

Perspective Piece

Premature mortality of people with severe mental illness: a renewed focus for a new era

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Abstract

This perspective article applies public health principles to improve the physical health of selected populations with mental disorders. Two preventable adverse outcomes, poorer physical health and premature mortality, are described across mental disorders. Evidence of the lifetime effects of adverse childhood experiences and inequalities is presented: these are the ‘causes of the causes’. Seven drivers of physical disorders are illustrated that drive preventable deaths and as doctors, psychiatrists must lead from the front to reverse rising mortality. Evidence supports universal and selective interventions and even the most difficult challenges such as weight gain and opioid misuse are an opportunity for psychiatry to engage with individual patients and their organisations, public health colleagues, health systems and beyond. Interventions complement and do not replace existing clinical practices that reduce self-harm and prevent suicide. Mental health teams already do most of the work in this arena, and the case is made to refocus on physical health with task sharing. The top 10 recommendations within a personalised medicine framework are listed in this paper as a starting point.

Keywords: Physical health; premature mortality; prevention; public health; liver; opioids

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There are five reasons why we must address the years of life lost by people with schizophrenia and bipolar disorder (Table 1) and change how we work, within Psychiatry and beyond. Firstly, there is a moral imperative to reverse the ‘stolen years’ (of premature mortality and of healthy years lost) among thousands of our fellow citizens. We need to own this. Next, and across many countries with adequately funded health services, the premature mortality difference between severe mental illness (SMI) and the general population is *rising* (Saha *et al.*, 2007; Chesney *et al.*, 2014; Firth *et al.*, 2019; Laursen, 2019). Measured to 2018, analyses of SMI deaths in England show that people with psychosis (in these data, those engaged in specialist treatment) are 4.5 times more likely to die before the age of 75 (Public Health England, 2017). This compares with a standardised mortality ratio (SMR) of 2.5 a decade before (Saha *et al.*, 2007) and 1.6 SMR, 10 years before that (Harris & Barraclough, 1998). Thirdly, our patients want holistic care – good physical health for as long as possible as part of their recovery from mental disorder (Khan & Tracy, 2021). They don’t expect their doctor to deflect or ignore physical symptoms or risk factors. Nonpsychiatric colleagues often struggle to treat their physical health, imploring psychiatrists to ‘treat the psychiatric bits first’. Deteriorating health means more patients with increasing rates of multimorbidity – one or more physical diagnoses plus mental disorder(s) – and the fourth reason comprises human

and economic costs. Lastly, the Covid-19 pandemic has revealed and exacerbated the inequalities we knew were there (Byrne & James, 2020; Marmot *et al.* 2020), but had not yet addressed or reversed. Since the pandemic, we are a society of ‘armchair epidemiologists’ with a renewed appreciation of the science and practices of public health. In that spirit, health and other professionals are ready to do *whatever it takes* to reduce preventable deaths in vulnerable populations. As psychiatrists, we understand human behaviours, generally and within health systems, and know how to deliver community services that deliver better outcomes.

The case for prevention

Social psychiatry, once given an exclusion definition of ‘not biological and not psychodynamic psychiatry’, has evolved into public mental health (PMH). Davies and Mehta (2013) conceptualised PMH as a triad of Rehabilitation/Treatment (how we spend 95%+ of our working lives), Promotion (raising awareness in schools, workplaces and across media) and the neglected third component of Prevention. Prevention in mental health has the evidence (Jenkins & Ustin, 1998; Davies & Mehta, 2013; Byrne & Rosen, 2014; Campion, 2019; Firth *et al.*, 2020) but lacks both financial support and participation among mental health professionals. If clinical psychiatry can be compared to a battlefield, as psychiatrists we are drawn to treat the wounded and the dying – rather than activities to build up the defences and personal armour, sound the retreat, and train people to fight back. We have been cowed by years of underfunding such that we would not dare to presume to negotiate a ceasefire. In that frontline firefighting spirit, there are two comprehensive textbooks written for

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Table 1. (Table 5 of Campion, 2019): Number of years of reduced life expectancy for people with different mental disorders

Mental disorder	Number of years reduced life expectancy
Depression (Chang <i>et al.</i> , 2011) (UK)	10.6 years for men, 7.2 years for women
Bipolar disorder (Chang <i>et al.</i> , 2011) (UK)	10.1 years for men, 11.2 years for women
Schizophrenia (Chang <i>et al.</i> , 2011) (UK)	14.6 years for men, 9.8 years for women
Anorexia nervosa (Harbottle <i>et al.</i> , 2008) (Canada)	25 years for women
Personality disorder (Fok <i>et al.</i> , 2019) (UK)	17.7 years for men, 18.7 years for women
Substance misuse disorders (Chang <i>et al.</i> , 2011) (UK)	13.6 years for men, 14.8 years for women
Alcohol use disorders (Hayes <i>et al.</i> , 2011) (UK)	17.1 years for men, 10.8 years for women
Opioid use disorders (Hayes <i>et al.</i> , 2011) (UK)	9.0 years for men, 17.3 years for women

