Editor:
Martin Ward

Submissions address:
Cawston Manor, Aylsham Road, Cawston, Norwich, NR10 4JD, UK

Addressing non-adherence to antipsychotic medication: a harm-reduction approach

M. A. ALDRIDGE DipHE (Nursing) RMN BA (Hons) BSc (Hons) THORN
Primary Nurse, Early Interventions Unit, South London and Maudsley NHS Foundation Trust, London, UK

Keywords: evidence-based practice, medication management

Correspondence:
M. A. Aldridge
Reay House
Lambeth Hospital
108 Landor Road
London SW9 9NT
UK
E-mail: matthew.aldridge@slam.nhs.uk

Accepted for publication: 19 August 2011

doi: 10.1111/j.1365-2850.2011.01809.x

Accessible summary

- Many people decide not to take prescribed antipsychotics once they are discharged from the hospital.
- Stopping antipsychotics suddenly without support may result in harmful reactions and possible re-admission to the hospital.
- The 'Non-Adherence Harm Reduction' approach aims to reduce the harm of stopping antipsychotics, by informing and supporting those who make this personal decision.
- This approach values personal autonomy and may reduce the likelihood of harm and re-admission in those who choose not to adhere to prescribed antipsychotics.

Abstract

This paper discusses the evidence base for interventions addressing non-adherence to prescribed antipsychotics. A case study approach is used, and the extent to which adherence improvement interventions might be used in collaboration with a specific patient is considered. The principles and application of harm-reduction philosophy in mental health are presented in a planned non-adherence harm-reduction intervention. This intervention aims to acknowledge the patient's ability to choose and learn from experience and to reduce the potential harm of antipsychotic withdrawal. The intervention evaluation method is outlined.

Introduction

Treatment non-adherence remains one of the greatest challenges in psychiatry (Nose *et al*. 2003). This paper addresses non-adherence from both a theoretical perspective and the practical stance of a nurse based on a psychiatric inpatient unit in London, England (referred to as 'the unit' in this paper). A case study approach is used and various approaches to addressing non-adherence with a specific inpatient are considered and discussed. This paper has been sectioned into two categories, namely adherence improvement (including adherence therapy, antipsychotic long-acting injections

and supervised community treatment) and non-adherence harm reduction (patient choice and harm reduction). The philosophy and principles of harm reduction, which is new in the context of mental health (Hall 2007), are outlined and the application of this approach to non-adherence is presented in a planned intervention. Nurses are called to be at the leading edge of innovation, always challenging the status quo and taking responsibility for creating new solutions (Prime Minister's Commission on the Future of Nursing and Midwifery in England 2010). Non-adherence harm reduction is itself a new and innovate approach which aims both to acknowledge the patient's ability to choose and learn from experience, and to increase their success when withdrawing from prescribed medication. The intervention evaluation method is outlined.

The patient and clinical context

(The patient's real name and service area details have been omitted and confidentiality maintained).

Michael is an 18-year-old Black British who lives in inner city London with his parents. He enjoys spending time with friends and playing computer games. He wants a job and to be more independent from his parents.

At the beginning of 2010, Michael raised concern in his family when stating that he was destined to be with a famous pop singer, could see UFOs and could classify car colour by gender. He was admitted to an acute psychiatric unit for a period of assessment and was discharged with a prescription of aripiprazole 10 mg twice per day which he discontinued upon discharge without reoccurrence of psychosis.

Later in the year came reports from his family that Michael had injured his foot through jumping off a roof, and that he had made attempts to remove his right big toe nail. His parents expressed concerns that his behaviour was affecting the whole family and Michael was readmitted under section 3 of the Mental Health Act (1983) with a diagnosis of schizophrenia.

During the time of his current second admission to hospital he has not presented with or exhibited any symptoms of a psychotic illness. Michael acknowledges he was 'confused' at times but states that he does not need to be in hospital for that. He feels he needs help to find a job and support to live independently and then he will have no problems.

