

INTRODUCTION

Aims and objectives

Health and care providers in Nottingham and Nottinghamshire are looking to expand the service offer to people with coexisting mental health and substance use conditions (coexisting conditions). This involves the development of new pathways of care. The aim of this health needs assessment is to provide evidence to inform the development of these pathways by estimating the level and distribution of need across different population groups and local areas.

The objectives are to:

1. Identify the prevalence of coexisting conditions within Nottingham and Nottinghamshire
2. Make recommendations for enhancing the service offer to this population

Coexisting substance use and mental health conditions

Definition

Coexisting conditions occur when individuals require support for both their mental health and their use of legal and illicit substances. Historically this population has been referred to as having a 'dual diagnosis'. Other terms for this group include comorbid or co-occurring mental health and substance use.

The NICE definition of coexisting conditions states that coexisting conditions consist of: (i) a severe mental illness, but not common mental health problems and (ii) the use of legal or illicit drugs in a way that causes mental and/or physical harm (NICE, 2019). For pragmatic reasons owing to the types of data available in different settings (see Methods section), three definitions of coexisting conditions are used in this report. These all include reference to high levels of substance use but vary in their classification of mental health problems. Depending on the setting, the classification of coexisting conditions includes (i) severe mental illness (psychosis, bipolar, severe depression), (ii) any mental health problem warranting secondary care support, or (iii) any self-reported mental health problem, including common mental health problems.

National prevalence estimates

The estimated prevalence of coexisting conditions in the UK varies between studies, services, and geographic areas. A NICE-commissioned systematic review identified widely varying prevalence estimates across studies of secondary care populations, indicating between 12-62% of patients have coexisting conditions (Megnin-Viggars et al., 2015). Estimates also vary by disorder, with up to 40% of adults with psychosis thought to use substances (NICE, 2011).

It was decided to estimate the local prevalence of coexisting conditions within Nottingham and Nottinghamshire given that national estimates of coexisting conditions range so widely, and these estimates vary by the population studied. This was intended to capture the demographics and characteristics of the local population, which may influence prevalence. For this reason, local needs assessments for coexisting conditions are also recommended by NICE (NICE, 2016) and in the Five Year Forward View for Mental Health (NHS England, 2016).

Health and social needs

Health outcomes for people with coexisting conditions are typically poorer compared to those with a single condition across a wide range of domains. There is limited research on the physical health of adults with coexisting conditions. However, there is consistent evidence that adults with either severe mental health problems or substance use problems are at greater risk of a variety of physical health problems (Robson et al., 2008) and early mortality (Nordentoft et al, 2013). They are also at increased risk of hospitalisation and suicide (NCISH, 2022; NICE, 2011).

This population also has unmet social needs. First, most patients appear to be out of work, with 96% of patients with a coexisting condition accessing a London-based mental health not in paid work (Miles et al., 2003). Second, a significant minority (6%) of this patient population were found to be homeless.

Finally, this population may be at increased risk of contact with criminal justice services. A systematic review of observational studies found that coexisting condition patients had markedly higher rates of violent offending than psychosis patients (Fazel et al., 2009).

METHODS

Settings

Todd et al. (2004) recommend estimating the prevalence of coexisting conditions using data from three settings: general population, primary care, and specialized services. General population prevalence can be estimated from large, representative community surveys. Unfortunately, no survey data for Nottingham and Nottinghamshire was available so data at this level is not included within this report. However, primary care data is included. Primary care databases are another representative source of data, covering a large proportion of the population. Primary care settings also provide data derived from clinical consultations, which may be more accurate than questionnaires. Finally, data from specialized settings (typically mental health or substance use services) describes prevalence amongst those with greater levels of need. This multi-level approach provides a picture of prevalence at different levels of care.

Data was provided from partner organizations in each setting:

Primary care: NHS Nottingham and Nottinghamshire Integrated Care Board (ICB).

Mental health services (secondary care): Nottinghamshire Healthcare NHS Foundation Trust.

Substance use services: Change Grow Live (CGL), Nottingham Recovery Network (NRN) and Clean Slate. CGL and NRN provide substance use services in Nottinghamshire and Nottingham respectively. Clean Slate offers substance use services specifically to those at risk of contact with criminal justice services within Nottingham.

Samples

Inclusion criteria

Data for was collected on four cohorts of patients accessing services. The criteria for inclusion into these cohorts across each setting is displayed in Table 1.

Table 1 Inclusion criteria for all cohorts

Setting	Cohort 1 (all patients)	Cohort 2 (SMI only)	Cohort 3 (substance use only)	Cohort 4 (coexisting conditions)
Primary care[1]	Aged 15+	(i) Aged 15+ (ii) On SMI register	Not collected	(i) Aged 15+ (ii) SMI register (iii) (a) AUDIT-C score of 8+, or (b) consuming >35 units alcohol per week
Mental health services	Not collected	(i) Aged 15+ (ii) 'Active' case[2] (iii) Drug/alcohol use rated as minor or no issue[3]	Not collected	(i) Aged 15+ (ii) Active case (iii) HoNOS rating: 'loss of control of drinking or drug-taking, but not seriously addicted' or worse
Substance use services	Not collected	Not collected	(i) Aged 15+ (ii) Self-reported no mental health need	(i) Aged 15+ (ii) Self-reported mental health need

[1]The primary care cohorts are not independent of each other. For instance, coexisting conditions patients (cohort 4) are included in the SMI-only cohort (cohort 3) as well. [2]Active cases comprise open referrals or inpatient stays across three types of service: community-based mental health teams, community-based forensic teams and low secure inpatient units.

It is important to note that due to data recording issues it was not possible to identify primary care patients using drugs other than alcohol. As such, the primary care data is unlikely to fully represent the coexisting condition population.

Service use date range

The eligible dates of service usage varied slightly between settings. For primary care and mental health services data was collected for patients accessing services between 1st January and 31st December 2022. For substance use services it was 1st April 2021 and 31st March 2022.

Measures and variables

Age. Two age bandings were used: (a) 15-24, 25-49, 50-74, 75+ (primary care and mental health) and (b) 0-30, 31-50, 51-70 and 70+ (substance use services).

Gender. This was recorded as either: (a) male, female, or 'not male or female' (primary care) or (b) male, female, not specified and unknown (mental health). Gender is not reported for substance use services.

Ethnicity. Categorised as BME (Asian, Asian-British, Black, Black-British, African, Caribbean, mixed/multiple, Indian, Pakistani, Other Asian, Other Black or Other), White (White, White gypsy or Irish traveller) or not recorded.

