

## Tackling a scandal of premature mortality; time for a 'hearts & minds' approach

**David Shiers\* and Tim Kendall\*\* suggest it is untenable in 2012 to provide healthcare which fails to address the physical needs of those with mental illness, and the mental needs of those with physical illness.**

- *Compared with the general population, those with severe mental illnesses like schizophrenia die on average 20.5 years earlier in men, and 16.4 years earlier in women*
- *While a third of these premature deaths are due to suicide, two-thirds are due to the same sorts of physical illnesses that affect the general population, particularly type 2 diabetes and cardiovascular diseases*
- *Over 10% of people taking antipsychotic medication develop type 2 diabetes (2-3 times the rate for the general population) and can then expect 50% poorer survival rates than their non-psychiatric peers with diabetes alone*
- *Between 37% and 86% of those experiencing a first episode of psychosis gained more than 7% of their initial body weight in the first year of treatment with antipsychotic medicines, depending on medication choice*

23 yrs old. "a breakdown... psychosis" That was bad enough... the doctors warned the pills could increase my weight. "*But lets get your head sorted – we can tackle your weight later*". You know what really hurts? Clothes won't fit... ashamed to go out... can't even run for a bus! Internet says "1:100". It's beating me – what's the point?

The treatment dilemma: symptoms or side-effects? The choice dilemma: doctor's or patient's? But 12kg on average within two years? Hardly surprising medicines get discarded and clinic appointments missed, setting up a cycle of relapsing illness and disillusion with life ahead.

This scenario happens... or maybe it's to a close friend or family member. Psychosis (schizophrenia or bipolar disorder) often starts in late teens/twenties at a critical development stage with a lifetime ahead. Many may face a future not only limited by stigmatising psychiatric illness but also a life restricted and shortened by physical ill-health, particularly cardiovascular disease (CVD) and diabetes? Such problems can be compounded by disorganised health services and disputed responsibilities for their physical healthcare between GPs and psychiatrists, leading Professor Graham Thornicroft to recently comment of the 20 year mortality gap for men and 15 years for women ...

*...a scandal of premature mortality that contravenes international conventions for the right to health (Thornicroft 2011).*

The government are committed to comprehensive health services which promote equally both physical and mental health ([Health and Social Care Act 2012 Section 1.1a and 1.1b](#)) and which specifically improve the physical health of this population:

*Fewer people with mental health problems will die prematurely, and more people with physical ill health will have better mental health (No Health without Mental Health; DH 2011).*

The question is not *why* but *how*?

About a third of premature deaths arise from suicide, and two-thirds from physical health's 'usual suspects' of heart disease, diabetes, strokes and infections [[Discussion of mortality trends](#)]. A



widening mortality gap mainly from premature CVD is underpinned by metabolic disorders like diabetes and problematic tobacco use.

30 years ago **Geoffrey Rose** argued for a *new prevention paradox* to tackle CVD by shifting from simply treating disease endpoints to addressing the underlying faults. Could a *prevention paradox* offer people with psychosis a healthier future? Given that CVD is the main reason for reduced life expectancy, the question arises 'Are potentially modifiable CVD precursors operating in early psychosis?'

The major candidates for causing 'downstream' cardiovascular disease for people with psychosis are smoking, obesity, sedentary lifestyle, glucose intolerance, dyslipidaemias and hypertension.