psychiatrists and allied professionals to address poor physical health in people with SMI (Cormac & Gray, 2012; Taylor *et al.* 2020). These are the *How To* of detection and treatment of the physical diseases that blight lives and end them prematurely; both touch on secondary prevention (early detection and treatment): each of hypertension and diabetes are important early intervention points, made even more urgent in the Age of Covid. They are disease/organ-based and neither book has a primary prevention focus. The *Lancet Psychiatry Commission* has also moved the dial: Firth and colleagues (Firth *et al.* 2019) in advocating multilevel actions across health systems to improve common modifiable risk factors, based on compelling evidence with few underresearched areas. We now know more about the shared pathogenesis of psychosis and cardiometabolic disorders (Perry *et al.*, 2021) and this adds urgency to intervene earlier. Activation of phenotype and genetic links are not a counsel of despair – we do not ‘give up’ on alcoholic patients who have strong family histories of addiction. While integrated care and innovation (e.g. electronic cigarettes, digital technologies, *Diabetes Prevention Programme*: Firth *et al.*, 2019) will progress the protection of physical health, the Commission concluded that we can only achieve better outcomes through public health approaches (Firth *et al.*, 2019).

Evidence across mental disorders

Data from the UK and Canada, based on patients engaged in treatment within accessible universal healthcare, is likely an underestimate of the scale of premature deaths (Table 1). As we start to look at solutions, remember that the same endeavours that reduce SMI premature mortality are also beneficial to our patients beyond the 1–2% with psychosis. Intellectual disability (ID) confers an even higher premature mortality than SMI (McCarron *et al.*, 2015): this is a combination of both the condition(s) causing ID and the increase in associated psychiatric morbidities, themselves driving poorer physical health – most offer potential points of interventions (Fig. 1). For example in ID patients, safe psychiatric prescribing is even more relevant as highlighted in the STOMP publication by Branford *et al.* (2019). People with addictions and alcohol/substance misuse die even younger than SMI patients, due to lack of treatment opportunities and/or intermittent abstinence-misuse cycles (Chang *et al.*, 2011; Hayes *et al.*, 2011; Shield *et al.*, 2017; Macloud *et al.*, 2019). Misuse increased among a more deprived subpopulation during the first UK lockdown (Marmot *et al.*, 2020). Data on life expectancy among people with personality disorder is also severely effected (Fok *et al.*, 2019; Firth *et al.*, 2019). Improving physical health in everyone, especially maintaining mobility and reducing alcohol excess, has major

positive impacts on the prevention of most types of dementia (Livingston *et al.*, 2020). Anxiety, the most common mental disorder, also confers biological disadvantages with an increased relative risk, RR of 1.41 (95% CI, 1.23 – 1.61) and 1.71 (95% CI, 1.18 – 2.50) for coronary heart disease and stroke respectively (Emdin *et al.*, 2016). All interventions listed below will reduce mortality excess and physical illness burden. Across the lifespan the highest rates of depression requiring medical intervention occur in people with long term conditions (LTCs) such as diabetes, heart failure, chronic obstructive pulmonary disease and hypertension. Because multimorbidity is the rule not the exception in people with SMI over 40, our patients are overrepresented in LTC populations, as well as being undertreated.

Proportionate universalism

All activities that protect physical health also benefit mental health; and even small increments of improvement in mental health in populations yield benefits to mitigate and prevent physical disorders. These actions have intergenerational benefits: simple interventions *now* in SMI patients will support them towards quitting smoking, cooking from ingredients and taking gentle exercise. Their children will directly benefit from all three parents’ changes right across *their* lifetimes. As a profession, we have not performed well in preventing childhood mental disorder, and prioritising parents with mental disorders is a good start (Cooklin & Gorrell Barnes, 2021). Our dying planet and unsustainable human activities are pressing concerns. Again, three interventions cited promote a sustainability agenda. *So why don’t we do prevention?* The drivers of premature mortality across mental disorders are multifactorial, interacting/symbiotic (Fig. 1) and it can be frustrating for people working in health/voluntary sectors when the benefits of positive changes they negotiate accrue to individuals, their families, parts of *other* systems and the State some years after their efforts. Public health achieved advances we have taken for granted or forgotten, and we need their leadership to rethink then reverse the drivers of the stolen years (Supplementary Figure 1).

Post-Covid challenge

The UK’s Covid deaths to January 2022, the worst in Europe, reflect a combination of regressive social policies before the pandemic, of which obesity is one driver, and inequalities in infection rates and accessing health treatments (Marmot *et al.* 2020). Back to our psychiatric clinics, and Hughes and colleagues (Hughes *et al.* 2017) examined the effects of 4 or more ACEs (adverse childhood experiences) across 10 European countries (Supplementary