Deprivation: The Indices of Multiple Deprivation (IMD) measure was used. The IMD assesses seven components of deprivation: income, employment, education, health, crime, access to housing and services, and living environment. These components are combined using weights for each component to produce a single score. The IMD is assessed at area-level, not individual-level. IMD data reported here is assessed at the Lower Layer Super Output Area (LSOA) level, each unit of which represents approximately 1500 people. Please note, this assessment used the national area rankings, not local Nottinghamshire-only rankings. All LSOAs in England are ranked from most to least deprived and divided into ten equal-sized groups to create deciles. This report uses quintiles ranging from 1 (most deprived) to 5 (least deprived). Patients/clients recorded as homeless/no fixed abode have been ranked in the most deprived quintile.

Substance use. Cohorts 2 and 4 within mental health services were identified using a variety of clinician-rated outcome measures which include an assessment of drug/alcohol use. The four measures used were: (i) 'Current View' (patients under 18), (ii) Health of the Nation Outcome Scales (HoNOS) (over 18s); (iii) HoNOS-Children and Adolescents (under 18 inpatients); or (iv) Historical, Clinical and Risk Management - 20 (forensic patients).

Analysis

Frequency counts or percentages of each variable, or combinations of variables, are presented for each patient cohort for which data was available. The reported counts for categories represented by fewer than five people are rounded up to five. For the primary care data there was also an additional breakdown of cohort prevalence by geographical area.

RESULTS

Prevalence summary across settings

Table 2 shows the estimated proportion of patients meeting the criteria for coexisting conditions both locally (Nottingham and Nottinghamshire) and nationally (England):

Table 2 Estimated prevalence of coexisting conditions across multiple settings

Setting	Local prevalence (%)	National prevalence (%)
Primary care	0.07	0.02[1]
Mental health (secondary care)	19.1	11.7-75.0[1]
Substance use services	32.2-78.3 (self-reported)[a]	5.7-38.9 (SMI specifically)[1b] 70.0 (self-reported)[2a]

[1]Megnin-Viggars (2015), [2]OHID (2023). [a]Any mental health problem. [b]Excludes common mental disorders.

Primary care setting

Prevalence

Of the 1,054,990 patients registered within a local primary care practice, 8395 (0.8%) had an SMI and 705 (0.07%) had a coexisting condition. Table 3 gives a breakdown of prevalence by local area.

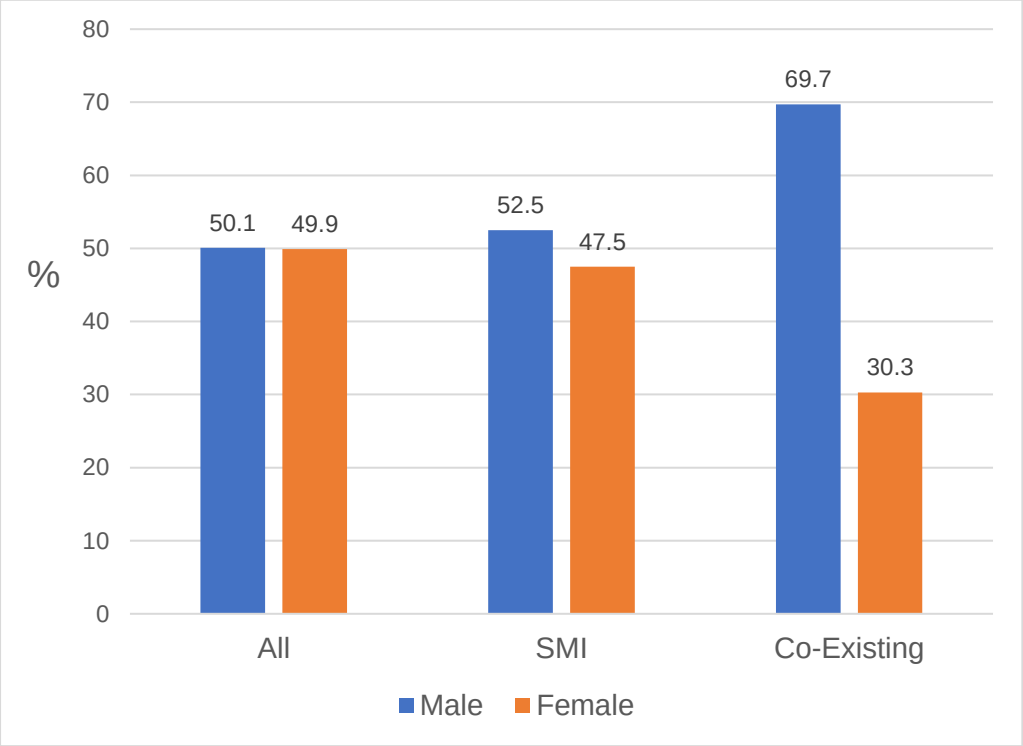
Table 3 Rate of coexisting conditions by local area

Local area	All patients	Coexisting condition patients	
		Count	Rate per 100,000 patients
Nottingham City	397620	305	76.7
South Notts	393315	190	48.3
Mid Notts	343445	155	45.1
Bassetlaw	124345	55	44.2
Total	1258725	705	56.0

Demographics

Gender. There was approximately an even representation of women and men within the total primary care population, and within the SMI patient population. However, over two-thirds of coexisting condition patients were men. See Figure 1 for details.