While on the unit Michael has adhered to a high dose of antipsychotic medication (olanzapine 10 mg twice per day) despite conveying that he does not feel he needs to be on medication and clearly stating that he will not take medication once discharged.

Presenting problem

Non-adherence to prescribed antipsychotic medication following hospital discharge

Adherence has been defined as the extent to which a person's behaviour coincides with the medical advice given (Sackett & Haynes 1976). In their systematic review and meta-analysis of clinical interventions for treatment non-adherence in psychosis, Nose *et al*. (2003) reviewed 24 studies published since 1980. They acknowledge the difficulty of making a clear distinction between adherence to medication and adherence to scheduled appointments, and these two categories, were in many cases ambiguous and somewhat artificial. Nose *et al*. (2003) argue for the concept of non-adherence to be unified and considered as one patient-related variable which can be measured and defined in many different ways. Within this paper, non-adherence refers specifically to antipsychotic medication unless otherwise stated.

At least half of people given antipsychotic drugs do not adhere to the treatment regimen prescribed (McEvoy 2004, McIntosh *et al*. 2006), and this non-adherence is a serious concern. Risk of suicide may be more than three times higher in people who are non-adherent (defined as failure to take medication as prescribed or to attend follow-up) (Hawton *et al*. 2005). Non-adherence to antipsychotic medication has been associated with psychotic relapses, admissions to hospital and poorer outcome (Gabel & Piezcker 1985, Helgason 1990, Fenton *et al*. 1997, McIntosh *et al*. 2006, Ucok *et al*. 2006, Morken *et al*. 2008).

Assessing attitudes towards anti-psychotic medication

Increasing a patient's knowledge about medication and dealing with side effects do not directly address a person's non-adherence to antipsychotic medication.

Soskis (1978) found that although people diagnosed with schizophrenia were considerably more

knowledgeable than medical inpatients about the medication they were receiving only 56% of those diagnosed with schizophrenia said that they would take the medication if they had the choice as compared with 93% of the medical inpatients.

Tacchi & Scott (2005) argue that side effects are unlikely to be the key factor in explaining why an individual is non-adherent, and side effects may even be more frequent among those who are adherent than those are not (Irwin *et al*. 1971).

Rather than a person's level of knowledge about medication or side effects experienced, a person's attitude towards antipsychotics may have most significance in terms of non-adherence. The Drugs Attitude Inventory (DAI-30; Hogan *et al*. 1983) was developed to assess how subjective attitude towards anti-psychotic medication may affect adherence to treatment. The scale has good reliability and validity (Hogan *et al*. 1983). Using this assessment tool with Michael, he scored –4, predicting non-adherence. Michael's own answers on the DAI-30 (Hogan *et al*. 1983) reflected that indeed, rather than being concerned about side effects or treatment efficacy, he simply sees no need for treatment.

Approximately one-third to one-half of patients diagnosed with schizophrenia deny they are ill or need treatment (McEvoy 2004). Staring *et al*. (2010) consider denying or sealing over illness and not integrating illness and treatment into life, as important determinants of non-adherent behaviour. Such non-recognition of the need for treatment is often considered a dimension of 'poor insight' in psychosis (Cuesta *et al*. 2000, Amador & David 2005) and such 'lack of insight' has been identified as the main cause of non-adherence in patients with schizophrenia (Fenton *et al*. 1997, Lacro *et al*. 2002).

Interventions: 1. adherence improvement

Adherence therapy

Cognitive behavioural therapy, practical problem solving and motivational approaches might be effective in targeting non-adherence (Lecompte & Pelc 1996, Zygmunt *et al*. 2002) but psychoeducation, while increasing patients' understanding of their illness and treatment, does not improve adherence (Merinder 2000, Gray *et al*. 2002, Zygmunt *et al*. 2002, Lincoln *et al*. 2007).