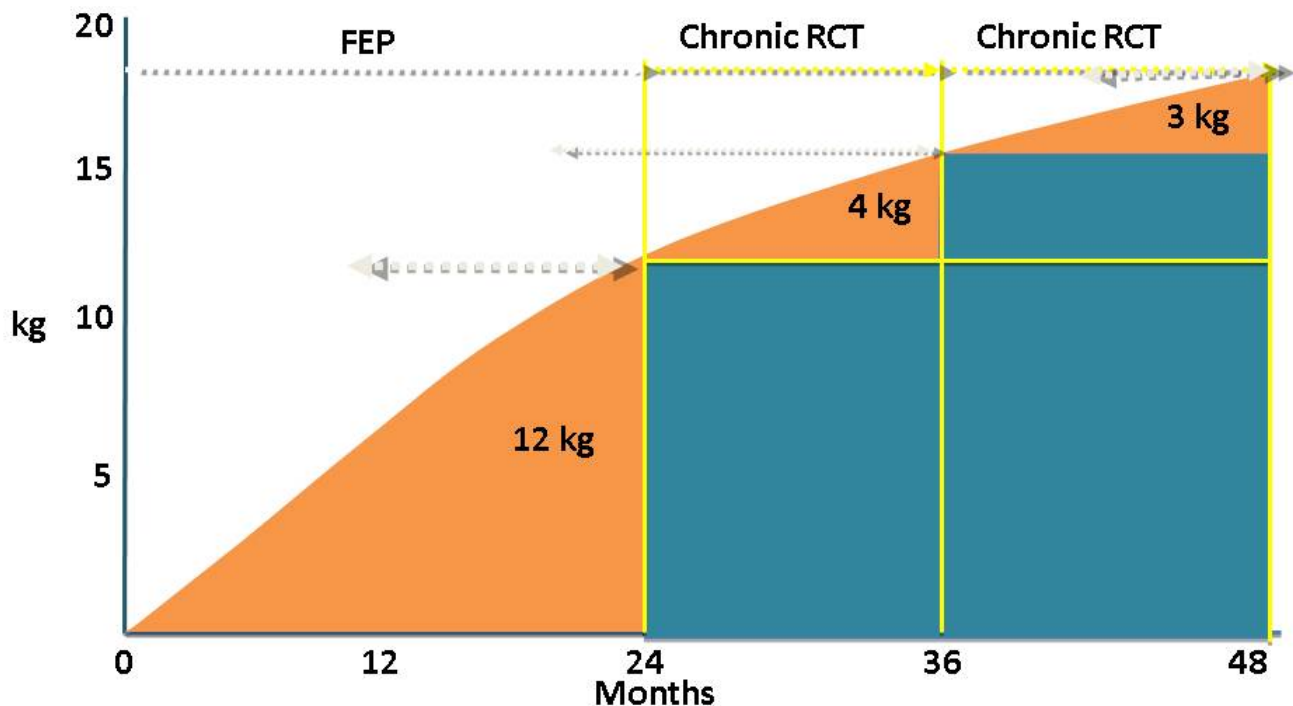
Many of these risks are potentially modifiable and can be operating early in the course of psychosis. E.g significant weight gain and metabolic disturbance are apparent within 8 weeks of starting antipsychotic medicines.

Smoking exemplifies the challenge. 59% smoke tobacco at onset of psychosis, 6x more than their peers' without psychosis; this continues at rates approaching 70% throughout their lives. In contrast the general population has reduced smoking from 39% in 1980 to 22% currently. Why are people with psychosis missing out on prevention of this most potent cause of premature death?

Another key CVD precursor is obesity, now acknowledged as *the* UK public health challenge (**NHS Choices 'Half of UK obese by 2030'**). Sedentary lifestyles and easy access to energy-rich foods underpin an alarming increase in obesity and obesity-related illness particularly in young people. Those with psychosis are not immune to these influences. Indeed social exclusion, sedentary lives and poverty may exacerbate the problem. However what particularly sets apart people with emerging psychosis is exposure to antipsychotic medication, especially when young and physically maturing. Even prior to antipsychotic initiation unrelieved stress/distress can provoke neuro-endocrine changes affecting glucose metabolism and fat distribution. But within weeks, antipsychotic medicines can dramatically accelerate weight gain alongside other adverse metabolic changes (**Editorial Lancet 2011**). Lack of good quality research has led to over-reliance on short duration trials involving people with established illness, many of whom had already gained weight from previous antipsychotic exposure. This may have led to a three to four fold underestimate of weight gain in people exposed to antipsychotics for the first time [**Alvarez-Jimanez et al. 2008**]. Marketing may have underplayed the adverse effects that all antipsychotics can cause. This highlights the need for good prescribing practice centred around informed and collaborative decision-making with patients.



## Antipsychotic-Induced Weight Gain in Chronic and First-Episode Psychotic Disorders: a Systematic Critical Reappraisal



Alvarez-Jimenez et al; CNS Drugs, 2008

A lack of high quality research and pharmaceutical marketing may have led to a three to four fold underestimate of weight gain in people exposed to antipsychotics for the first time. With thanks to Dr Mario Alvarez-Jimenez for permission to show this graph.