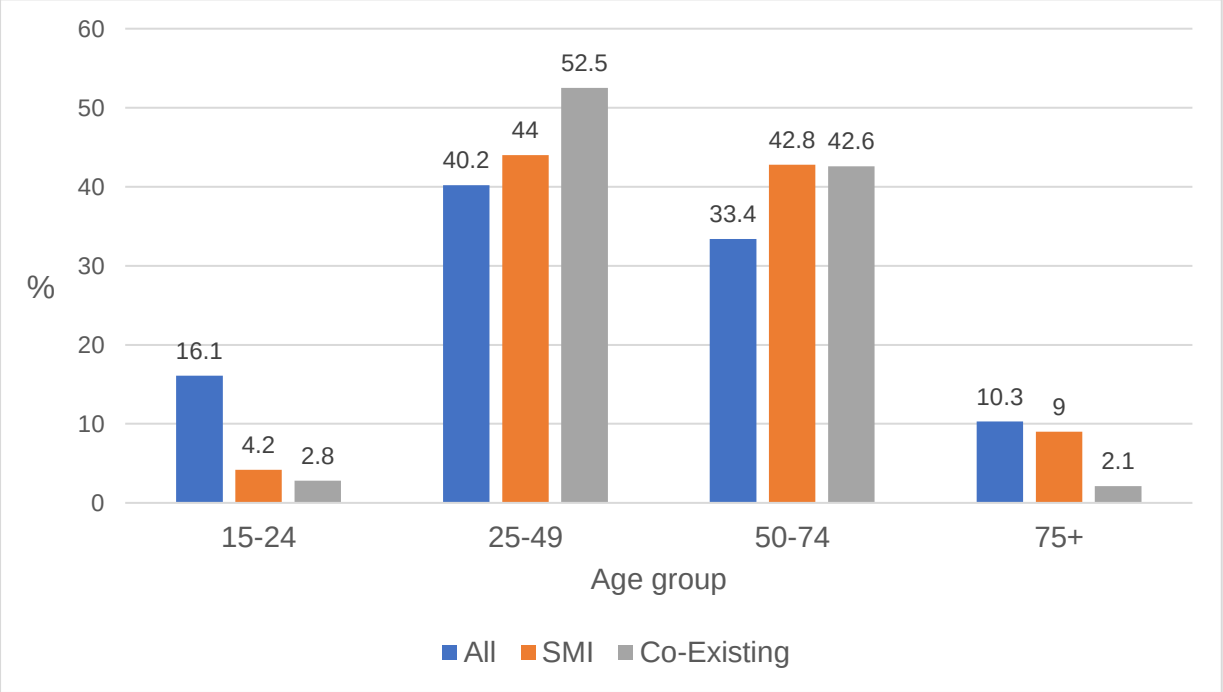
Figure 1 Gender distribution within all patients, SMI patients, and coexisting patients



Nb. the 'not male/female' category included <0.01% of patients and has not been included in the graph.

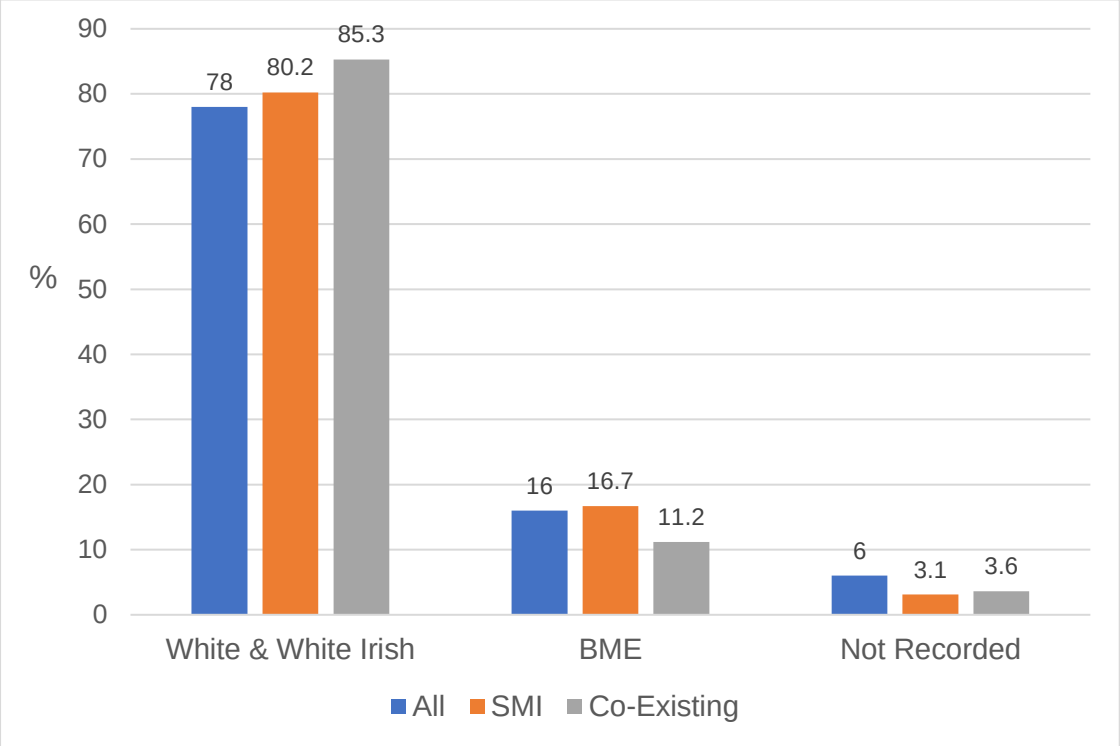
Age. The SMI and coexisting condition patients were clustered around the young adult and middle-aged bands. There were very few coexisting condition patients younger than 25 or older than 74. Figure 2 shows the age distribution of each patient cohort.