Staring *et al*. (2010) recently developed a treatment adherence therapy approach which can be tailored to the reasons for an individual's non-adherence; however, overall there is no clear evidence to suggest that adherence therapy as a specific intervention is beneficial for people with psychosis (Zygmunt *et al*. 2002, McIntosh *et al*. 2006, Puschner *et al*. 2009) and the National Institute for Health and Clinical Excellence (NICE) (2010) recommends that adherence therapy as a distinct intervention should not be offered to people with psychosis. Further discernment as to whether certain components of adherence therapy may be effective if integrated into other interventions may be useful.

Antipsychotic long-acting injections

Long-acting injections (LAIs) have been identified as a means of improving adherence (Schooler 2003, McEvoy 2004, Miller 2008, Rainer 2008, Buckley *et al*. 2009, Hosalli & Davis 2009) and they may help to prevent relapse (Fenton *et al*. 1997, McIntosh *et al*. 2006, Morken *et al*. 2008).

Risperidone, an atypical antipsychotic first marketed internationally as an oral preparation (Chue 2011), was the first atypical to be produced in LAL form (Hosalli & Davis 2009). The impact of risperidone LAL (RLAI) in clinical practice has led to increasing consideration of LAIs in first-episode psychosis (Chue & Emsley 2007, Emsley *et al*. 2011).

Risperidone is well marketed and appears to have marginal benefit in terms of clinical improvement compared with placebo in the first few weeks of treatment, but data are limited, poorly reported and probably biased in favour of risperidone (Rattehalli *et al*. 2010). While more acceptable than placebo injection, it remains unclear if RLAI actually has any more value in improving symptoms of schizophrenia than placebo (Hosalli & Davis 2009).

While RLAI may lead to cost savings and greater clinical benefits when compared with oral antipsychotic medication (NICE 2010), there is currently only limited evidence from two randomized controlled trials (RCTs) regarding the efficacy and safety of RLAI compared with placebo or oral antipsychotic medication (risperidone) (NICE 2010).

Recently approved pharmacotherapeutic developments include the introduction of paliperidone LAI and olanzapine LAI (OLAI) (Lauriello & Beck 2011). These have the advantage of up to once a month injection intervals compared with twice

monthly RLAI. The most effective way of predicting response to RLAI is to establish dose and response with oral risperidone (Taylor *et al*. 2009). This may suggest that OLAI could potentially be suitable for Michael, who appears to have had a good response to oral olanzapine (he has not exhibited any medication side effects or symptoms of a psychotic illness while on the unit); however, OLAI is not yet marketed within England.

During Michael's current admission to hospital he has not presented with or exhibited any symptoms of a psychotic illness, on this basis it may be that an LAI could eliminate the need for regular oral doses (Hosalli & Davis 2009) and it is feasible that an LAI may be more convenient and preferable for him than taking tablets (Tacchi *et al*. 2011). The practical application of choice and personal recovery models has led to the recognition that patients deserve the option of using LAIs (Pereira & Pinto 1997, Tacchi *et al*. 2011) but a large proportion of clinicians do not even consider discussing these as an option with patients (Waddell & Taylor 2009).

Schooler (2003), points out that relapse occurs even when medication is guaranteed via injection. Lack of adherence with medication is not the only source of relapse (Schooler 2003) and in an RCT, Morken *et al*. (2008) found that half of patients who remained adherent to an antipsychotic LAI for 2 years relapsed during this period.

The widespread perception that LAIs are more coercive than oral antipsychotics (Patel *et al*. 2010) should not be underestimated (Waddell & Taylor 2009). Ethical concerns regarding coercion associated with LAIs persist among psychiatrists and nurses alike (Patel *et al*. 2003, 2005, 2008b) and when all different types of psychiatric medication are compared, patients suggest LAIs are least preferred (Castle *et al*. 2002, Bradstreet & Norris 2004). Patel *et al*. (2009) found that just under half of participants in their study, who had current or previous experience of LAIs, felt they were forced to start receiving them.

