1 **Care for older forensic mental health patients: A consensus guidance document**

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3 Jack Tomlin[1]*

4 Kate Walker[2]

5 Jen Yates[3]

6 Tom Dening[3]

7 Kris Goethals[4]

8 Birgit Völlm[5]

9 Chris Griffiths[2]

10

11 [1] School of Law and Criminology, University of Greenwich, UK

12 [2] Northamptonshire Healthcare NHS Foundation Trust, UK

13 [3] Mental Health & Clinical Neurosciences, School of Medicine, University of Nottingham, UK

14 [4] University Forensic Center, Department of Psychiatry, Campus University Hospital Antwerp,

15 Belgium

16 [5] Department of Forensic Psychiatry, Rostock University Medical Centre, Germany

17

18 * Corresponding author School of Law and Criminology University of Greenwich Old Royal

19 Naval College London SE10 9LS

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21 **Abstract**

22

23 It is important to investigate the needs, experiences, and outcomes of older forensic mental

24 health inpatients. In this consensus document, we offer practitioners working with older

25 forensic inpatients recommendations to meet the unique older-age-related needs of this

26 group.

27

28 We report on the findings of a scoping review of service provision and age-responsive

29 interventions for this population. We complement this with a review of qualitative studies

30 investigating staff and patient views on age-responsive inpatient care. The guidance

31 syntheses this evidence into sections on: epidemiological studies of demographic, clinical

32   and legal profiles; qualitative studies; investigations of patient need; evidence for interventions

33   tailored to this patient group; future directions for research; and finally, recommendations for

34   practice.

35

36   Forensic patients over the age of 50 years have a different set of psychological and physical

37   health needs from their peers. There is a dearth of dedicated interventions and support to

38   assist patients through secure services and into the community. We suggest service providers

39   involve older patients in treatment and service organisation decisions, adapt interventions to

40   be responsive to this group, train staff to recognise physical vulnerabilities and cognitive

41   decline, embrace methods of communication developed in other areas of care, such as

42   dementia.

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45   **Keywords**

46   Forensic mental health; older patients; consensus guidance; gerontology; forensic psychiatry

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48

1. Background

In the United Kingdom (UK) and other Western countries, around 20% of inpatients in secure mental health settings are over 50 years old [1]. This percentage is likely to increase as people live longer and the older population proportion grows [2]–[4]. It is important to investigate the needs, experiences and outcomes of these older forensic patients. This is because the age-related health needs of those considered 'older' in the general population (typically around 60 years old) can be experienced by people with serious mental illness and individuals detained in the criminal justice system 10 years earlier [5]. The reasons for this disparity are myriad, encompassing poor access to healthcare, lifelong chronic illnesses, substance use backgrounds, and social deprivations like poverty and education and occupational opportunity.

The mental and physical health needs of older forensic mental health inpatients are multifaceted. They often have complex mental health histories, with high levels of psychotic disorders, personality disorders and co-morbidity [1]. Older adult forensic patients have histories that often include childhood neglect/abuse, substance abuse, poor self-management of health, cognitive difficulties, mobility problems, sensory impairment, psychiatric admission and chronic physical illnesses (e.g. cardiac disease, high blood pressure, obesity, diabetes, hyper tension) [6], [7].

Such complex needs mean that age-appropriate services are difficult to provide in secure mental health settings; the approach required is one that combines old age psychiatric expertise and generic forensic psychiatry services. This means forensic services need to adapt regimes of care to accommodate this group. This might include developing specific services for older patients, making changes to the physical environment (e.g., including handrails that do not pose a ligature risk, wheelchair accesses), a particular focus on nurse-patient relationships, addressing physical mobility around units and provision of somatic health care [1], [8]. Age-appropriate service provision involves balancing quality care in restrictive environments and supporting older forensic mental health patients to successfully move on from these settings, enabling them to access and maintain healthy lives when/if released from inpatient care. Not achieving this balance can lead to a life spent in secure care, institutionalisation, homelessness or poor health outcomes in the community, as older adult forensic mental health patients may be unable to adapt [9].

Best clinical practice supports the provision of specialised services for older patients in other fields of medicine (e.g. geriatric psychiatry, supported living). It therefore holds that similar

84 efforts should be undertaken in forensic settings. Governments need to design innovative
85 policies and public services specifically targeted to older persons [10].

2. Rationale for this consensus guidance

87 Demographic shifts and the recognition of the need for age-appropriate forensic mental health
88 services have co-occurred in recent decades. Research and guidance have lagged behind
89 these developments. For example, a shared definition of 'older' adult forensic mental health
90 patients remains elusive. A recent review found little consistency in defining 'older' (>50, >55,
91 >60 etc.) [5]. There is no consensus whether older-aged, needs-based, or mixed-aged
92 services enable the best recovery outcomes for this group [8]. Consequently, there is no
93 specialised guidance and support for practitioners, policy-makers or commissioners working
94 with this older inpatient forensic population. Instead, care providers must apply best practices
95 from a variety of sources.

3. Aims and methods

97 This document aims to provide an overview of the evidence for mental health care for older
98 forensic mental health inpatients and make recommendations to support service provision. It
99 synthesises recent research on the health profiles and needs of older forensic mental health
100 inpatients. This guidance is divided into five sections. The first collates epidemiological studies
101 describing the demographic, clinical and legal profiles of older forensic mental health patients.
102 The second describes qualitative studies investigating older forensic patients' experiences of
103 receiving mental health care in these settings. The third gives an overview of the evidence for
104 interventions specifically for this patient group. The fourth considers future directions for
105 research into older forensic mental health patients. Finally, recommendations that
106 practitioners working with this group should consider are offered. This document complements
107 the European Psychiatric Association (EPA) guidance on forensic psychiatry [11].

108

109 This consensus guidance is informed by a scoping review of the literature on interventions for
110 older adult forensic mental health patients and a summary review of other published literature
111 on this topic [12]. Articles were included where the study population comprised forensic
112 patients (as inpatients or in the community) over 50 years who had experienced an
113 intervention in the context of their care. A comprehensive range of search terms based on the
114 following concepts were used: (older OR elderly) AND ("forensic mental health" OR "forensic
115 patient") AND (intervention OR treatment OR therapy). These were inputted into the following
116 databases: PsychINFO, MEDLINE, CINAHL, EMBASE, AHMED, and the Psychology &
117 Behavioural Sciences Collection. Google searches were also used and reference lists were
118 hand-searched. This produced 2,572 results in total; seventeen articles were subject to full

119 text review; and after excluding ineligible papers, eight articles were included in the review.
120 Full details of the search can be found in Walker et al. [12]. Additional literature included in
121 the present manuscript but not included in the scoping review was found by scanning the
122 reference lists of the studies included in the Walker et al review and searching Google Scholar
123 for recent publications on the same population (until April 2023). Guidance for providing age-
124 appropriate services was derived from this literature, clinical experience of the authors and
125 the results of empirical research conducted by the authors (the ENHANCE Study).