Figure 2 Age group distribution: all, SMI-only and coexisting condition patients



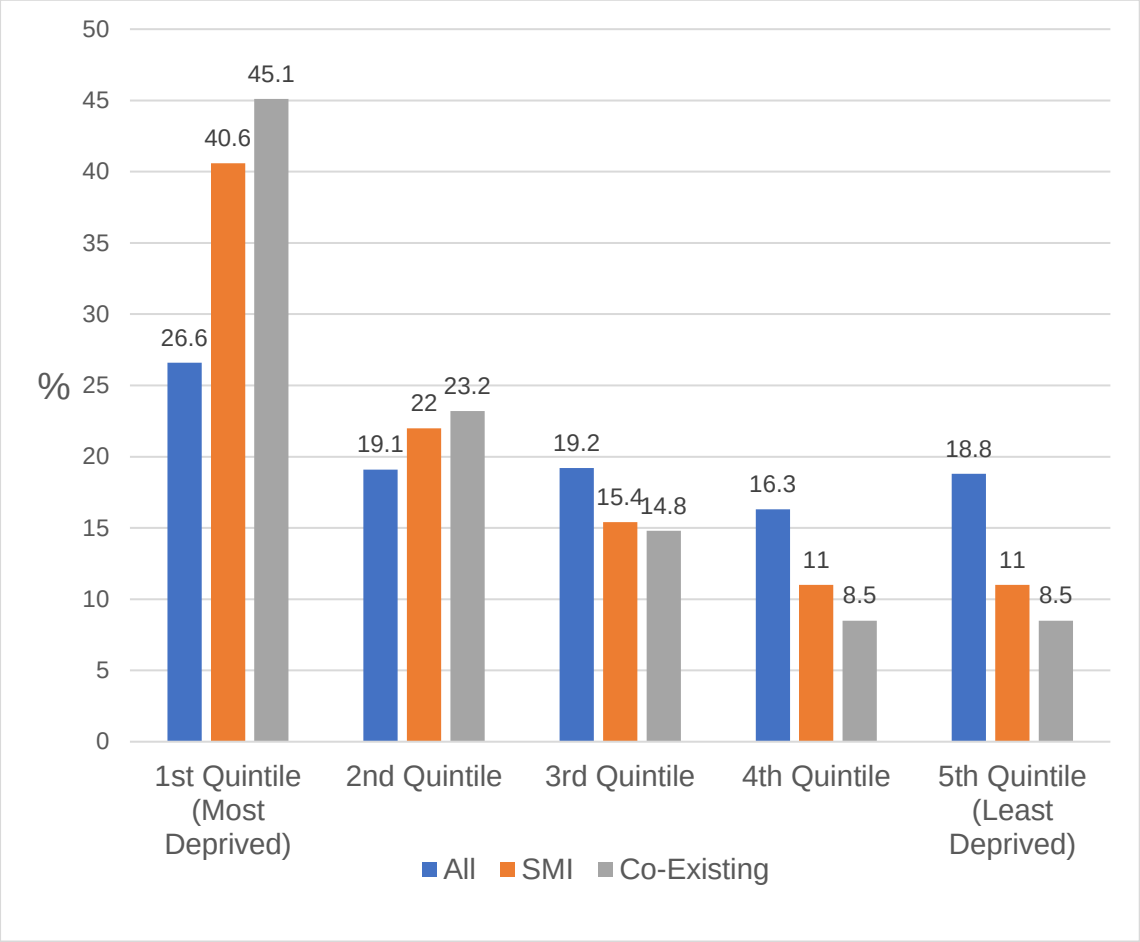
Ethnicity. There was a greater representation of white patients amongst the coexisting condition cohort than the SMI-only or total patient cohorts. The SMI-only and coexisting condition cohorts were approximately twice as likely to have ethnicity data recorded than all other patients. The differences are shown in Figure 3.

Figure 3 Ethnicity amongst all, SMI-only and coexisting condition patients



Deprivation. Quintile 1 (most deprived) was the most common classification in all patient cohorts. However, the SMI and coexisting condition cohorts had a much larger representation in the most deprived quintile than other patients. For the total population of patients there was an even distribution of patients across the remaining quintiles. Meanwhile, there was a linearly decreasing proportion of SMI-only and coexisting condition patients within less deprived quintiles. The percentages are shown in Figure 4.

Figure 4 Deprivation quintiles across all, SMI-only and coexisting condition patients



Mental health setting

Prevalence

Approximately 20,000 patients (~45%) had missing data and could not be included. Of the 24,117 patients for whom there was sufficient data there was a total of 4610 patients (19.1%) with a coexisting condition. Table 4 shows the distribution of patients across local areas.

Table 4 Patient cohort prevalence across local areas

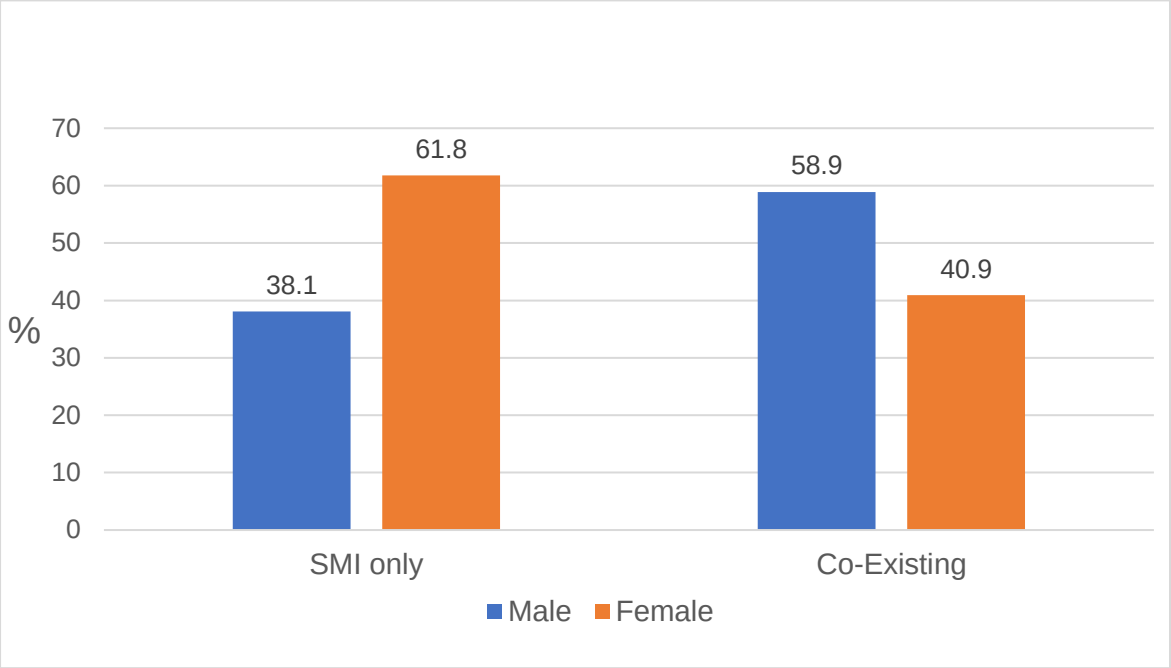
Local area	MH-only (%)	Coexisting conditions (%)
Nottingham City	26.5	32.5
Ashfield	11.0	9.5
Broxtowe	9.8	7.5
Mansfield	9.7	9.8
Newark and Sherwood	9.7	8.0
Gedling	9.6	8.1
Bassetlaw	8.2	7.4
Rushcliffe	7.9	5.6
N/A	3.4	7.4
Other	3.6	3.8
Total	*100*	*100*

Note that the prevalence estimates are not adjusted for local area population size.