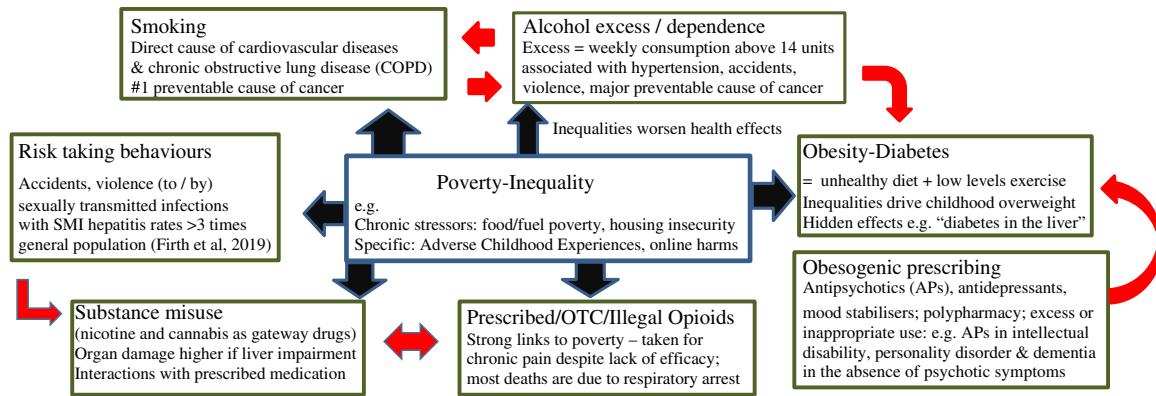


Fig. 1. Seven drivers of Premature Mortality in people with severe mental illness (SMI).

Table 1). None of the adverse outcomes predicted here (odds ratios are associations) will surprise experienced clinicians, and how clinical presentations cluster together sharpens the tools of Prevention. Beginning in childhood, poorer children experience more ACEs and there are fewer mitigating interventions for these. These inequalities are ingrained by adult life, living in more deprived areas with less green spaces, higher volume traffic, more fast food/alcohol and tobacco retailer outlets (Marteau *et al.*, 2021). Studies link urban air pollution to increased adolescent mental health presentations (Szyszkowicz *et al.*, 2020). The scale of what is needed to overcome inequalities and ACEs is overwhelming. We know the challenges of primary prevention will fall to future generations of health professionals. Poverty is toxic to mental health; there is evidence of 'bidirectional causality' and that targeted anti-poverty programmes will prevent mental disorders with net positive economic benefits (Ridley *et al.*, 2020). We must challenge the consensus that 'we are so much more positive about mental health these days', not least among politicians who are happy to cut the ribbon for a new service or raise 'mental health awareness' but do nothing to promote universal income, adequate benefits (Boardman, 2020), and ignore proven approaches like *housing first* (Padgett, 2020). Across systems and nationally, we need sustainable policies that establish a clinical focus on physical health as the new normal. Principles of integrated care are presented in Supplementary Table 2. Learning from smoking, we cannot wait seven decades to address any potential issues with the 'Alcohol lobby', supermarkets, 'Big Tech', 'Big Pharma' and poor medical prescribing practices (Norris *et al.*, 2021).

Why me?

Doing things differently carries costs. For clinicians there are time costs – the opportunity costs of discussing physical health when you might be doing other things. Health services are fragmented (Delgado *et al.*, 2021), and each silo repeats the common mantra about treating the poor physical health of people with SMI: 'can't someone else do it?' Our failures as clinicians to address premature SMI mortality relate to a professional mind-set of low expectations of our patients (to stop smoking, eat healthily, take exercise) and therapeutic nihilism. When adequate trials compare interventions between SMI and controls, for example outcomes in 105 018 patients with myocardial infarction, proactive treatment of cardiovascular disease produces the same better outcomes in SMI as controls (Kugathasan *et al.*, 2018). This 11 year Danish study also showed that each of invasive (percutaneous) cardiac interventions

and multiple cardioprotective medications were *less likely to be offered* to the subgroup with schizophrenia (Kugathasan *et al.*, 2018). The hope now is that our collective response to Covid-19 has changed clinicians' attitudes. Economists, policy makers and politicians who hear Prevention arguments might focus on the savings from admissions avoided, reduced care costs of poor physical health or (hopefully looking beyond annual budgets or election cycles), the aspiration of improvements in life expectancy. In these islands, health systems are complex and holistic care becomes merely an aspiration, quickly abandoned when something demanded of our service might be left to another part of the system. While we work to fix these perverse disincentives, we need to act now in clinics to reverse the drivers of premature mortality in people with mental disorders. Our postgraduate educational systems have also become fragmented, but we can resist: when a diabetologist or hepatologist trains you, return the favour and teach mental disorders to their teams. Why *not* you?

The Malevolent Seven

The drivers of Fig. 1 are not the *seven deadly sins* – what the current UK Government has dubbed 'lifestyle choices'. The Malevolent Seven are driven by inequalities, mostly economic but minority ethnic status is also a powerful determinant of inequality and exclusion, and they tend to clump together as syndemics (Singer *et al.*, 2017). In the prevention of depression-anxiety, Jacka and colleagues (Jacka *et al.* 2012) have identified the three most plastic/remediable risk factors as physical inactivity, smoking and diet quality. For Jacka, the central 'causes of the causes' poverty-inequality/ACEs are in the 'too difficult box', and the paper conceptualises the related negative influences of poor social networks and alcohol/substances as less fruitful intervention points. Others disagree. In rejecting a disease-specific paradigm, Fig. 1 is a useful reconceptualization of the interacting, common antecedents that drive physical disease processes and make mental health even worse. In the clinic, we cannot separate the behaviours of substance misuse from psychological dysfunction – because they arise and interact in the same person. Thankfully, not every patient will have all these drivers and interventions to reduce/mitigate the drivers work within a personalised medicine framework. Once liver impairment starts, other drivers (smoking, alcohol, overweight, prescribed/illegal drugs) damage organs to increasing degrees. LTCs are detected late in people with SMI so we should not see these as sequential comorbidities: Fig. 1 shows shared antecedents. LTCs share aetiologies, and many, for example, essential