126

127 Percentage values reported in individual studies have been rounded to whole numbers to
128 facilitate reading.

4. Epidemiological studies

130 Eleven papers reported on the findings from ten studies. Studies describing the clinical, legal
131 and demographic characteristics of the older forensic population included in this section took
132 place in the UK (n=8), Canada (n=1), and Germany (n=1). One study was reported in two
133 papers [13], [14]. Five adopted a retrospective cohort design, relying on clinical records [2],
134 [7], [8], [15], [16]. Five conducted cross-sectional interviews [6], [13], [14], [17], [18]. Four
135 compared older patients to their younger counterparts in the same services [2], [13]–[15]. 'Old
136 age' was defined as 45+ for indigenous patients [18], 50+ [6] and 50+ for non-indigenous
137 patients [18], 55+ [7], [19], 60+ [2], [13], [17], and 65+ [16]. Girardi [15] did not define 'old age',
138 instead grouping a cohort of patients aged 18 and older into six age categories (see Table 1).
139 Natarajan and Mulvana [20] described an old-age ward without an explicit age threshold. We
140 refer to older patients in this document as those described as 'older' in these research papers
141 by their authors, the youngest patient of which was 46. This is appropriate as we aim to
142 summarise the extant evidence for this broadly defined population whose needs are
143 influenced by age but not solely contingent upon age. Studies took place across low, medium
144 and high security psychiatric inpatient settings (with the exception of Tomlin et al., [19] in which
145 27% of their sample were community patients).

146

147 Table 1 About here

148

4.1. Demographics and age

150 Men were the clear majority of patients in all studies and the proportion of women patients
151 varied widely. No women patients featured in the samples from [13], [14], [17], [20], but were
152 respectively 19% and 17% of the 55-64 and 65+ groups in Girardi et al. [15], and 3.4% in
153 Stoliker et al. [18]. This was largely due to the services included in these papers as studies

154 did/did not recruit from sites with dedicated women's services. Most older patients were single,

155 separated, widowed or divorced. The exception to this was the study by Coid and colleagues

156 [2] who report only 31% of their sample as being single. The two studies describing ethnicity

157 in the UK reported similar percentages of non-white patients: 12% [2] and 15% [6]. In Stoliker

158 et al.'s [18] study based in Canada, 55% reported Indigenous status. Di Lorito et al., [6] also

159 report patients' religious affiliation: 54% Christian, 5% Muslim, 5% Buddhist, 2% Atheist, 7%

160 'Other', and 27% as 'Undisclosed'. Verhülsdonk et al. [17] found that 47% had lower secondary

161 education, 15% higher secondary and 15% A-level equivalent diplomas, with the remaining

162 having no graduation, attending a school for handicapped children or having no data recorded

163 on this point.

164

165 Compared to younger patients, older patients in Coid et al. [2] were significantly less likely to

166 be single and non-white, and significantly more likely to be born outside the UK.

4.2.   Legal[1]

168 The sample from Coid et al. [2] had a mean age at first court appearance of 43.1 years. Most

169 patients were reported as being in forensic care following criminal charges or convictions: 89%

170 [2], 56% [7], 98% [6], and 83% [19]. Di Lorito and colleagues' [6] sample was primarily detained

171 following a hospital order (section 37/41 MHA, 1983; 42%) or prison transfer (section 47/49

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[1] As most of these studies report findings from England and Wales, it is helpful to describe key features of the legal framework organising forensic services in this jurisdiction. Treatment in secure (forensic) psychiatric hospitals is ordered under the Mental Health Act 1983 (as amended in 2007). This allows for both civil and forensic treatment orders. These orders are referred to as 'sections'. Patients in secure psychiatric hospitals under a civil section are at a high risk of harm to themselves or others and the management of this risk cannot be appropriately achieved in general psychiatric services.
The civil sections most relevant to secure settings ss. 2 and 3 Mental Health Act 1983, for assessment and treatment respectively. Crucially, patients under a civil section have not been ordered into treatment following the commission of a crime; a conviction is not a prerequisite. Most patients are treated under forensic sections, which are ordered following the commission of a criminal offence.
The most commonly used forensic sections under the Mental Health Act 1983 are as follows: s. 35 involuntary placement in a secure hospital for assessment during criminal proceedings; s. 36 involuntary placement in a secure hospital for treatment during criminal proceedings; s. 37 a hospital order for treatment of indefinite duration following conviction for an offence; s. 38 an interim hospital order for treatment following conviction where the court has not yet determined whether to make a hospital order or give a prison sentence; s 41 a restriction order that gives the Secretary of State final say over a patient's discharge, transfer and leave, instead of the responsible doctor or hospital management (this can be attached to a s. 37 hospital order); s. 45A a 'hybrid order' in which courts can issue a prison sentence but order placement in a secure hospital at the start of this sentence, where a patient's mental health sufficiently improves or treatment is considered to have no benefit then the patient will be transferred to prison to serve the remainder of their sentence; s. 47 the transfer of a prison inmate to a secure hospital for treatment after recognition of the necessity for mental health treatment (here, individuals can be transferred back to prison to complete their sentence or remain in hospital beyond their prison sentence where there persists a need for treatment); s. 48 individuals remanded in custody ('inmates') who have not yet been sentenced to prison but require immediate mental health treatment in a secure setting; and s. 49 a restriction order for individuals transferred into hospital from prison (here again the Secretary of State has the final say regarding transfer, discharge, leave etc., this is attached to s. 47).

172 MHA, 1983; 34%); this pattern was also found in Tomlin et al. [19]. In the study by Lightbody

173 et al. [7], on admission, 39% of patients were on a hospital order with restrictions, 11% on a

174 hospital order without restrictions, 17% were under assessment as a prisoner prior to

175 sentencing and 14% were under a civil section for medium to long-term treatment. Lightbody

176 and others [7] reported that 42% of admissions were due to aggressive or disturbed behaviour

177 elsewhere. Coid and colleagues [2] found that 11% were not under a criminal section. One-

178 third of the Tomar et al. [16] medium security sample was living in the community when the

179 index offence was committed, one-third were in prison at the time of referral, 17% in high

180 security hospital, with 18% elsewhere. Most patients across all studies, but not all, had past

181 criminal convictions. The most frequently reported index offences were typically serious violent

182 offences; these are reported in Table 2.

183

184 Compared to younger patients, older patients were significantly less likely have been

185 convicted for 'less serious' violent offences like assault, threats to kill and robbery, and

186 significantly more likely be older at time of first court appearance [2].

187

188 Table 2 About here

189

4.3.   Clinical

190

4.3.1. Mental health

191

192 Studies report a range of mental disorders, a summary of which is presented in Table 3.

193 Recording, diagnosing and reporting practices differed between studies, so Table 3 describes

194 diagnoses as they were categorised by study authors (i.e. not aggregated into groups by the

195 authors of this consensus guidance).