Demographics

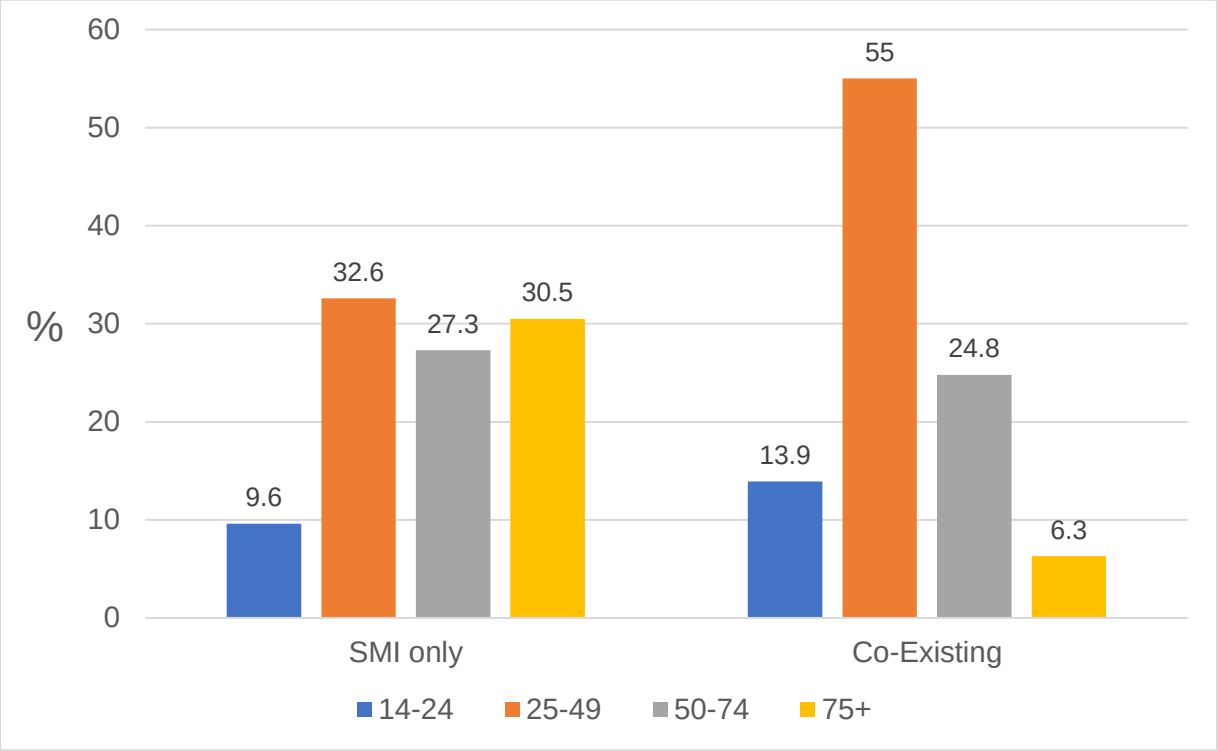
Gender. SMI-only patients were more likely to be female, whilst coexisting condition patients were more likely to be male. Percentages are shown in Figure 5.

Figure 5 Gender distribution across SMI-only and coexisting condition patients



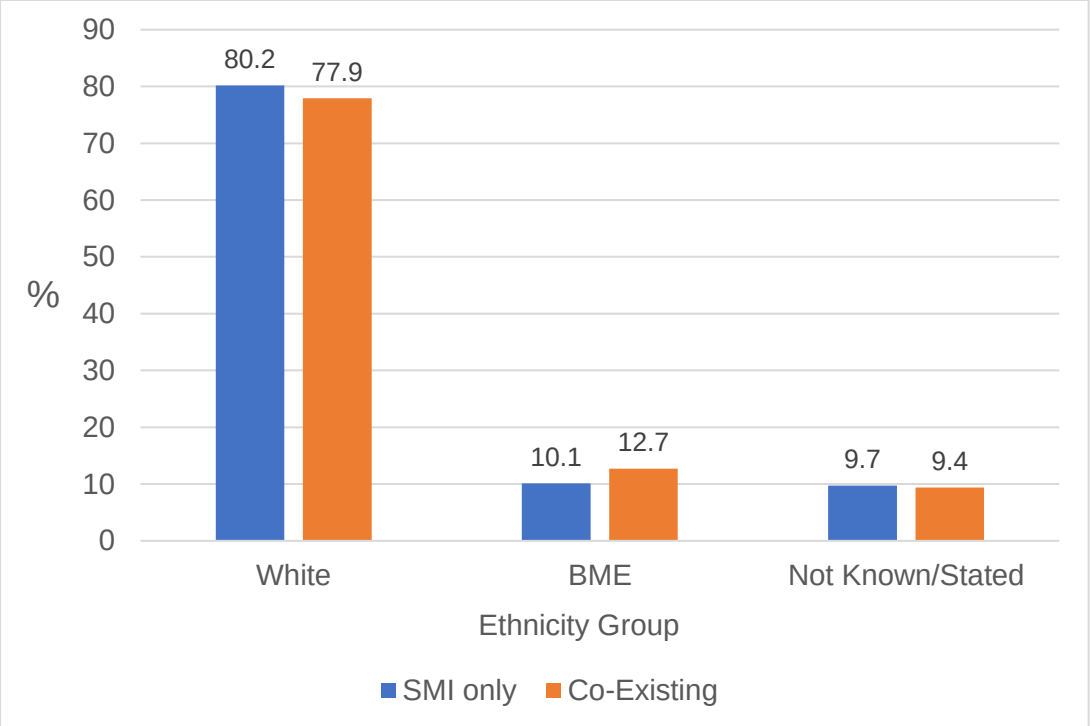
Age. The mean age of patients with a coexisting condition was 43 (SD=17) as compared to 56 (SD=23) in the SMI-only cohort. Overall, the coexisting condition patients were younger, with relatively few over the age of 75. The SMI-only cohort had relatively few adolescents/young adults and an even distribution above the age of 24. Percentages are shown in Figure 6.