Even though the option of LAIs can be discussed with Michael, patients on maintenance antipsychotics have been shown to respond similarly when questioned about their attitudes to antipsychotic medication whether they are on LAI or oral formulations (Patel *et al*. 2008a, 2009). Adherence with LAIs during hospital admission would not necessarily change Michael's attitude to antipsychotic medication or prevent him from declining antipsychotic treatment following discharge (Glazer & Kane 1992, Barnes & Curson 1994); however, despite concerns over increasing coercion and force in the mental health system for the first time in England and Wales there are now explicit powers to mandate adherence with treatment in those outside hospital (Molodynski *et al*. 2010).

Supervised community treatment

Supervised community treatment was introduced in 2008, following substantial amendments to the 1983 Mental Health Act. Under this regime, an individual can be made subject to a community treatment order (CTO; Molodynski *et al*. 2010). The most common CTO conditions so far include a requirement to accept medication (Molodynski *et al*. 2010) and Dawson (2005) has identified a strong CTO focus on antipsychotic LAIs.

For Michael to breach CTO conditions through non-adherence to a prescribed LAI could be used as grounds for his recall to hospital even in the absence of signs of relapse (Molodynski *et al*. 2010). Such legal powers could potentially help to insure Michael's continual acceptance of LAIs following hospital discharge.

The CTO conditions can be used to legally enforce adherence to an LAI in the community; however, excessive restrictions may breach human rights legislation (Bindman *et al*. 2003) and the evidence does not support the perceived benefits to such enforcement (Burns & Dawson 2009, Kisely *et al*. 2010). A Cochrane review (Kisely *et al*. 2010) of the two existing RCTs of CTOs found that it would take 85 outpatient commitment orders to prevent one readmission to hospital, 27 to prevent one episode of homelessness and 238 to prevent one arrest.

Paul Jenkins, chief executive of a leading UK mental health charity Rethink, has commented that involving patients in decisions about their care and treatment is crucial to their progress, but he argues that health professionals are sometimes opting for the easier option and imposing CTOs too readily instead of prioritizing patients' best interests. He argues that imposing such restrictions causes distress, hampers recovery and that it could be breaching human rights (Rethink 2010).

Using a CTO to insure Michael's continual acceptance of antipsychotic medication following hospital discharge might be seen as an easier option, but could impose undue restriction on Michael and undermine efforts towards a collaborative approach.

Interventions: 2. non-adherence harm reduction

Patient choice

Recovery involves regaining active control over one's life. This includes accessing useful information, developing confidence in negotiating choices and taking increasing personal responsibility (Care Services Improvement Partnership *et al*. 2007).

The NICE (2002, 2009) guidelines have specifically recommended collaborative informed decision making in antipsychotic prescribing, but Olofinjana & Taylor (2005) have shown that this guideline is not always followed in practice. Despite rhetoric of patient choice, Michael's real preference – not taking medication at all, appears to make staff on the unit apprehensive. Gray *et al*. (2002) suggest that patients have the right to make the decision to stop medication even if clinicians do not agree, but although nurses play a key role in enabling people to make personal choices (Prime Minister's Commission on the Future of Nursing and Midwifery in England 2010), for nurses to simply accept this choice could be seen to conflict with the primary obligation to help (Munetz *et al*. 2003).

Although Michael acknowledges that he has been confused at times, he continues to deny having a mental illness or any genuine need for treatment. So it might be considered that Michael's decision-making capacity is impaired by his lack of insight; however, Hamilton & Roper (2006) argue that the biomedical understanding of insight disqualifies and demoralizes persons subjected to assessment and creates punitive scrutineers out of well-intentioned practitioners. They encourage nurses to reconsider their reliance on the concept of insight (Hamilton & Roper 2006).

People who choose to accept that they have mental illness may feel driven to conform to an image of incapacity and worthlessness, becoming more socially withdrawn and adopting a disabled role (Warner 2004, 2010). Read *et al*. (2006) conclude that an evidence-based approach to reducing discrimination would seek a range of alternatives to the 'mental illness is an illness like any other' approach. Better treatment adherence is not necessarily associated with having a biological explanatory model (McCabe & Priebe 2004) and Staring *et al*. (2010) have recognized that improved adherence, if obtained by enhanced insight, may carry the risk of deteriorating quality of life and increasing depression.