196

197 Lightbody and colleagues [7] examined clinical notes and found that 53% had previously self-

198 harmed, 56% had harmful or dependent alcohol use and 14% had previous substance abuse.

199 These authors reported that 58% of patients had previous contact with forensic and 78% with

200 general adult psychiatric services prior to their current placement. Of Di Lorito et al.'s [6]

201 sample, 63% had never been admitted to secure forensic services before.

202

203 Di Lorito et al. [6] conducted cognitive assessments with their sample and found a mean

204 cognitive assessment score of 86/100 (CAMCOG; excluding three outliers), with 21% scoring

205 under the cut-off for normal cognitive functioning (80/100). For reference, CAMCOG general

206 population norm values for men aged between 65-69 indicate that the median score is 92,

207 with 5% of the population scoring 79 and below [21]. Verhülsdonk et al. [17] also describe

208 cognitive ability in their sample: on the DemTect, 32% had results indicating mild cognitive

209 impairment, 20% had suspected dementia and 12% were unable to complete all tasks on the

210 measure. 68% of the sample had cognitive impairment according to the Frontal Assessment

211 Battery (FAB). The FAB-derived score correlated significantly with number of years of

212 education (indicating higher education was linked to better cognition). Using the Mini Mental

213 State Examination (MMSE; German adaptation), they also found impairment in psychomotor

214 speed (59%) and cognitive flexibility (59%) measured using the Trail-Making Test. Cognitive

215 flexibility was significantly positively correlated with length of stay (higher MMSE scores

216 indicate better cognitive functioning).

217

218 Compared to younger patients, older patients were significantly *less* likely to: have a diagnosis

219 of schizophrenia or personality disorder (including ASPD and borderline PD) [2], have a history

220 of drug and alcohol misuse [2], [13], and take antidepressants and mood stabilizers (Das et

221 al., 2012). They were significantly *more* likely to: have lifetime diagnosis of delusional disorder,

222 depression, and organic brain syndrome [2], a current diagnosis of schizoid personality

223 disorder [2], and to be older at time of first admission to psychiatric hospital [2].

224

225 Table 3 About here

226

4.3.2. Somatic health

228 The studies suggest older patients have a high number of somatic conditions. Lightbody et al.

229 [7] found that the average number of medical diagnoses on admission was 1.2, which rose to

230 2.4 at discharge or the end of the study period. Similarly, they found that the average number

231 of medications at admission doubled (from 3.1 to 6.3). Tomlin et al. [19] report that on average,

232 patients in their sample were prescribed 7.6 regularly taken medications and 2.1 psychotropic

233 medications and had an average anticholinergic effect on cognition (AEC) score of 2.4. Note

234 that AEC scores range from 0-3, with a lower score being desirable. A majority in Verhülsdonk

235 et al.'s [17] sample were prescribed psychotropic medication (68%), specifically: neuroleptics

236 (50%), cardiovascular medication (35%), antidepressants (27%), sedatives (21%) and

237 antiepileptics (15%). Past alcohol abuse was reported in 77% of these cases.

238

239 Girardi et al. [15] reported that whilst around 25% of patients aged 55-64 had at least one

240 physiological condition, 83% of those over 65 did. Di Lorito et al. [6] reported that 88% had at

241 least one such condition. Of the patients examined by Natarajan and Mulvana [20], 76% had

242 'significant' and 24% had 'non-significant' physical health problems. Most patients (61%) in

243 Lightbody et al. [7] had mobility problems and 19% had sensory impairment. Mobility problems
244 were experienced by 28% of patients in Nataraja & Mulvana [20]. Di Lorito et al. [6] found the
245 following illness prevalence rates: diabetes (27%), heart conditions (24%), high blood
246 pressure (22%), obesity (22%), gastrointestinal system conditions (22%), musculoskeletal
247 system conditions (22%), respiratory conditions (15%), and sensory impairment (10%). Tomlin
248 and colleagues [19] report similarly high levels of somatic health burden: diabetes (49%),
249 cardiovascular and circulatory system problems (38%), COPD (16%), visual impairment
250 (14%), and asthma (11%) amongst others. These authors also found high average BMI scores
251 in their sample; 32% were classified as 'obesity class one' according to standards set by the
252 World Health Organisation [22]. Verhülsdonk et al. [17] found that 27% of their sample had a
253 traumatic brain injury/accident and 12% apoplexy; they also report prevalence of hypertension
254 (27%), diabetes (21%) and obesity (6%).

255

256 Compared to younger patients, older patients were more likely to have eyesight,
257 cardiovascular and endocrine problems [13].

258   4.3.3. Needs and risk

259 Studies reported that older patients generally have higher unmet needs than younger patients.
260 The Camberwell Assessment of Need, Forensic - Short version (CANFOR-S), the HoNOS-
261 secure, and the Camberwell Assessment of Need for the Elderly (CANE) tools were used for
262 these comparisons. Using the HoNOS-secure, Girardi and colleagues [15] found that patients
263 aged 55–64 showed no significant improvement between admission and discharge in the
264 clinical domains: 'severe disturbance', 'personal wellbeing', 'emotional wellbeing' and 'socio-
265 economic status'. This was mostly true for the 65+ group who, however, did show significant
266 improvements over time in 'personal wellbeing'.

267

268 Of the older patients interviewed by Das et al. [13], one-third rated 'treatment' as unmet in the
269 CANFOR-S. Using the CANE, both patients and staff rated 'physical health', 'memory',
270 'eyes/hearing/communication difficulties' and 'personal security' as unmet [13]. These authors
271 found that older patients in high security care had a higher number of unmet needs than those
272 in medium/low security, with more of their needs being unmet regarding healthcare,
273 psychological distress, basic education and treatment [13]. Comparing the needs of older and
274 younger patients, when total needs were compared, these authors found significantly more
275 younger patients had met needs than the older patients [13]. They further noted that half the
276 patients in high security would benefit from treatment outside of this level of security, whilst
277 nearly all those in medium/low security needed low security placements.

278

279   Di Lorito et al. [6] grouped their sample into 50-54 and 55+ age categories and found the

280   former to have a higher number of unmet needs according to the CANFOR-S. The most met

281   needs were in relation to: 'eyesight, hearing, communication', 'treatment', 'information about

282   condition/treatment' and 'food and money'. The most unmet needs concerned: 'company',

283   'telephone', 'sexual expression' and 'daytime activities'. The authors report that the average

284   Historical Clinical Risk Management-20, Version 3 (HCR-20, V3) score was 27/40, indicating

285   medium risk. Further, 71% of patients had incidents of verbal or physical assault and 27% of

286   self-harm or a suicide attempt in the past two years.

287

288   Stoliker et al. [18] asked staff to rate factors for discharge planning that they thought should

289   be considered for older forensic patients on their caseloads. In order from most important,

290   social workers and primary nurses both rated chronic illness, cognitive limitations, physical

291   limitations and mental health challenges as key needs to be addressed (percentage

292   agreement on these factors ranged from 60-70%).