Figure 6 Age distribution of SMI-only and coexisting condition patients



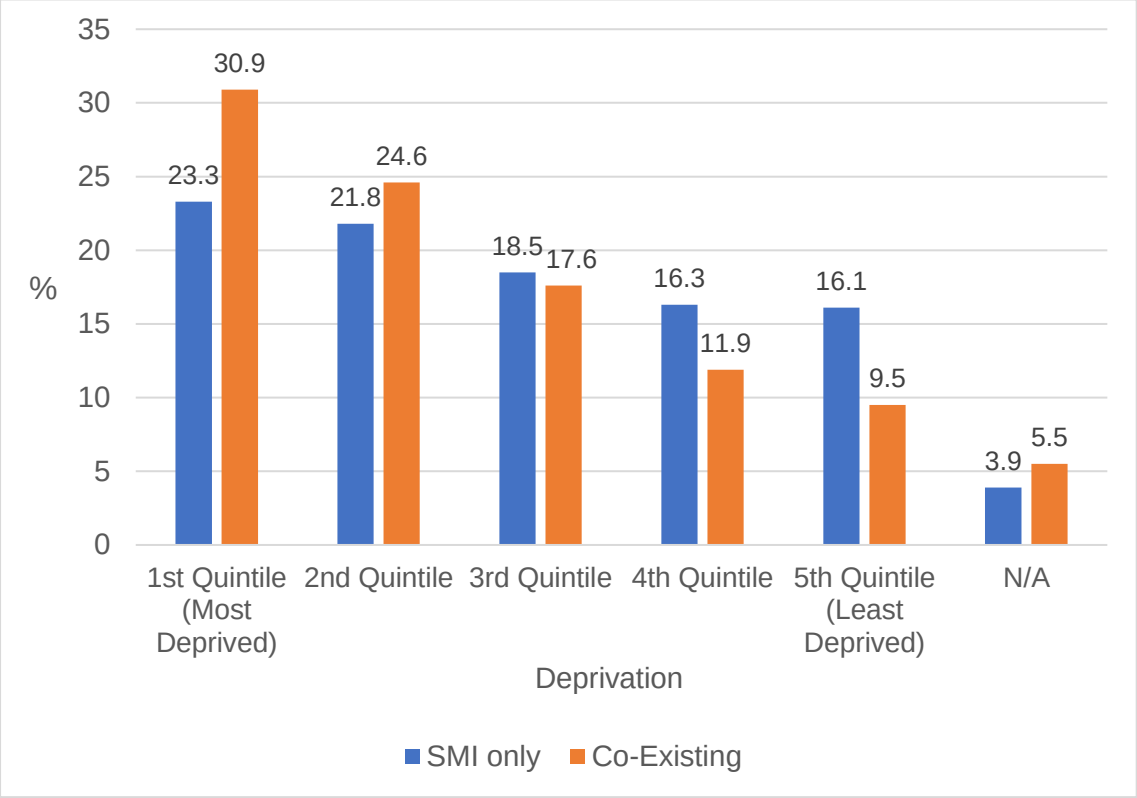
Ethnicity. There were no major differences of ethnic groupings between the two cohorts. White patients were the largest grouping in both cohorts. There was also a large amount of missing data. Percentages are displayed in Figure 7.

Figure 7 Ethnicity distribution across SMI-only and coexisting condition patients



Deprivation. Both SMI-only and coexisting condition patients were over-represented within the more deprived deciles. However, there was a stronger skew towards greater levels of deprivation within the coexisting condition cohort. The distribution for both cohorts is displayed in Figure 8.

Figure 8 Deprivation quintiles of SMI-only and coexisting condition patients



Substance use setting

Prevalence

Nottingham Recovery Network (NRN) and Clean Slate had 3573 open clients in 2022-23, of which 51% had a self-identified mental health problem. No information was retrieved regarding whether there was missing data, or the extent of this.

Change, Grow, Live (CGL) had 5641 open clients, of which 1818 (32%) had a mental health need. Though CGL did not record the mental health status of 59% of clients. Of those clients with sufficient information, 78% had a mental health need.

Mental health treatments engaged

There were some significant differences between the mental health services being accessed by clients based in Nottingham compared to those based in Nottinghamshire. However, it should be noted that there was a very considerable amount of missing data for Nottinghamshire (68% of clients) and an unknown amount of missing data for Nottingham. Observed differences should therefore be interpreted with caution. Treatment information shown in Table 5 includes data for clients both with and without recorded information for comparison purposes.

Table 5 Treatments accessed by clients in Nottingham and Nottinghamshire

Treatment engaged	Nottinghamshire clients, count (%)		Nottingham clients, count (%)
	All clients	Clients with recorded data	
Community mental health team (secondary care)	198 (3.5)	198 (10.9)	385 (21)
Declined to commence treatment	11 (0.2)	11 (0.6)	20 (1.1)
IAPT	24 (0.4)	24 (1.3)	22 (1.2)
Health-based place of safety	Unknown	Unknown	<5 (0.2)
No treatment received	368 (6.5)	368 (20.2)	582 (31.8)
Receiving any NICE recommended interventions	6 (0.1)	6 (0.3)	26 (1.4)
Receiving mental health treatment from GP	1211 (21.5)	1211 (66.6)	794 (31.8)
Not recorded	*3823 (67.8)*	-	*Unknown*
Total	5641 (100)	1818 (100)	1833 (100)

As shown in Table 5, there was a greater proportion of city-based clients accessing secondary care services, IAPT, GP care and NICE recommended interventions. But note the very high level of missing data for county patients.

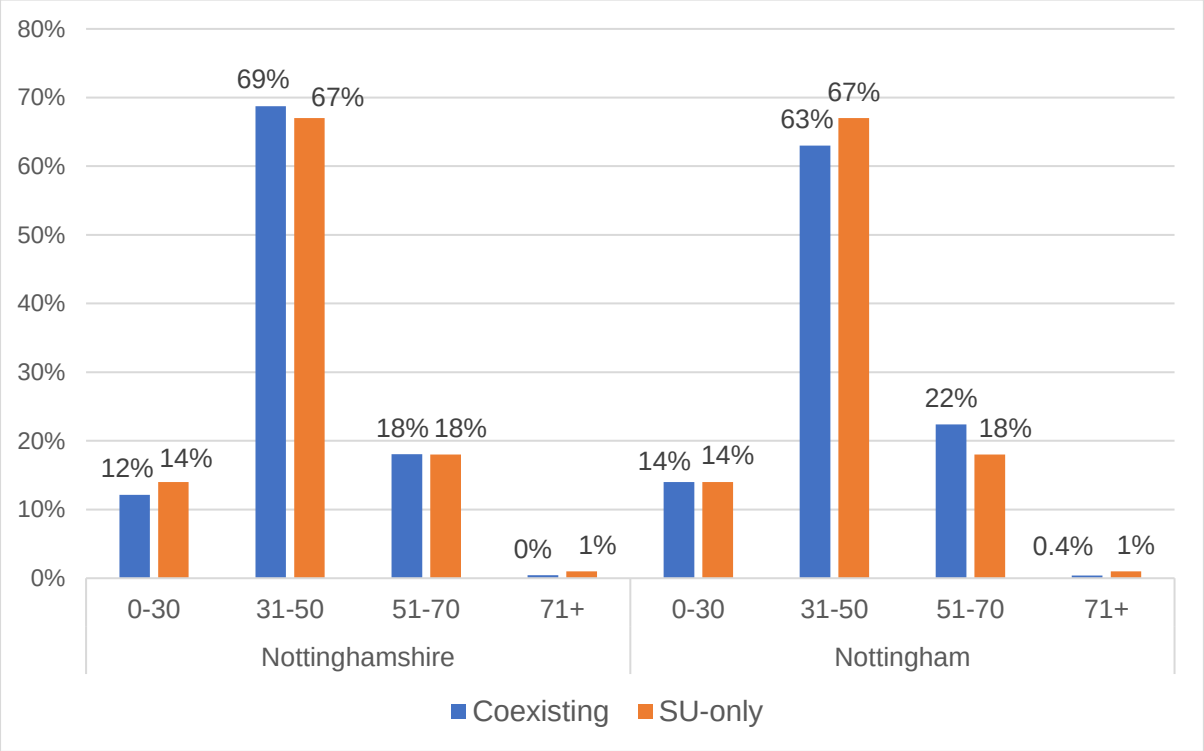
When comparing the city and county areas using only county clients with recorded information, the observed differences remained in most cases but were reduced in magnitude. There was a notable proportion of clients in both areas not receiving any support for their mental health: a fifth of county clients, and a third of city clients.