Embracing Michael's own explanation (that he was 'confused' at times) opens the possibility of looking at his personal views regarding treatment in terms other than 'lack of insight' (Cuesta *et al*. 2000, Amador & David 2005). Whether this could be used to stimulate Michael into developing an individual narrative in which treatment can be integrated (as suggested by Staring *et al*. 2010), is perhaps doubtful, but it may improve clinician understanding into Michael's denial of mental illness or need for treatment.

Even if Michael's own non-medical explanation of his experiences were understood and recognized as helpful to him, mental health law based on risk 'trumps' mental health law based on capacity and individual autonomy (Owen *et al*. 2009, p. 257) and this may reinforce nursing perceptions of incompetency and dangerousness (Szmukler & Holloway 1998).

Thomas *et al*. (1997) conducted an exploratory study assessing staff perceptions and reactions to the reduction of maintenance antipsychotic medication in patients living in a long-stay hospital. Despite the gradual reduction in the dose of medication in the study, no deterioration in the patients' psychopathology was found over a 6-month period; however, staff were apprehensive about the gradual reduction and their perceptions of patients' behaviour were not related to patients' psychopathology as measured by the Brief Psychiatric Rating Scale (BPRS; Overall & Gorham 1962). Staff expressed reservations about further reductions despite evidence of no deterioration in the patients' mental state (Thomas *et al*. 1997). Behaviour such as 'the patient not getting up on time' or 'refusing to attend activities' were interpreted as possible relapses (Thomas *et al*. 1997).

Just as staff perceptions based on apprehension may not always be rational, it is also wrong to assume that patients' adherence to prescribed antipsychotics is always rational (Kinderman & Cooke 2000). Many people have successfully discontinued psychiatric medication against the advice of mental health professionals (Crepaz-Keay 1999). The odds of having stopped or refused treatment for a psychotic condition have been shown to be greater for those with the highest level of educational qualifications (Foster *et al*. 1996) and Horne & Weinman (1995) introduced the idea of intelligent non-adherence. Patients concerns about medication may simply exceed their beliefs about the necessity of the medication (Clatworthy *et al*. 2009).

Psychiatric patients are no different from other patient groups in their desire for autonomy (Hill & Laugharne 2006) and rates of non-adherence with medication in persistent mental disorders average about 30% – the same rate as reported for chronic physical disorders (Tacchi & Scott 2005). Lack of treatment-related decisional capacity is by no means an inevitable correlate of admission to a psychiatric inpatient unit (Cairns *et al*. 2005, Jeste *et al*. 2006). Patients detained under the Mental Health Act (1983) frequently have the mental capacity to make decisions regarding prescribed medication (Owen *et al*. 2009).

Moncrieff (2008) argues that unless someone's behaviour is seriously antisocial or criminal, they should be entitled to decide for themselves whether psychiatric drugs or the mental disorder are more tolerable.

The British Psychological Society (2000) has estimated that around 10–15% of the general population experience what could be described as psychotic phenomena, and most are neither distressed, nor seek help. Michael stated that he is destined to be with a famous pop singer, could see UFOs and could classify car colour by gender. In fact, studies have shown that all sorts of beliefs Western psychiatry might see as delusions (including beliefs in magic, aliens, telepathy and spiritualist beliefs) are actually extremely common in the general population (Peters *et al*. 1999). Michael may decide that the distress related to what he describes as being 'confused at times' is less than taking medication that he feels he does not need.

There is no evidence of harm resulting from shared decision-making interventions (Duncan *et al*. 2010) and Hope (2002) expresses the view that genuine respect for patient choice is good in itself, even if it were to lead to poorer health.