293

294   Compared to younger patients, older patients' levels of assessed need generally remained

295   static or improved less over time. In the study of Girardi et al. [15] using the HoNOS, the

296   proportion of security items improving over time decreased as the authors examined older age

297   groups. There were significant improvements in risk of harm to self in those aged 18-34 but

298   not for those 35+; significant improvements in risk of harm from others in the 25-34 group only;

299   risk of harm to others significantly improved in those aged 18-54 but not in those 55+; and

300   finally, the need for risk management procedures significantly improved in those aged 18-24

301   but not in older groups. In the study by Das et al. [13] using the CANFOR, older patients were

302   significantly less likely than younger patients to rate 'alcohol-misuse', 'drug-misuse', and

303   'arson' as met needs. Younger patients were significantly more likely to rate 'sexual

304   expression' and 'basic education' as unmet needs compared to older patients.

305

306   **5. Qualitative Studies**

307   Qualitative studies report broadly similar findings across settings and countries, lending

308   credibility to the conclusions they draw. In many ways, participants' narratives of their care do

309   not differ markedly from those of younger patients reported in other studies [23]. Older patients

310   discussed a lack of autonomy, the quality of food, understaffing, reduced activities, boredom

311   and uncertainty about the future, amongst other topics. This is informative as it tells us that

312   the needs, experiences and possible improvements to services for this older patient group

313   should not be contemplated separately from those of their peers. Indeed, a recurring theme

314   across these studies was that patient experiences were subjective and did not speak to a

315 homogenous 'older offender' voice [24]. Although the present section describes patients'

316 experiences of care, many of the themes can also be found in studies of staff perspectives

317 [25]. The following sections describe three themes relevant to older offenders that emerged

318 across the literature: 1) making sense of one's place in the world, 2) daily living whilst in care

319 and 3) treatment and recovery needs.

320

5.1.   Making sense of one's place in the world

322 Studies report older patients 'making sense of their place in the world' in two key ways: 1) their

323 identification with the label 'old' and 2) how they situated their current 'self' in the timeline of

324 their lives. Visser and colleagues [26] reported a distinction made by patients between old age

325 as maturity and wisdom, and old age as weakness and vulnerability. The former was

326 associated with knowing one's mental health and triggers and was considered positive. The

327 latter led to a rejection of the 'old age' label by some: "I am a youngster still (Nicholas, 50s)"

328 (p. 3). The authors suggested that patients who viewed old age in these terms were less likely

329 to seek assistance for physical health concerns, wanting to distance themselves from the

330 'vulnerable' label. Jackson [27] reported patients wanting to be of value to others. For some,

331 this could be achieved by using their experiences as older to offer advice to younger patients:

332 "'I think because I've been in so long I can give a bit of advice that makes them feel that wee

333 bit better…I'm good at giving advice and they really appreciate it. And they're all younger than

334 me…so it's good' (P7)" (p. 75).

335

336 Most studies report that patients think about their present situation by referencing their past

337 and future. Perspectives on the future or life after secure care was very different for each

338 person. Some, cognisant of their age, were eager to move on, but the majority expressed

339 anxiety at returning to the community. These concerns related to feeling institutionalised, not

340 finding work, moving into appropriate accommodation or step-down facilities [24], [28]. For

341 example: "'No. It's too late. By the time I'm out I'll be...Too old by that time. Others want to get

342 out but I don't really want to, to tell the truth…' (P8)" [27] (p. 77). Others conjured memories

343 of their younger selves to distance their current self from when they offended, or to reminisce

344 and rediscover old hobbies and skillsets to support their current recovery [27], [29].

345

346 ## 5.2. Daily living whilst in care

347 ### 5.2.1. Practical and environmental features of care

348 Patients described several practical aspects of daily life that they felt should be adapted for
349 older residents while in care. Units should be equipped with handrails and be wheelchair
350 accessible [24]. Food ought to be more chewable (as well as varied and nutritious), delivered
351 to older patients by others, and generally made more accessible: "They allow me not to queue
352 for food. They bring it to my table. (P02)" [30] (p.123). Chairs can be located next to phones,
353 so patients don't have to stand for extended periods [29]. Older patients need longer to shower
354 than younger peers: "You should try it yourself: undressing, showering, drying and getting
355 dressed within five minutes. This is really impossible" [28] (p. 977). Based on interviews with
356 older patients [31], a common aspect desired by the patients was that they had within their
357 environment their own bathroom facilities within their own rooms, and that these were not
358 shared facilities. This afforded privacy and a preferred environment to reside within.

359

360 ### 5.2.2. Activities

361 Views on activities were mixed. Some patients felt there were enough [26], [30]; others not
362 [28]. However, dissatisfaction with the accessibility or meaningfulness of activities was
363 widespread [24], [26], [27]. Patients felt too few activities catered for older individuals.
364 Activities such as gardening, art, library visits and watching sports were identified as more
365 accessible. Patients expressed preference for activities aimed at older patients: "'I'd be
366 happier to see more people together in my age group in social functions or in the gym' (P15;
367 MS)" [29] (p. 943). Both patients and staff alike identified that if activities were meaningful,
368 important to that person and in effect gave them a purpose day to day, this could facilitate
369 better quality of life and progression for an older patient [25], [31]. These activities promoted
370 feelings of being valued and respected and of engaging with something that was worthwhile.
371 Some patients emphasised the value they saw in having friends and opportunities to meet
372 friends within their hospital, meeting for coffee for example: 'Yes. I have one, who I am very
373 close to. We often drink coffee together. We discuss. Then, there's another one who comes
374 with me to the therapy. We are also close, but it's different. It's different because we're together
375 less often. Well we see each often, every day, but he likes to stay home. So, do I. We see
376 each other anyway. (UF290).' [32] (p. 7).

377

5.2.3. Atmosphere

Although some patients appreciated mixed settings with more active younger patients, a preference for a settled atmosphere emerged in the studies. Patients worried about younger peers being aggressive or bullying older individuals [26], [29]. For example: "Most of the patients are younger than me, it can be a bit difficult when they are being childish or obstructive. (Archie, patient)" [24] (p. 259). Walker et al. [25] found that conflicting dynamics arose between younger and older patients because of numerous differences identified such as in their outlooks, their tastes, music preferences, and the stages of lives that they were at. In their interviews staff suggested that staff was how the older patients were always in the minority and perhaps the '*odd ones out*' (S13, Psychologist). Yorston and Taylor [24] report patients wanting quiet areas; Visser et al. [26] and Jackson [27] found that patients favoured routine. Indeed, some recalled detailed daily schedules, suggesting that institutional boundaries and restrictions supported the predictability of daily life. Some respondents wanted more frequent visits from family/friends. These visitors were often also older and found attending visits difficult due to security restrictions or travel distances [24], [29]. Patients in Verhülsdonk et al.'s [17] study of older forensic patients and prison residents, described life as isolating and lonely, attributing this in part to the opportunities, rules and routines of the secure setting. Interestingly, the authors report that forensic settings seemed more facilitating of patient relationships than prison inmate relationships.