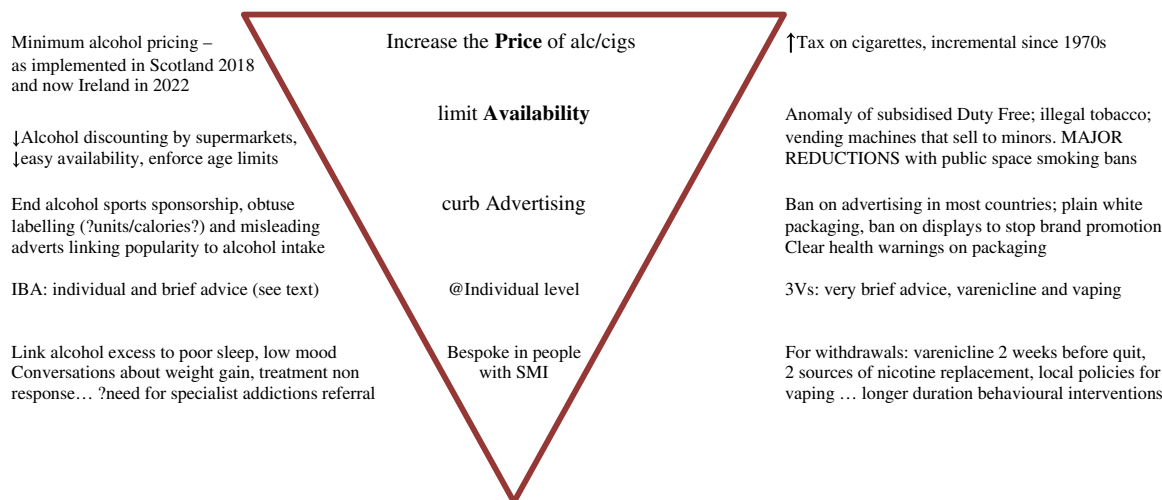


Fig. 2. Evidence-based public health interventions to reduce alcohol misuse and smoking, shown with selected (top) and individual (tip) interventions.

hypertension, are attenuated by obesity, inactivity, alcohol, and high fat, sugar, salt (FSS) diets. In attending to these markers, we could also reduce or delay dementia (Livingston *et al.*, 2020).

Where to start?

With interventions to reduce alcohol and smoking, try to integrate the individual conversations within broader public health actions (Fig. 2). To achieve reductions in both, it is about pricing, then limits to availability and advertising curbs; what we undertake as health education (much schools-based activity, finger wagging by doctors) has far less impact on alcohol misuse (Babor *et al.*, 2010). In individual smoker discussions, this is not about what might happen 10 years away, but the effects of these activities *now*: impact on finances plus time lost, effects on others (children/elders), and immediate personal consequences: smelling of cigarettes, loss of taste, gateway to other substances. The open question (*what matters to you?*) replaces the traditional (*what's the matter with you?*). When patients cite insomnia, our challenge as clinicians is to achieve coproduction of better sleep without prescribing sedative medication. Ask and acknowledge the negatives but change the narrative from the amount of sleep achieved (problematic clock-watching) to enjoying the benefits of feeling rested each morning after small agreed changes. The UK Biobank Study (123 794 white British participants) has linked genes to behaviours using polygenic risk scoring, and Choi and colleagues (Choi *et al.* 2021a) examined 106 known modifiable risk factors for incident (new) depression. Findings support clinicians' instincts (benefits of social networks, frequent confiding in others, exercise, attending a club or pub) but there is a stronger bidirectional relationship between daytime napping and depression. Choi and colleagues (Choi *et al.* 2021b) did not find strong links between total hours slept and depression. Cutting out daytime naps, or limiting this to one 30-min nap each day is one of many sleep hygiene measures. Broaden these to advise cutting out stimulants (nicotine, substances), reducing caffeine, modifying deleterious sedatives (alcohol, substances, medications) and promoting gentle exercise outside and offline, with mindfulness (Fikree & Byrne, 2021). If either loneliness or fatigue are spontaneous symptoms, there begins a similar coproduction on pairing social activities with exercise.