Harm reduction

The concept of harm reduction is familiar in substance abuse and service provision for drug users. It is new in mental health and was introduced in this context by US-based peer-run mental health groups (Freedom Center and The Icarus Project) in their publication of the *Harm Reduction Guide to Coming Off Psychiatric Drugs* (Hall 2007). According to this guide, a harm-reduction approach means not being pro- or anti-medication, but supporting people to make their own decisions balancing the risks and benefits involved: 'It means recognizing that people are already taking psychiatric drugs and already trying to come off them. It encourages examining all the different kinds of risks involved: the harm from emotional crisis that goes along with experiences labelled mental disorders, as well as the harm from treatments to deal with these experiences such as psychiatric drugs, diagnostic labels and hospitalization . . .' (Hall 2007, p. 6).

The UK Harm Reduction Alliance 2011), which focuses on substance abuse and service provision for drug users, has set out the principles of harm reduction adapted from those set out by Lenton & Single (1998). The UK Harm Reduction Alliance principles have been adapted here as principles for a harm-reduction approach to addressing non-adherence to antipsychotic medication. Non-adherence harm reduction:

- **Is pragmatic:** and accepts that non-adherence is common and enduring. It acknowledges that, while carrying risks, non-adherence provides the patient with benefits that must be taken into account if responses to non-adherence are to be effective. Harm reduction recognizes that for many, **reduction of non-adherence related harms is a more feasible option than efforts to eliminate non-adherence** entirely.
- **Prioritizes goals:** harm reduction responses to non-adherence incorporate the notion of a hierarchy of goals, with the immediate focus on proactively engaging individuals through the provision of accessible and user-friendly services. Achieving the most immediate realistic goals is viewed as an essential first step towards risk-free non-adherence, or, if appropriate, adherence.
- **Has humanist values:** the patient's decision to not take antipsychotic medication is accepted as fact. **No moral judgment is made either to condemn or to support non-adherence**. The dignity and rights of the patient are respected, and services endeavour to be 'user friendly' in the way they operate. Harm-reduction approaches also recognize that, for many, non-adherence may be a long-term feature of their lives and that responses to non-adherence have to accept this.
- **Focuses on risks and harms:** on the basis that by **providing responses that reduce risk, harm can be reduced or avoided**. The focus of risk reduction interventions being the non-adherence of the patient.

- **Does not focus on adherence:** although harm reduction supports those who seek to use antipsychotic medication, it neither excludes nor presumes a treatment goal of adherence.
- **Seeks to maximize the range of intervention options that are available**, and engages in a process of identifying, measuring and assessing the relative importance of non-adherence related harms and **balancing costs and benefits** in trying to reduce them.

Some potential risks of non-adherence include its association with psychotic relapses, admissions to hospital and poorer outcomes (Gabel & Piezcker 1985, Helgason 1990, Fenton *et al*. 1997, Hawton *et al*. 2005, McIntosh *et al*. 2006, Ucok *et al*. 2006, Morken *et al*. 2008). Within days of stopping an oral antipsychotic (Dilsaver & Alessi 1988) withdrawal symptoms can include insomnia, nausea, anxiety and motor phenomenon including temporary exacerbation of tardive dyskinesia (Haddad & Fleischhacker 2011). In the longer term, it is suggested that duration of untreated psychosis (DUP) may be toxic and related to worse prognosis (Marshall *et al*. 2005, Barnes *et al*. 2008).

MIND's research into the experiences of people trying to come off psychiatric drugs (Read 2005) involved qualitative and quantitative data through the use of questionnaires and interviews with 204 people who had attempted to discontinue their medication. Over half of the sample had difficulties in coming off and many withdrawal reactions mirrored psychiatric symptoms/disorders. In all, 30% withdrew from their drugs immediately, 14% in less than 1 month, 32% over a period of 1 to 6 months and 21% withdrew over a period of more than 6 months. Some individuals who came off more slowly, wanted to obtain their drug in its lowest dose or a liquid form so they could come off gradually; however, this option was unavailable to those stopping medication without the support of mental health professionals. It was not uncommon for professionals not only to be unsupportive, but to actively oppose patient choice to stop medication.