5.3. Treatment and recovery needs

Studies confirmed that older patients have complex physical and mental health needs, some of which go unmet [24]–[26]. Most participants in De Smet et al. [28] had extensive histories of placements in penal or psychiatric settings. Patients in two studies identified psychological needs as especially problematic, expressing that they wanted more psychological support [28], [30]. Sexual needs were not often discussed, but Di Lorito et al. [30] reported these were important for some patients, but not everyone. Respondents in Jackson [27] felt that because older patients had often spent long periods of time in care, this group as well as staff were more familiar with individual risks, which was positive. Patients seemed more satisfied than not about the quality of physical healthcare [26], [29], [30]. One patient compared it to care in the community: "'If I have pain in my back, they'd give me ibuprofen. When I was outside, there were times when I did not have ibuprofen in the medicine box in my flat' (P40; LS)" [29] (p. 947). Walker et al. (2021) found that it was identified in the narratives that older patients experience chronic illness, refractory illness and serious disease. Common illnesses and

412   diseases experienced by this population included: respiratory problems, diabetes, arthritis,
413   angina and cardiac problems, COPD and asthma.

414

415   Walker et al. [25] also reported that patients experienced a 'hub and spoke approach to their
416   care and recovery, where there was a core team around the patient (the hub) but also ready
417   available access to other different professionals, services and support (the spokes) as and
418   when patients need or require them. This included them having access to: a range of
419   adjunctive health professionals and services; advocacy support services; alternative and
420   complementary services; regular health checks and screening; and a multidisciplinary team
421   of different professionals and experts.

422

423   Patients discussed their recovery journeys, including what aspects of mental health care they
424   found most important. Most of the respondents in Yorston and Taylor [24] discussed moving
425   on from their high secure setting, but very few spoke of moving to the community.
426   Respondents in De Smet et al. [28] highlighted the lack of age-appropriate step-down
427   services, rendering them stuck. Visser and colleagues [26] report patients being ambivalent
428   about their next steps, reflecting a finding of Jackson [27] whose participants expressed little
429   hope for the future. Within treatment, patients wanted more involvement in care decisions,
430   and preferred psychosocial over psychopharmacological interventions [28]. Staff were
431   generally seen in a positive light [26], [29], [30], but some respondents felt younger staff were
432   not sensitive to the needs of older patients or lacked appropriate training to care for this group
433   [26], [29]. Relationships with staff were especially important for this group given the amount
434   of time spent together.

6. Interventions for older forensic patients

436   For older patients in secure hospital units or in the community, generally there are no
437   interventions developed specifically for them (i.e., older, forensic and mental health), most are
438   delivered across all ages, and to date there is very little research that has examined and
439   evaluated efficacy of the interventions that are currently offered. Where there is limited
440   research on interventions for older patients, this has been undertaken only in prisons [33], and
441   this has not been extended to secure forensic hospital settings. Canada et al. [34] identified
442   five unique interventions (within the seven papers included in the review) that targeted:
443   depression (*BE-ACTIV*); physical, mental and spiritual health (*TRU-GRIT*); trauma (*Art*
444   *Expression*); communication and social skills (*Good Vibe*); and health/social care assessment
445   and care planning (*Older Prisoner Health and Social Care Assessment and Plan*). This review
446   highlighted the different types of interventions (e.g., art and music therapy, group and
447   individual counselling, recreational therapy, intensive assessment) that may be utilised in this

448   population, and therefore potentially transferable to other forensic mental health settings.
449   However, no conclusions could be drawn regarding the efficacy of these interventions, due to
450   the lack of evidence (e.g., the absence of randomised controlled trials (RCTs)), control group
451   comparisons, or measures of change overtime [34].

452

453   Another recent review [35] examined the evidence for the use of both psychological and
454   psychosocial interventions offered to forensic mental health inpatients. However, this was not
455   age specific, so while it would have included older patients; they were not examined as a
456   discrete sample. Nine papers were included in the review. It was found that five broad types
457   of intervention were offered to the patients: cognitive–behavioural therapy (CBT), dialectical
458   behaviour therapy (DBT), psychoeducation, schema-focused therapy (SFT), and solution-
459   focused brief therapy (SFBT). They reported findings across a whole range of outcomes (such
460   as quality of life, recovery, satisfaction, symptoms, violence, risk), but only seven of the 91
461   comparisons analysed were significant, and none of these significant findings revealed a
462   consistent result. It was suggested that individual DBT and SFBT studies reported the most
463   promising results. The authors concluded that the current evidence base for supporting any
464   psychological or psychosocial intervention is limited.

465

466   The review by Walker et al. [12] found only eight papers that were suitable for inclusion, four
467   qualitative studies [26], [28], [29], [36] and four quantitative studies [6], [13], [14], [37]. None
468   of these papers offered evaluations of interventions, or descriptions of specific interventions
469   for older people.

470

471   The qualitative studies identified positive and negative perceptions of service provision.
472   Regarding the former, De Smet et al. [28] found that patients appreciated the opportunity to
473   participate in leisure and sport activities, having a sufficient range of therapies available, and
474   receiving interventions with domiciliary follow-up when discharged into the community.
475   Patients described some interventions as sufficient and useful, specifically voluntary and paid
476   work, sports, cooking activities and psycho-educational initiatives. Both Di Lorito et al. [29]
477   and Visser et al. [26] reported that interventions and activities offered to older patients were
478   suitable, well received, age inclusive and appropriate.

479

480   Studies described negative perceptions of service provision. For instance, patients identified
481   that missing from service provision was help for alcohol misuse, appropriate psychological
482   and psychiatric support, that there were not enough activities, that some activities provided
483   were not useful and/or were age inappropriate and patients experienced boredom in relation
484   to certain activities [28]. This held true across inpatients and community service provision.

485   Long-term older patients experienced boredom due to the types and repetitiveness of
486   interventions offered; they often had a lack of motivation to participate and engage [26], [29].
487   One factor that was found to be particularly problematic for older patients was because of their
488   physical health issues and poor health, patients were unable to attend and/or physically
489   unable to participate in certain interventions.

490

491   The quantitative studies discussed in the review were generally limited to the inclusion of
492   descriptive data. Di Lorito et al. [36] offer some descriptives of, and a contextual understanding
493   of, the types of interventions offered and experienced by those over 50 (e.g., art therapy,
494   substance misuse therapy, music/dance therapy, violence reduction), suggesting though for
495   some patients, certain activities did not meet older patients' needs, although exactly which
496   ones was not specified. Das and colleagues in two commentaries examined the health care
497   and placement needs of older forensic mental patients across levels of security (high and
498   medium/low) [14] and between older and younger patients [13]. As reported in Section 5.3,
499   needs were not being met for those in higher levels of security compared with lower levels,
500   and for older patients in comparison with their younger counterparts.