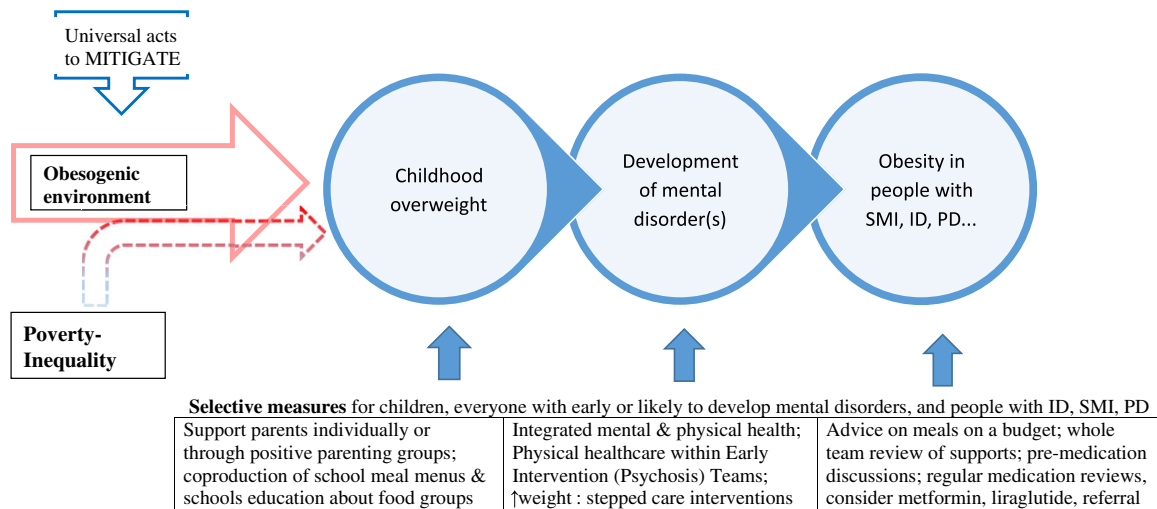
Personalised medicine – implementing Prevention across the lifespan

Firth and colleagues (Firth *et al.* 2020) reviewed randomised trials and prospective meta-analyses to show clear benefits (in descending order) of any physical exercise, never smoking or quitting, good sleep and healthy diet. For the first two, we see good evidence of the primary prevention of psychosis and attention deficit hyperactivity disorder (ADHD), and all four have been shown at a population level to reduce adult onset of anxiety, depression and bipolar disorder (Firth *et al.* 2020). Although this meta-review did not include alcohol use, their conclusions on sleep and exercise have since been replicated by Choi and colleagues (Choi *et al.* 2021a) in the prevention of depression. For individuals with schizophrenia, physical activity interventions are best integrated into other pro-social activities: walking a dog, walking with a neighbour, joining a walking/cycling group or team sport. We need to make opportunities to ask the difficult question: *'is it ok if we weigh you today?'* There are multiple pathways to obesity (Fig. 3), and healthy weight management requires the best of personalised medicine to maintain current weight, with motivational interviewing to plan sustainable reductions, if agreed. You will not 'fat shame' patients into losing weight. Engage and pair other gains (learning one new recipe a week, quitting snacks, eating earlier in the day, improved quality sleep, peer support) that modify diet with the euphoric effects of regular exercise. Sadly, the pandemic has widened inequalities in identifying an increased gradient of more exercise and healthier eating, with less alcohol and substances, in people with greater resources (Marmot *et al.* 2020). For health professionals, personalised medicine demands more clinical time and effort in the patients with lower financial resources. What began as collaborations among Glasgow GPs serving the most deprived areas of Scotland, *Deep End*, has been emulated internationally including in Dublin (Kiely *et al.*, 2021).

One size does not fit all

Unlike the solutions in Fig. 2 driven by indisputable facts (smoking and alcohol excess shorten lives; public smoking bans and raising alcohol prices reduce population consumption) there are less certainties in healthy eating. The challenges in the UK and Ireland of how we get our food are similar: oligopolies that provide and

Universal measures: ↑green & blue spaces, ↑safe walking / cycle lanes, ↑regulation of processed foods and out of home food sources, ↑factual labelling on food and drinks, ↑sugar taxes, ↑advertising curbs on junk food pre TV watershed, ↑public debate based on data (% overweight)



Identify psychological comorbidity earlier e.g. social isolation / boredom, low self-esteem, comfort eating, weight gain leading to sense of shame (stigma) and more isolation with less physical activity... at individual clinical level, consider disordered eating and eating disorders.

Fig. 3. Solutions across systems to improve Healthy Weight Management (HWM) over the life course.

disproportionately discount processed foods high in FSS. Over decades, portion sizes have increased as two thirds of the whole population became overweight, our bodies drive higher calorie intake (and thereby higher sales of unhealthy food) to maintain that weight (Marmot *et al.* 2020). We walk less (with the exception of wilful exercise in people who have adequate leisure time) in crowded cities and more remote, car-dependent rural settings: our environments are obesogenic. Inequalities compound high FSS diets and drive lower levels of exercise (Marmot *et al.* 2020). Solutions here appear more universal than selected (Fig. 3). The model does not assume poverty or childhood obesity always lead to increased weight, or that better off populations are spared – the universal challenge remains our obesogenic environment. This is not a crisis but an opportunity to engage across society to reverse the shift to the new normal of overweight. Changes to taxation will be part of this, more so if the supermarkets do not engage, but this will be more challenging than cigarette taxes/alcohol pricing as we all need food. The success of the UK soft drinks industry levy in 2018 was not that people bought less of them or profits fell but that companies were nudged into the production of lower concentration sugar products – and total sugar consumption fell (Pell *et al.*, 2021). Sadly, this tax is one of the rare successes in English anti-obesity measures over 30 years (14 Government strategies, 689 policies) that have been mostly evidence-free with scant learning from previous attempts, with a focus on individuals rather than the obesogenic environment: 13/14 strategies recognised inequalities as a driver of obesity but only 19% of policies were likely to reduce their impact (Theis & White, 2021).