Demographics

The following set of demographic results includes only those clients with a recorded mental health status. Please note that this excludes a significant proportion of clients.

Age. The age distribution across Nottingham and Nottinghamshire, and for both coexisting condition and substance use-only cohorts, was similar. In all cases approximately two-thirds of clients were in the 31-50 age bracket, with only very few over the age of 71. Details are shown in Figure 6.

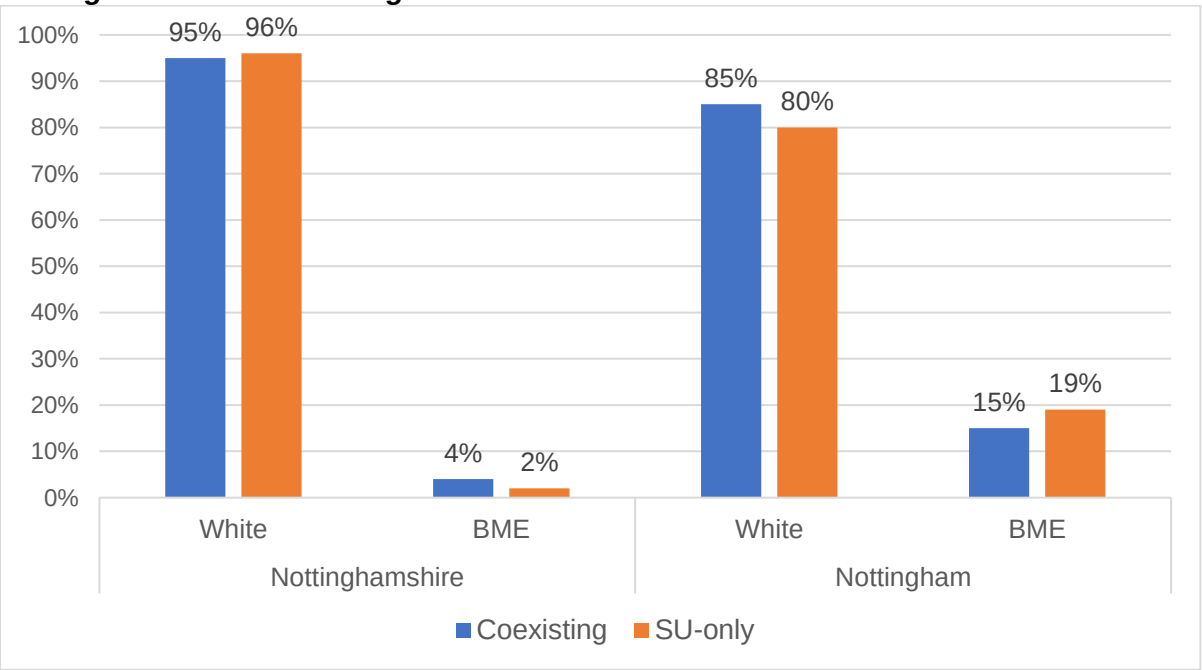
Table 6 Age distribution of coexisting condition and substance use-only clients in Nottinghamshire and Nottingham



Missing age data (<1%) is not shown.

Ethnicity. The White group was the majority ethnic grouping across all populations. There was a greater representation of BME communities in Nottingham compared to Nottinghamshire. This is consistent with population-level geographic distributions of ethnicity. There was a slightly greater proportion of BME clients in Nottingham within the substance use-only cohort compared to the coexisting cohort.

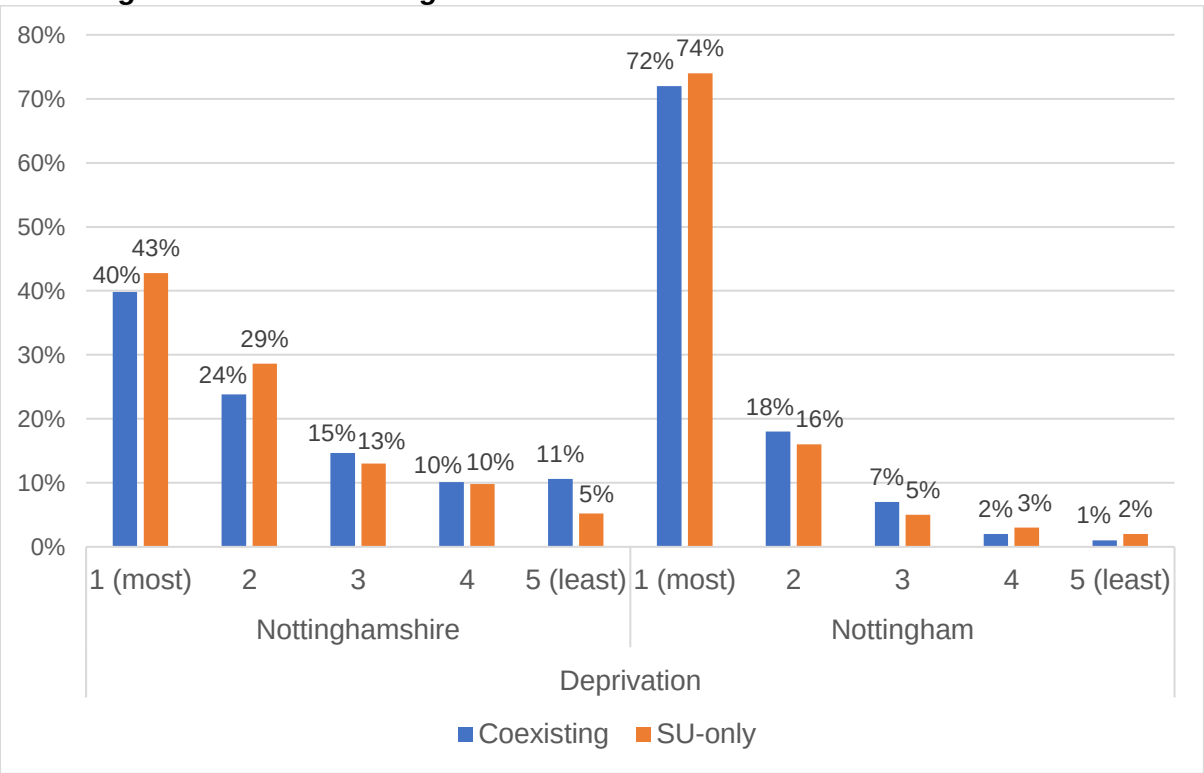
Table 7 Ethnic groupings in coexisting condition and substance-use only cohorts in Nottinghamshire and Nottingham