501

502   The review by Walker et al. [12] concluded that a range of interventions and activities are
503   available for all ages with none being identified as specifically developed for older patients. It
504   was seen that for older patients there are appropriate individual activities that patients can
505   choose to undertake such as cooking, physical activities, and voluntary work. However, it is
506   not clear if there are specific more 'formal' interventions (either one-to-one or in group format)
507   that are designed for older forensic mental health patients to address specific outcomes of
508   relevance to that population. Where formal interventions are available, these are offered
509   across all ages; and as already noted, there is no research that has examined efficacy of these
510   in older forensic mental health patients.

511

512 **7. Recommendations for research**

513   Research focusing on older aged forensic patients is relatively recent. Most studies cited in
514   this consensus guidance were published in the past decade. The consensus is that much
515   more research is needed to address multiple knowledge gaps. Several topics have been
516   highlighted by scholars as especially important for future investigation, including: needs
517   assessment over time and how these differ from younger patients, barriers and facilitators to
518   recovery, transitioning into the community and the use of controlled clinical trial methods.
519   These are addressed in more detail in this section.

520

521   Several authors reiterate that this group has a different clinical profile to younger patients and
522   that a more comprehensive understanding of patient need is important [6], [7], [24]. To assess
523   need, tools such as the HoNOS-secure, CANFOR-S, CANE, and DUNDRUM quartet can be
524   used. Cross-sectional or longitudinal studies assessing patient needs would be most
525   beneficial where different age groups are compared. In the future, addressing level and type
526   of need might be a more useful way of thinking about specialised services that are not defined
527   by the arbitrary chronological age threshold. The experiences and needs of women and ethnic
528   minority patients should be explicitly included in these assessments [28], [30], [38].

529

530   More evidence is needed on barriers and facilitators to discharge and reintegration into the
531   community. The range of additional hurdles faced by older patients is not clear but
532   institutionalisation, lack of adequate step-down facilities, and coordination between relevant
533   services are potential barriers. De Smet et al. [28] suggest that formal liaison processes
534   between old-age and forensic psychiatric services should be explored. Parrott and colleagues
535   [38] call for research that explores patient experiences of transitions between services and
536   how this relates to their level of optimism in care. Given that old-age care homes may not be
537   able to manage the risk posed by some older forensic patients extending treatment in secure
538   settings, Girardi et al. [15] suggest that future studies investigate whether length of stay and
539   treatment progression is empirically linked with risk of violence and index offence.

540

541   As the study by Girardi et al. [15] demonstrated, the speed and nature of recovery vary with
542   patient age. Studies should ask what the most important aspects of recovery are for older
543   patients and what barriers exist to achieving them. De Smet et al. [28] suggest comparing
544   outcomes for older patients receiving care in a classical rehabilitation model (emphasising
545   security and risk management), to patients receiving care in a strength-based or recovery-
546   oriented approach (for example, the Good Lives Model (GLM): [39]). They further recommend
547   exploring to what extent the domains of Self-Determination Theory (SDT; competence,
548   autonomy/mastery, and relatedness) are targeted in treatment programmes. Similarly, Di
549   Lorito and colleagues [30] propose that the Italian REMs model (small, community-based, low
550   security units) be given special attention when considering models of care for this group.
551   Parrott and colleagues [38], [40] suggest that research be undertaken that explores diversion,
552   sentencing, parole, and early-release discharge practices across the criminal justice system
553   for older offenders with mental disorders.

554

555   In the review by Walker et al [12], a notable finding was the lack of research examining
556   interventions for older forensic mental health patients. This means that too little is known about
557   the effectiveness of interventions for older patients. There have been no RCT studies, quasi

558 experimental investigations, or even studies that examine change over time, to measure the
559 efficacy of interventions. We have no evidence of what interventions are routinely offered and
560 if they are effective across specific outcomes for this population. It is also not clear whether
561 there are any interventions available that have been specifically designed for older patients
562 as were seen to be available for older mental health patients in prison [34]. Scholars should
563 specifically address or over-sample older patients when evaluating interventions (of any type)
564 in forensic settings.

565

566 Finally, it should be noted that the quality of research is generally low to moderate. Sample
567 sizes are typically small; data are often collected from hospital records, which are not always
568 complete or accurate; and study designs are generally retrospective or observational.
569 Databases recording routinely measured outcomes (routine outcome measures, ROMS;
570 patient-rated outcomes measures, PROMS) for all patients can help here [41]–[44]. Future
571 studies should be guided by existing models of wellbeing, recovery or rehabilitation (such as
572 SDT, GLM) or models adapted for older patients, so that theories and mechanisms of change
573 can be empirically identified.

574

575 ## 8. Conclusion and recommendations for practice

576

577 Interest in providing specialised care for older forensic mental health patients has grown over
578 the past two decades. It is becoming clear from research that patients over the age of 50 years
579 have a different set of psychological and physical health needs from their younger
580 counterparts. It is also apparent that there is a dearth of dedicated interventions and support
581 for older patients to assist them in their recovery through secure inpatient services and into
582 the community. This consensus guidance has summarised the extant literature on the older
583 forensic inpatient group, highlighting gaps in our knowledge and suggesting opportunities for
584 future research.

585

586 This section synthesises what is known about the older (over 50 years) forensic mental health
587 inpatient patient group and proposes 31 recommendations for practitioners, researchers and
588 healthcare commissioners to consider when developing or improving services of older forensic
589 patients. These recommendations are taken from the NIHR-funded ENHANCE study
590 conducted by the authors of this consensus guidance document. This report presents
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594   or the Department of Health and Social Care.

595

596   **Value of forensic mental health services**

597   1. Provide recognition of the contribution of inpatient and community forensic mental

598   health services to older patients' well-being and quality of life, as research suggests

599   found some older patients' self-report assessment of well-being and quality of life

600   similar to general population norms.

601

602   **Patient involvement in service provision**

603   2. Take into account the views and preferences of older forensic mental health patients

604   in service provision. This includes the built environment, access to meaningful

605   activities, and plans for transition to other facilities or the community. Co-production

606   tools and resources should be applied.

607

608   **Service organisation**

609   3. Hospital/ward/unit rules, regulations or routines should accommodate the needs of

610   older patients.

611   4. Provide a comprehensive range of structured activities (chosen with patients' input) to

612   be undertaken in inpatient wards and the community, and offer at a range of

613   participation and intensity levels.

614   5. Connect older patients to each other across multiple wards or facilities for activities

615   and socialising, taking into account vulnerability and risk issues.

616   6. Provide activities that fit with patients' interests and life course, that give them a sense

617   of identity, purpose and meaningfulness.

618   7. Adapt the physical environment to accommodate older patients' needs and risks (e.g.,

619   mobility, sensory impairment, disabilities).