Mental health subpopulations' weight

There are additional challenges in SMI: increased calorie intake and unhealthier foods (processed foods, sugary drinks) paired with more sedentary behaviours (Teasdale *et al.*, 2019). Obesogenic prescribing of psychoactive medications (see below) is the icing on the cake. When overweight develops, shame and/or osteoarthritis limit movement and other morbidities may have revealed themselves:

our medical services from endocrinologists to bariatric surgeons need psychiatrists' guidance to tailor effective treatments. These services are underdeveloped and as they evolve, we need to make sure our patients are treated fairly, with our input as standard to reduce psychological barriers to life-changing treatments. The services should align with disordered eating, and even among the grim data of Tables 1 and 2, anorexia stands out. There is an additional challenge that pre-pandemic, eating disorders have grown in prevalence and complexity in developed countries (Santimauro *et al.*, 2021), and lockdowns yielded further rises. Useful public health interventions to protect health in most mental disorders (calorie labelling, universal promotion of exercise) may have negative unintended consequences for this patient group. Anorexia treatment requires integrated care: physicians, psychiatrists and other disciplines working together. Parity demands the same resources for mental disorders as those for physical health: and that our patients get equal consideration for physical healthcare.

Rising opioid misuse

There is no evidence to justify opioids in noncancer pain; the only effective drugs in chronic primary pain are antidepressants (Carville *et al.*, 2021). Over the counter (OTC) codeine, poor self-report data (not least obtaining legal opioids by any means) and appropriate opioid prescribing in cancer patients have obscured the challenges of opioid misuse in many countries. The US has the highest prescription rate in the world, with related abundant illegal synthetic fentanyl sources; it experienced further rises since Covid: estimated opioid-related deaths for 2020 are 90 000 (Baumgartner & Radley, 2021). The UK Biobank Study (over 466 000 participants) reported regular opioid use in 5.5%, noting study volunteers as significantly healthier than the general population: though they cannot imply causation, 6.9% and 9.1% of light and heavy opioid users, respectively had died by follow-up; 3.3% of controls died (Macfarlane *et al.*, 2020). Jani *et al.* (2020) excluded OTCs and prescriptions for cancer patients to report almost 2 million new opioid scripts in UK primary care over 12 years. There

Table 2. Mortality risk in specific mental disorders compared to heavy smoking: adapted from Table 4 of Chesney and colleagues (Chesney *et al.* 2014)

Mental disorder/diagnosis/setting	All-cause mortality risk (suicide + premature mortality): compared to general population	Prevalence ratio: how common cases are compared to the activity of heavy smoking
Admission with any postpartum mental disorder: mortality measured at 1 year	19.5	7.7
Opioid use	14.7	5.8
Amphetamine use	6.2	2.4
Cocaine use	6.0	2.4
Anorexia nervosa (mostly inpatients)	5.9	2.3
Acute and transient psychotic disorder	4.7	1.8
Alcohol use disorder	4.6	1.8
Personality disorder (mostly inpatients)	4.2	1.7
Intellectual disability (moderate to severe)	2.8	1.1
Heavy cigarette smoking	2.6	1.0
Schizophrenia	2.5	0.8
Bipolar disorder	2.2	0.8
Depression	1.6	0.6
Comorbid anxiety with depression	1.4	0.6
Cannabis use	1.2	0.5

were linear relationships with age and inequalities (more opioids in poorer and older people, replicated in Ireland) (Norris *et al.*, 2021), higher prescribing rates in people with alcohol and liver problems (Fig. 1), and exponential increases over the study period of scripts for codeine, tramadol and oxycodone of respectively 5, 7 and 30-fold (Jani *et al.*, 2020). Long-term opioid use wrecks lives, more so in the 15% who become dependent, and clouding with deaths by deliberate poisoning and fear of legal proceedings drive up under-reporting. Seyler and colleagues (Seyler *et al.* 2021) have looked at opioid deaths across Europe and with exceptions (synthetic fentanyl in Estonia, very high UK opiate deaths), concluded that there is no European opioid epidemic. While steady official death rates reassure some, European police drug seizures show steep rises in fentanyl, its derivatives and other novel opioids. Another problem postponed is that first prescribers in primary care and pain clinics lack training in reducing opioid doses and opioid substitution therapy (OST). One US survey reported a lack of addictions training in 38%, with no buprenorphine training in 92% (Kirane *et al.*, 2019). An EU study of 10 countries, then including UK, showed low confidence and wide training variations in OST (Fischer & Strover, 2012). Although opioid misuse has considerable global impacts, the administration of OST is sporadic and inconsistent with the evidence (Jin *et al.*, 2020).