The optimal duration of maintenance antipsychotic treatment in patients who are in remission from first episode psychosis is not known (Miller 2008) and there is no simple formula for deciding when to reduce such antipsychotic treatment (Taylor *et al*. 2009). It is considered impossible to predict which patients prescribed maintenance antipsychotics could do without them (Wunderink *et al*. 2007) and there is no evidence that doctors can predict this (Read 2005). For this reason, the American Psychiatric Association (APA) (2004) has suggested that maintenance antipsychotics should be used indefinitely: 'Unfortunately there is no reliable indicator to differentiate the minority who will not from the majority who will relapse with drug discontinuation. Indefinite maintenance antipsychotic medication is recommended for patients who have had multiple prior episodes or two episodes within five years' (APA 2004, p. 114).

The APA (2004) recommendations aside, longitudinal data suggests that not all schizophrenia patients need to use antipsychotic medications continuously throughout their lives (Harrow & Jobe 2007) and Warner (2004) suggests antipsychotic drug treatment may have negative long-term effects on people with a good prognosis. Whitaker (2004) argues that every patient stabilized on antipsychotics should be given an opportunity to gradually withdraw from them, but there have been virtually no designated specialist services to help people discontinue prescription drugs (Holmes & Hudson 2003) and psychiatrists and general practitioners have been identified as the least helpful group of people in terms of assisting patients to withdraw from psychiatric drugs (Read 2005).

It has been argued that duration of untreated psychosis may in fact have no direct toxic neural effects (Ho *et al*. 2003) and Moncrieff (2008) suggests that where people who have a longer evolution of symptoms before coming to psychiatric attention have poorer long-term outcomes, this may be due to speed of onset (as an indication of inherent severity) rather than a correlate of non-treatment with antipsychotics. Bola (2006) concludes that evidence is inadequate to support the notion of long-term harm resulting from short-term postponement of antipsychotics.

Rebound of psychotic symptoms in withdrawal may be to a higher level than would have been the case without treatment (Warner 2004) and Moncrieff (2006) considers that such psychosis may be a feature of antipsychotic withdrawal itself rather than a re-emergence of underlying illness.

Hall (2007) expresses the view that taking psychiatric drugs can mean being seen as mentally ill in society and starting to see oneself in that role. Status as a chronic patient might be created in part by well-intentioned interventions that communicate stigma and low expectations (Williams & Collin 2002).

Michael discontinued his prescribed aripiprazole (10 mg twice per day) in April 2010 without reoc-

currence of psychosis at the time. He is currently prescribed a higher dose of antipsychotics (olanzapine 20 mg per day [maximum dose for adults, British Medical Association (BMA) 2010] and has clearly stated that he will not take his medication once discharged. While discontinuation of maintenance antipsychotics may have potential risks, people who discontinue psychiatric medication against medical advice may be just as likely to succeed as those whose doctors agree with withdrawal (Read 2005) and the gain could be either successful discontinuation or personal empirical evidence on the usefulness of medication (Wunderink *et al*. 2007).

Rather than embracing the risk-averse stance of the APA (2004) and remaining limited to adherence improvement approaches, a harm-reduction approach to non-adherence could be more collaborative in working with Michael: '. . . Making harm reduction decisions means looking at all sides of the equation . . . Any decisions may involve a process of experimentation and learning, including learning from your own mistakes. Harm reduction accepts all this, believing that the essence of any healthy life is the capacity to be empowered' (Hall 2007, p. 6).

Early relapse risk is lower when gradually, rather than abruptly discontinuing antipsychotics (Viguera *et al*. 1997) and although there are currently no consensus guidelines for how antipsychotics can be optimally discontinued in patients (Miller 2008), the British National Formulary (BMA 2010) provides helpful information: 'Withdrawal of antipsychotic drugs after long-term therapy should always be gradual and closely monitored to avoid the risk of acute withdrawal syndromes or rapid relapse. Patients should be monitored for 2 years after withdrawal of antipsychotic medication for signs and symptoms of relapse' (BMA 2010, p. 185). During this second admission Michael has adhered to a high dose of antipsychotic medication (olanzapine 10 mg twice per day) but has clearly stated that he will not take medication once discharged. If not taken seriously, there may be a risk that once discharged from hospital Michael will withdraw from medication abruptly without monitoring or adequate support. It may therefore be appropriate in this instance to support Michael with a gradual withdrawal prior to discharge, thus minimizing associated risks and reducing potential rehospitalization related to rapid withdrawal.