620   8. Provide healthy lifestyle choices: access to physical activities, exercise facilities, and

621   healthy food options.

622   9. Staff levels and retention should be appropriately funded and fully adequate to support

623   older patients' needs, so that patient leave and going off the ward is possible and does

624   not get cancelled.

625   10. Enable patients to easily connect (face-to-face and via technology) with external family

626   and friends and support new social connections, taking into account safeguarding.

627   11. Assess whether specific older adult interventions and services are required.

628

629   **Evidence-based care**

630   12. Quality of life can be enhanced by addressing patients' depression, cognitive
631   impairment, anxiety, pain management, ability to perform usual (work, study,
632   housework, self-care, social or leisure) activities, and mobility issues.

633   13. Quality of life and well-being can be enhanced by providing efficient and easy access
634   to specialist healthcare services, including occupational therapists, physiotherapists,
635   opticians, dentists, and dieticians.

636   14. Offer preventative assessments, medical screenings, and check-ups, and address
637   issues identified appropriately and timely.

638   15. To reduce levels of obesity and diabetes, seek to improve patient physical activity
639   levels, diet, and sleep quality.

640   16. Make allowances for cognitive impairments in needs assessment, risk assessment,
641   interventions, and treatment.

642   17. Provide interventions and occupational therapy that supports cognitive functioning and
643   functional abilities to enable people to live well and manage cognitive changes.

644   18. Provide evidence-based psychological interventions with options of group or one-to-
645   one sessions.

646

647 **Transition and discharge**

648   19. Offer suitable housing/supported accommodation in the community.

649   20. Provide consistent support and supervision throughout transition into the community.

650   21. Support access to appropriate meaningful work/activities/education for older patients
651   to engage in after discharge.

652   22. Provide easy and fast accesses to community forensic mental health services so that
653   patients have a safety net for support and to avert offending or a mental health crisis
654   after discharge.

655

656 **Collaboration between different specialty groups**

657   23. Develop strong links between healthcare services such as old age psychiatry,
658   community forensic mental health teams, and somatic hospitals.

659   24. Develop strong links with organisations to support patients in the community (housing,
660   social groups, charities, local authority, volunteering groups, and welfare support).

661   25. Develop collaborative innovation and research initiatives, conferences, webinars, and
662   dedicated working groups within and across services.

663

664 **Staff training**

665   26. Provide staff training in the care and treatment of older people with mental health
666   problems; such as bereavement counselling, transitioning to the community,

667   identifying indicators of dementia, and identifying predictors of mental disorder
668   exacerbated by growing old in secure services, e.g. loneliness, social isolation and
669   deaths of friends/family.

670   27. Provide staff training to support patients and their carers' management of age-related
671   health needs, such as cognitive difficulties, physical health conditions, mobility issues,
672   sensory impairment, frailty, and incontinence.

673

674 **<u>Language and communication</u>**

675   28. Eliminate stigmatising language, labels, and stereotypical beliefs about older persons.

676   29. Communicate acceptance of whom patients are now, rather than the person they were
677   at admission or when they committed their index offence; acknowledging that patients
678   and their risks change over time.

679   30. Provide information in a manner and format that reflects the range of cognitive abilities:
680   adjusting vocabulary, grammar, imagery, spacing, pacing, text, font, and other
681   communicative methods.

682   31. Ensure communication is a two-way process: patients' voices are heard, and they are
683   empowered to be part of decision-making processes.

684

685

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690

691 10.   Conflicts of interest

692 All authors (JT, KW, JY, TD, KG, BV & CG) have no conflicts of interest to declare.

693

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846   Table 1 Characteristics of studies describing clinical, legal and demographic characteristics of older forensic mental health patients

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	Study design (inc. measures)	Country	Old age definition	Comparison group y/n	Sample size (total sample and % men)	Setting
Coid et al., 2002 'Elderly patients admitted to secure forensic psychiatry services'	Retrospective, cohort, hospital records, 1988-1994	England	60+	Yes (16-59 vs ≥60)	N=52 (1.6%) of total admissions (N=3,155); (94% men)	Medium and high security: 7/14 health regions
Tomar et al., 2004 'Is there a case for a specialist forensic psychiatry service for the elderly?'	Retrospective, cohort of referrals, hospital records, 1990-2002	England	65+	Yes (age at first offence > or < 65 years)	N=42 unique patients described in the study (90% men), from N=78 referrals of patients ≥65 out of N=5477 total referrals (1.4%)	Medium security
Lightbody et al., 2010 'A survey of older adult patients in special secure psychiatric care in Scotland from 1998 to 2007'	Retrospective, cohort, hospital records, 1998-2007	Scotland	55+	No	N=36 (94% male) at admission or turned 55 during care	High security
Das et al., 2011 'A comparative study of healthcare and placement needs among older forensic patients in a high secure versus medium/low secure hospital setting' & Das et al., 2012 'Assessment of healthcare and placement needs in an older forensic psychiatric population in comparison to a younger forensic psychiatric population' (Both papers report findings on the same 'older' patient sample)	Cross-sectional, interview and hospital records; CANFOR-S, CANE-S, NABUS (forensic adaptation)	England	60+	Yes 2011: high vs medium/low security. 2012: ≤ 45 vs ≥60	2011: N=15 high vs N=15 medium/low security. 2012: N=26 ≤45; N=30 ≥60 (100% men)	High, and medium-low security
Natarajan & Mulvana, 2017 'New horizons: Forensic mental health services for older people'	Retrospective; referrals over 18 month period; hospital records	England	Older adults or younger adults with early onset dementia or physical or mobility impairments	No	N=25 referrals (100% men)	Dedicated older adult medium security ward
Girardi et al., 2018 'Older adults in secure mental health care: health, social wellbeing and security needs measured with HoNOS-secure across different age groups'	Retrospective, cohort, hospital records, 2007-2015; HoNOS-secure	England	No specific definition of 'older'	Yes (18–24, 25–34, 35–44, 45–54, 55–64 and 65+)	N=521 in total; 55–64: N=32 (81% men); 65+: N=24 (83% men) (55+ was 10.7% of the whole sample)	Low and medium security hospitals