Self-harm and risk

In psychosocial assessments of people who self-harm, the focus is on reducing subsequent self-harm and the prevention of suicide. This population also carries higher risks of nonsuicide deaths: even at 2–10 years follow-up, natural deaths were 2–7.5 times more frequent (Bergen *et al.*, 2012). Key findings were rising premature death rates, mostly from (preventable) circulatory diseases and alcohol-related liver damage, strong associations with inequalities, and the highest standardised mortality rates for accidental drug poisoning (Bergen *et al.*, 2012). This 33-year Danish cohort study (62 922 discharged psychiatric patients; 1.5 m controls) reported high suicide rates peaking in

the first 3 months post discharge, comparable rates of accidental deaths across 10 years (1 in 50 men; 1 in 200 women), and significant violent events (as victim and perpetrator): they link violence with alcohol/substance misuse and hazardous social environments. In public health terms, this subpopulation faces an iron triangle of interrelated poverty-inequality, substance use and impulsivity. Moeller *et al.* (2001) provide biopsychosocial perspectives on impulsivity, with a focus on ADHD, bipolar disorder and borderline personality disorders (though few clinicians outside the US will follow their guidance to prescribe to reduce impulsive behaviours), but recent work has moved the focus onto depression (Fields *et al.*, 2021) and a clearer understanding of disinhibition in people with schizophrenia (Starc *et al.*, 2017). Impulsivity, what patients call the ‘moments of madness’ in which self-harm and other life-changing behaviours happen, is substantially state-dependent and our services work with patients to reduce anxiety, improve mood and psychotic symptoms, curtail alcohol, encouraging problem solving where possible. In our clinics, we need the time and the therapies to support patients’ self-management of impulsivity-disinhibition given both the risk of self-harm and interactions with drivers of adverse outcomes (Fig. 1).

Prevention of physical diseases and suicide

With high clinical caseloads and faster turnovers, the enemy here is ‘either/or’ thinking: *either* we focus on suicide/self-harm risks *or* we attend to physical health. Globally, we acknowledge the tragedy of suicide: in 2010, 884 000 deaths across all ages, 5–6% of everyone aged 15–49 who died that year (Chesney *et al.*, 2014). That same year reported 232 000 premature deaths in people with diagnosed mental disorders, that is, 8.6 million years of life lost (Chesney *et al.*, 2014). Accepting data gaps and differences in reporting/collection across countries, this meta-analysis pooled suicide and premature mortality data for the ¼ million deaths in 1.7 million people with known mental disorders (Table 2). The inclusion of deaths in people with addictions, ID and personality disorders, with comparisons to smokers, highlights the impact of these

Table 3. Top 10 actions to reverse rising premature mortality, clinic-based to local services and public health

<p><i>Make every contact count.</i> When you measure objective markers (weight, blood pressure, alcohol use, attempts to quit smoking, blood tests etc), share this information by letter/email with your patients and with all clinicians involved in their care. <i>Don't just screen, intervene.</i> Use Lester tool: https://bit.ly/2Z61XTP Agree a personalised plan to reduce drivers of diseases</p>	<p>Amplify <i>stop smoking</i> efforts (2 forms of nicotine replacement plus behavioural interventions – both for longer). People with SMI want to quit: success rates rise with bespoke support (Gilbody <i>et al.</i>, 2015); this will improve further with (now non-proprietary) varenicline and (safety approved) electronic cigarettes (RCPsych, 2018); get involved in local stop smoking initiatives to change environmental cues to smoking</p>	<p>Intervention and Brief advice (IBA) for <i>alcohol excess</i> is evidenced (Boland <i>et al.</i>, 2008): train other frontline clinicians in IBA; FRAMES variation on motivational interviewing; Feedback, within the individual Responsibility for change, Advice giving, Menu of change options, Empathic style, and Self-efficacy is enhanced; this model is proven across health settings (Britt <i>et al.</i>, 2014)</p>
<p>Offer to weigh patients at clinic, start a dialogue about <i>nutrition</i> (access to ingredients and the means to prepare food) as part of <i>healthy weight management</i>; share your local knowledge about good value foods lower in fat, sugar, salt; are there peer resources to support away from snacks, sedentary habits, takeaways? If overweight now, use Lester tool to screen for diabetes, early harms to mobility (osteoarthritis) or occult liver damage: consider referral to physiotherapy, dietician, physicians etc</p>	<p><i>Medication reviews</i> to reduce/change: Mirtazapine causes average 6 kg weight gain in the first 6 weeks, further gains from 6 months (Masand & Gupta, 2002); Olanzapine causes weight gain of 20% of body weight, 12 kg over a year (Nasrallah, 2003); in 2/3 people, lithium is associated with a 10 kg gain over a decade, valproate causes even higher weights (Vanina <i>et al.</i>, 2002). There are cardioprotective medications that psychiatrists can prescribe (with GP discussion): statins, antihypertensives, metformin... liraglutide</p>	<p>Comorbid <i>substance misuse</i> (illegal, acquired from others/online/doctors) attenuates mental disorders and harms physical health. Use FRAMES to engage and share information with permission: family, GP, specialists (opioid prescribers), voluntary services; encourage to <i>Narcotics Anonymous</i>... does the extent of addiction merit referral to specialist addictions service? Incorporate opioid substitution therapy into local training programmes; get trained</p>
<p>We need data, then <i>better data</i> – by region and nationally. Tables 1 and 2 are baseline data against which we judge future interventions. PH and clinicians know what to measure; identify areas of inequalities, perhaps inequities due to ethnicity, and areas of great practice. Better data collection will guard against unintended consequences of new measures: we learn lessons from failed policies (e.g. Prohibition and other alcohol bans: Babor <i>et al.</i>, 2010) and we could not now ban OTC codeine because we lack addictions' treatment capacity.</p>	<p><i>Risky behaviours</i> are always more pressing than 'theoretical' risk factors. Use FRAMES: alcohol excess increases risk but Big Tech profits depend on impulsive purchases and gambling, sometimes online 'baiting' to suicide of vulnerable people. Clinic-based discussions about these do not stigmatise, except when clinicians have low expectations that their patients can reduce risky acts; change the narrative (Khan & Tracy, 2021). Solutions include mindfulness; mentalization in personality disorders (Bateman <i>et al.</i>, 2016).</p>	
<p>Many international programmes, organisations and movements work to reverse rising mortality. National and international <i>collaborations</i> like <i>Equally Well</i> (www.equallywell.co.uk) can share and learn too. Parity of esteem means that our patients' shorter, sicker lives are as valuable as others'. This review had no direct service user involvement but international experience places coproduction at the centre of mental health AND* substance misuse service reform (*In the US, mental disorders are not separated from substance misuse) (https://govinfo.library.unt.edu/mentalhealthcommission/reports/FinalReport/toc.html)</p>	<p><i>Integrated care</i> is the destination, although we start from different places: establish transparent care pathways before screening programmes. Think of each patient in 2, 5 and 10 years' time. And if some ICS programmes do not work for people with SMI or ID, these need to be redesigned to target vulnerable subpopulations. Call out gaps in current care provision, for example service failures to keep patients engaged at transitions – when they reach 18th or 65th birthdays, leave school/work or prison. Described here are marginalised groups with mental disorders: psychiatrists must be part of every ICS to advocate for them</p>	