Weight gain, particularly when centrally distributed, is fundamental and conceptualised within the Metabolic syndrome (MetS), where the tendency towards clustering of certain metabolic risks can reliably predict future CVD, diabetes and premature death. MetS is diagnosed when there is central obesity, impaired handling of glucose, lipid abnormalities and hypertension. And people with established psychosis have high rates of MetS, e.g [Finnish cohort study](#) revealed that by age 40 MetS was 4-fold more likely than in non-psychiatric populations.

Another consequence of MetS is future diabetes. A European study ([Manu et al. 2011](#)) screened biochemically a population with schizophrenia, average age 38, for previously undiagnosed diabetes. 10% were discovered to have diabetes and 38% pre-diabetes (*approximately 25% of these can expect to become diabetic within 3-5 years*), showing how people journey from normal glucose regulation to impaired glucose regulation (prediabetes) to overt diabetes. The authors commented:

*... treatment of a prediabetic state offers the chance of avoiding a disease that leads to multi-organ dysfunction, shortens life, and contributes greatly to the cost of medical care worldwide (Manu et al., 2011).*

Thus weight gain, metabolic change and smoking mean that by the time people with psychosis reach their 30-40s, many are established on a path towards future CVD, diabetes and premature death. Could Rose's *prevention paradox* provide the key? Well many of the ingredients may already be in place; for instance we know:



- Who is at risk: *people with emerging psychosis, usually in late teens / twenties*
- When to target prevention: *early phase of illness around antipsychotic initiation*
- Which are the key lifestyle issues: *smoking; poor diet; lack of exercise*
- Which specific modifiable risks: *primary care's **Quality and Outcomes Framework** already encourages mental health monitoring of: BMI (MH12); blood pressure (MH13); total to HDL cholesterol ratio (MH14); blood glucose (MH15)*
- How to prevent or delay the onset of diabetes and CVD: *combination of increased activity, improved diet and weight loss; high quality antipsychotic prescribing; use of metformin (drug previously reserved for diabetes) in those at particularly high risk for developing diabetes*
- Early access to really good quality services providing evidence-based interventions for people with a first episode of psychosis is a clinical priority for mental health services (**NHS Confederation review**): *the specialist service ethos is receptive to the prevention paradox.*

Thus the prevention paradox is feasible. The next critical step is to innovate new service approaches.

Encouragingly, an early intervention *body & mind* service model has recently been introduced across New South Wales – providing an approach based on an agreed clinical algorithm\*\*\* which promotes positive physical lifestyle whilst attending to key cardiovascular risks – notably weight gain, smoking, lipid and glucose abnormalities and hypertension (**Curtis et al. 2012**). This programme has stimulated much interest in the UK.

A new pilot has recently commenced between Sheffield Health and Social Care NHS Foundation *Trust* and the Personal Social Services Research Unit at the London School of Economics and Political Science (LSE). This collaboration is the latest in a series of investigations by PSSRU at LSE into the cost-benefits of early intervention in psychosis. The project will test whether an early intervention approach to CVD risk in people with early psychosis can provide a cost-effective way to tackle the *scandal of premature mortality*. The clinical arm will be developed within Sheffield and cost-economic arm will be led by PSSRU. We hope articles like the one **recently reported in the Sydney Herald** can soon become commonplace in the UK too.

*We believe it is untenable in 2012 to provide healthcare which fails to address the physical needs of those with mental illness, and the mental needs of those with physical illness.*

*These patients need Hearts & Minds to be won not just metaphorically but also literally.*

## Declaration of Interest

DS and TK are current members of two Guideline Development Groups (GDG) for NICE: a) NICE guidance for children and young people affected by psychosis and schizophrenia; and b) NICE guidance for adults with psychosis and schizophrenia ( the views expressed in this paper are not those of either GDG, NCCMH or NICE.

***Disclaimer: This article gives the views of the authors, and not the position of the LSE Health and Social Care, nor of the London School of Economics and Political Science.***

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\*\*\* Download *Positive Cardiometabolic Health Algorithm* from **New South Wales Training Programme website**