Missing ethnicity data (<1%) is not shown.

Deprivation. The relative levels of deprivation for the client cohorts are shown in Figure 9. Overall, there is a skew towards greater levels of deprivation amongst clients using substances and those with a coexisting condition. There were much higher levels of deprivation within Nottingham compared to Nottinghamshire within both cohorts. The substance-use only cohort experienced slightly higher levels of deprivation than the coexisting cohort in the county, whereas these cohorts were more evenly matched within the city.

Figure 9 Deprivation within the coexisting conditions and substance use-only cohorts in Nottinghamshire and Nottingham



DISCUSSION

Summary of findings

The estimated local prevalence of coexisting conditions was lowest in the primary care patient population (0.07%), more substantial in mental health services (19%) and highest in substance use services (32-78%). These rates are broadly consistent with national estimates. However, they involved very wide ranges in many cases, making it more difficult to compare them with any precision.

There were notable geographic differences. Within the primary care population there was a considerably higher rate of coexisting conditions within Nottingham City compared to the county. This was mirrored in the secondary care dataset. Each of the three county areas (Bassetlaw, County South, Mid-Notts) had a similar rate, though there were fewer coexisting condition patients in Rushcliffe relative to the general secondary care patient population.

Despite the wide variation of estimates, the results suggest that there is a significant rate of comorbidity within both mental health and substance use services. Within substance use services between 20-30% of clients with a mental health treatment need are not receiving any support. For mental health services it is not recorded whether patients are in receipt of substance use support. However, extrapolating from the results of this assessment

(assuming secondary care access within Nottinghamshire is proportionally similar to that amongst Nottingham-based substance use service clientele) then it may be estimated that over 80% of coexisting condition patients in mental health services are not receiving dedicated substance use support.

Despite the different definitions of 'coexisting condition' used across care settings, the local patient populations consistently matched the following profile: disproportionately male, middle-aged, and very deprived. The age and gender distribution appears to broadly match the epidemiology of substance use in the national population (Bloor, 2006; Dummond et al., 2016; OHID, 2023; Roberts et al., 2016; Roberts et al., 2020). Though the coexisting condition cohort appears to be slightly older (middle-aged) than substance use-only populations (young adults). The age distribution of coexisting patients within mental health and substance misuse services appeared to be younger than those in primary care. This may indicate that adults aged 50-74 may be underrepresented within services.

The coexisting condition cohort was more deprived than both the general population and the SMI/secondary care cohort but not the substance use-only cohort. This suggests that the coexisting condition-deprivation association is primarily driven by substance use. This association with deprivation may help explain the relatively higher patient prevalence within Nottingham City (high deprivation) and lower prevalence in Rushcliffe (low deprivation) compared to other areas.

There was a disproportionate proportion of White patients within the coexisting condition cohort. This was found in both primary care and substance use settings, though there were no differences between the coexisting condition and mental health-only cohorts within secondary care. Within substance use settings, at least in the city, there were fewer BME clients overall than would be expected given the demographics of the city. National epidemiological data suggests that hazardous alcohol use is indeed higher amongst white groups (Dummond et al., 2016). The highest level of drug use is amongst black communities, though this reflects cannabis use only, and white groups had higher overall levels of drug use than Asian and mixed ethnic groups (Roberts et al., 2016). Thus, the higher rate of coexisting conditions amongst white groups found in this assessment may indeed reflect differences in need amongst ethnic groups rather than certain groups being underrepresented in services.

Limitations

There are two key limitations of this assessment. First, it is not clear that the data sources used are fully representative of the clinical or general population. Only primary care patients with a record of alcohol use, not drug use, were identified. Meanwhile, only roughly half of mental health patients were included due to missing data. Relying on service use data may also be insufficient if there are access issues for certain groups.

The second main limitation was the use of different definitions and tools for assessing coexisting conditions across primary care, secondary care and substance use services. In substance use services in particular, the assessment is likely to have predominantly captured common mental health problems rather than severe problems. The results of this assessment therefore cannot be used to compare the rate of coexisting conditions across settings.

Recommendations

The high level of mental health and substance use comorbidity needs to be considered within commissioning and service planning processes to ensure adequate provision across different settings. A series of recommendations are shown in Table 8.

Table 8 Recommendations for ICS partners

#	Issue	Target audience	Recommendation
1	Inadequate substance use recording	Nottm and Notts ICB	Consider including substance use services within plans for a Shared Care Record
2	Inadequate substance use recording	Nottm and Notts ICB / NHFT	Identify a substance use assessment training programme for primary and secondary care, e.g. - Screening tools, such as ASSIST-LITE - Educate GPs about substance use SNOMED codes - Automatic computer prompts to ask about substance use amongst patients with an identified mental health problem.
3	Inadequate mental health recording	CGL/NRN	Conduct an audit of mental health data completion and train staff to ask brief questions at assessment
4	Unmet need (severe)	All	Continue to develop a targeted coexisting conditions clinical pathway for patients with severe symptoms
5	Unmet need (mild-moderate)	CGL/NRN/ NHFT	- Conduct a staff training needs assessment in mental health and substance use services - Deliver programmes of training to upskill staff in performing basic assessments and brief psychosocial interventions
6	Deprived population	CGL/NRN/ NHFT	- Prioritise resources (e.g. specialist pathway staff) towards areas of high deprivation (i.e. high clinical need) - Routinely assess all new patients ability to attend regular clinic-based appointments and offer home visits where appropriate.

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