Di Lorito et al., 2019 'The characteristics and needs of older forensic psychiatric patients: a cross-sectional study in secure units within one UK regional service'	Cross-sectional, interview; hospital records; CANFOR-S, CANE-S (selected items), HCR-20, CAMCOG-R, PCL-R	England	50+	No	Phase One (records): N=94 (89.4% men) (18.9% of total patient population)	Low, medium and high security hospitals
					Phase Two (interviews): N=41 (44% of older population) (92.7% men)	
Tomlin et al. 2022 'Older forensic mental healthcare patients in England: demographics, physical health, mental wellbeing, cognitive ability and quality of life [version 2; peer review: 2 approved]'	Cross-sectional interview, EQ-5D-5L, SWEMWBS, ReQoL, CCRT, MoCA, FRQ, hospitals records	England	55+	No	N=37 (92% men)	Community, low, medium and high security hospitals
Stoliker et al.,2022 'Older people in custody in a forensic psychiatric facility, prevalence of dementia, and community reintegration needs: an exploratory analysis'	Cross-sectional interviews; CSI'D'	Canada	45+ for indigenous patients (55%). 50+ for non-indigenous patients (45%).	No	N= 29 (96.6% men)	Regional forensic psychiatric hospital located in a medium-sized Canadian city
Verhülsdonk et al. 2023 'Frequency of cognitive impairment in older forensic inpatients: results of a pilot cross-sectional study'	Cross-sectional interview; DemTect; MMSE; FAB; TMT A/TMT B; PQH	Germany	60+	No	N= 34 (100% men)	Five forensic psychiatric hospitals in North Rhine Westphalia
Notes: CANFOR-S, Camberwell Assessment of Need, Forensic – Short Version; CANE-S, Camberwell Assessment of Needs in the Elderly – Short Version; NABUS, Nottingham Acute Bed Study questionnaire; HoNOS-secure, Health of the Nation – Secure version; HCR-20, Historical, Clinical and Risk Management – 20; CAMCOG-R, Cambridge Cognitive Examination-Revised; PCL-R, Psychpathy Checklist – Revised; EQ-5D-5L; SWEMWBS, Short Version Warwick-Edinburgh Mental Wellbeing Scale; ReQoL, Recovering Quality of Life; CCRT-SV, Cambridge Contextual Reading Test – Short Version; MoCA, Montreal Cognitive Assessment; FRQ, Forensic Restrictiveness Questionnaire; CSI'D', Community Screening Instrument for Dementia; DemTect, Dementia Detection Test; MMSE, Mini-Mental Status Examination German Adaptation; FAB, Frontal Assessment Battery; TMT A/TMT B, Trail-Making Test A and B; PQH-9, Patient Health Questionnaire.						

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Table 2 Most prevalent index offences as reported in primary sources

Index Offence	Percentage	Study
Homicide / Manslaughter	50%	Coid et al., 2002
	25%	Lightbody et al., 2010
	36%	Natarajan & Mulvana, 2017
	26%	Tomar et al. 2004
	20%	Verhülsdonk et al., 2023
(Attempted) Murder / Manslaughter	30%	Tomlin et al., 2022
Attempted murder or grievous bodily harm	32%	Coid et al., 2002
Violence against the person	21%	Tomlin et al., 2022
Assault	39%	Di Lorito et al, 2019
	12%	Natarajan & Mulvana, 2017
	6%	Verhülsdonk et al., 2023
Aggravated bodily harm/threats	7%	Coid et al., 2002
Threats to kill	8%	Natarajan & Mulvana, 2017
Arson	9%	Coid et al., 2002
	9%	Verhülsdonk et al., 2023
Sex offences	6%	Lightbody et al., 2010
	16%	Natarajan & Mulvana, 2017
	47%	Tomar et al. 2004
	21%	Tomlin et al., 2022
	57%	Verhülsdonk et al., 2023
Acquisitive offences	10%	Tomar et al. 2004
Notes: Percentages rounded to whole numbers.		

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854   Table 3 Most prevalent diagnoses as reported in primary sources (≥10%)(either primary, secondary or tertiary diagnosis)

Diagnosis	Percentage	Study
Any schizophrenia, schizotypal and delusional disorders	**21-64%**	
Schizophrenia (inc. 'Schizoaffective', 'Unspecified psychosis')	33% (39%)	Coid et al., 2002
Schizophrenia (inc. 'Schizoaffective disorder' and 'Other psychotic disorder')	42% (48.8%)	Di Lorito et al., 2019
Schizophrenia, schizotypal and delusional disorders	64%	Lightbody et al., 2010
	60%	Tomlin et al, 2022
	35%	Verhülsdonk et al., 2023
Psychotic disorder	~31%	Girardi et al., 2018 (55-64)
	~20%	Girardi et al., 2018 (65+)
Schizophrenia or psychotic illness	24%	Natarajan & Mulvana, 2017
Schizophrenia/schizophrenia like disorders	21%	Tomar et al., 2004
Delusional disorder	29%	Coid et al., 2002
Any mood [affective] disorder	**9-42%**	
Mood disorders	14%	Lightbody et al., 2010
Affective disorder	~9%	Girardi et al., 2018 (55-64)
	~37%	Girardi et al., 2018 (65+)
	16%	Natarajan & Mulvana, 2017
	19%	Tomar et al., 2004
Mood [affective] disorders	16.2%	Tomlin et al, 2022
Depression	42%	Coid et al., 2002
Anxiety disorder	15%	Di Lorito et al., 2019
Bipolar disorder	15%	Di Lorito et al., 2019
Any organic, including symptomatic, mental disorders	**11-48%**	
Dementia	48%	Natarajan & Mulvana, 2017
Organic brain syndrome	33%	Coid et al., 2002
Organic disorders	21%	Tomar et al., 2004
	11%	Lightbody et al., 2010
Any mental and behavioural disorders due to psychoactive substance use	**13.5-62%**	
Alcohol dependence/abuse	29%	Coid et al., 2002
Substance Use/dependence	~50%	Girardi et al., 2018 (55-64)
	~62%	Girardi et al., 2018 (65+)
	15%	Di Lorito et al., 2019
	14%	Tomlin et al., 2022
Disturbance due to psychotropic substances	18%	Verhülsdonk et al., 2023
Any disorders of psychological development		
Learning Disability	10%	Di Lorito et al., 2019
Any disorders of adult personality and behaviour	**10-60%**	
Personality and behavioural disorder	60%	Di Lorito et al., 2019
	12%	Natarajan & Mulvana, 2017

	~19%	Girardi et al., 2018 (55-64)
	~24%	Girardi et al., 2018 (65+)
	42%	Lightbody et al., 2010
	41%	Tomlin et al., 2022
	53%	Verhülsdonk et al., 2023
Antisocial	10%	Coid et al., 2002
	11%	Tomlin et al., 2022
Dissocial	14%	Tomlin et al., 2022
Schizoid	10%	Coid et al., 2002
Avoidant (anxious)	14%	Tomlin et al., 2022
Emotionally Unstable	11%	Tomlin et al., 2022
Antisocial	11%	Tomlin et al., 2022
Paranoid	11%	Tomlin et al., 2022
Other		
Comorbid disorders (any)	54%	Di Lorito et al., 2019
Paraphilia	56%	Verhülsdonk et al., 2023
Psychopathy		
Psychopathy (>25 PCL-R)	8/14 (57%) for whom PCL-R scores were available	Di Lorito et al., 2019
Notes: ~ where data are reported graphically in primary source and exact figures are not provided. 'Most prevalent' defined as ≥10% when rounded. PCL-R; Psychopathy Checklist Revised. Percentages rounded to whole numbers.		

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