disorders. Some prevalence rates (alcohol misuse, depression) look underreported, and have likely increased since this analysis; ICD11 reclassifications will make scrutiny of personality disorder outcomes harder. Negotiators for more resources in mental health services can use Table 2 to argue for resourced perinatal and early intervention teams, as well as the protection of addiction services – using additional data on local fatalities. Three points about actively protecting physical health need repeating:

- these actions prevent mental disorders (primary prevention)
- the same actions reduce mental disorder symptom burden (in degree and duration) as well as alcohol misuse and multimorbidity (secondary prevention) and
- engagement with mental health and substance misuse teams reduces risky behaviours (tertiary prevention).

All three prevent suicide alongside universal Public Health interventions: modifications at suicide hotspots, restrictions on paracetamol sales, restrained media reporting. In this context, it should never be a choice either to reduce suicide risk or improve total health (physical and mental). The scale of at risk populations is greater than existing mental health services' capacity and we need to train others, use task sharing, and devise novel care pathways to reduce morbidity and mortality.

Integrated care

The latest reconfiguration of health services in England involves the formation of integrated care systems (ICS) – to coordinate care and reduce deferred decisions/missed opportunities to halt LTCs. Psychiatrists are unique among clinicians in hearing more 'secrets' from our patients and being 'let in' to try to understand the chaos. We get to interrogate the why and how (antecedents and triggers) of addictive and/or risky behaviours. Psychiatric teams already intervene to reduce and mitigate these (Figs. 1–3 and Supplementary Figure 1): long term engagement (stable health professional relationships especially when there are few other constants) makes a real difference to people's lives. It is the last piece of the jigsaw of what we now know about the preventable premature mortality in our patients: we are uniquely placed to reduce polypharmacy that increases risks of early death (Masand & Gupta, 2002; Nasrallah, 2003; Nihalani *et al.* 2011; Macloud *et al.*, 2019). Our skill too is finding ways to communicate what works, and agreeing relapse prevention plans in the heterogeneous population of people with mental disorders, addictions and ID. Psychiatric services have specialised based on age and disorder, but a transdiagnostic approach to psychiatric symptoms is needed. In addition to the textbooks and Lancet Commission (Firth *et al.* 2019) cited in the second paragraph, WHO (2008) have published their priority recommendations to prevent and intervene. We work

across many teams and watching the seven drivers (Fig. 1) in every patient's management plan benefits individuals and signposts training gaps. At minimum, everyone deserves a medication review, but early, coordinated action will ensure holistic care (Table 3). And if this approach sounds paternalistic, this is never about limiting personal choice but clinicians supporting patients to achieve or maintain agency. This is what Amarthia Sen advocates (as quoted by Marmot, 2015: 76):

'to create the conditions for people to have the freedom to lead lives they have reason to value'.

Conclusions

This is a call for action not reflection: we can no longer admire the problem, call for more research or wait for others to act. Consultants are clinicians who lead: we must build alliances with our service users, their organisations, public health, GPs, physicians, behavioural psychologists, local activists and more: meet up, teach each other and learn as we go. Trainee psychiatrists see early manifestations of physical diseases in our patients first hand, and need our support (as seniors) to act to reduce preventable deaths. Parallel to the big asks of our patients to change, the professional changes needed may induce stress in busy clinicians. Stress rises when our perception of what we need to do is overwhelmed by our (perceived) capacity to deliver. The challenges seem immense but we can task share, not delegate, some of the actions across other systems. We have the abilities and capacity to make a difference: psychiatrists will not require retraining – we already have the skillset to support behavioural/systems change, and yearly medical updates in key morbidities will be sufficient. Building back fairer post pandemic affords us these opportunities – to bring new people into the room. One of the great leaders in Emergency Medicine, the late Dr Cliff Mann said: *'never wait until you're ready to do the next thing. You'll be waiting your whole life'.*

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