Wunderink *et al*. (2007) conducted an RCT including 128 patients with first episode psychosis who were prospectively followed for 18 months after 6 months of stable remission. Participants were assigned to either continued antipsychotic maintenance treatment or an antipsychotic discontinuation strategy. Of those within the discontinuation strategy group, one in five successfully discontinued antipsychotics for a median period of 15 months (Wunderink *et al*. 2007).

In further investigating the consequences of this (Wunderink *et al*. 2007) trial, Stant *et al*. (2007) found that there were no differences between patients assigned to the discontinuation strategy and those in the maintenance treatment group in either the mean cost of treatment or in measurement of quality-adjusted life years. Although additional results indicated that the relapse rate in discontinuation strategy was twice as high, there was no increase in hospital admissions or negative consequences on other clinical outcomes (Stant *et al*. 2007).

In working collaboratively with Michael, the nurse is not in a position to simply force him into conformity with the medical model. A key nursing role is in enabling people to make personal choices (Prime Minister's Commission on the Future of Nursing and Midwifery in England 2010). The Nursing and Midwifery Council (NMC 2008) asserts that nurses must uphold people's rights to be fully involved in decisions about their care, and nurses must act as advocates for those individuals, helping them to access relevant health and social care, information and support.

With Michael this could mean to recognize and support his capacity to be empowered and to pursue his own choices in such a way as to reduce harm.

Intervention – non-adherence harm reduction

A non-adherence harm-reduction approach will acknowledge Michael's ability to choose and learn from experience and will aim to reduce any potential harm related to this. To increase withdrawal success, Falloon (2006) advocates combining antipsychotic dose reduction with training in psychosocial stress management. Holmes & Hudson (2003) offer 'top tips' for coming off psychiatric medication, and MIND's report *Coping with Coming Off* (Read 2005) makes specific recommendations. Based on these, the British National Formulary guidelines (BMA 2010) and ongoing risk assessment, the planned non-adherence harm-reduction intervention is outlined below:

- Sharing information and resources on coming off psychiatric drugs;
- Encouraging a gradual, rather than sudden antipsychotic discontinuation;
- Supporting and monitoring Michael during the withdrawal process and thereafter;
- Offering evidence-based psychosocial stress management interventions.

Review and evaluation

Review and evaluation of this non-adherence harm-reduction strategy will include on-going risk assessment, monitoring any possible relapse and hospitalization, use of the DAI-30 (Hogan *et al*. 1983) to record any changes in Michael's attitude towards drugs, and using the BPRS (Overall & Gorham 1962) to objectively assess psychiatric symptoms at various stages of the discontinuation process.

Conclusion

Michael has decided that he will discontinue his antipsychotic medication following discharge and this raises concerns about the prospect of relapse and longer-term outcomes. The potential use of adherence therapy and LAIs has been discussed, and although other possible adherence improvement strategies also exist (Nose *et al*. 2003, Miller 2008), this essay questions the underlying philosophy of all such adherence improvement approaches.

Where an adherence improvement approach might see increased adherence as the essential objective, such approaches could disable genuine collaboration. Instead, the planned non-adherence harm-reduction approach aims to reduce potential harm related to Michael's own decisions regarding prescribed medication. Sharing information and resources on coming off psychiatric drugs, close support, monitoring [including risk assessment and use of the BPRS (Overall & Gorham 1962)] and use of psychosocial interventions for coping with stress (Falloon 2006) could help to reduce both possible harm resulting from withdrawal (Wunderink *et al*. 2007) and staff apprehension in relation to this (Thomas *et al*. 1997). The best medical knowledge and advice is a bed rock of both nursing and patient care generally, and supporting Michael in *not* following the best medical advice may appear inappropriate from a purely medical perspective; such support may, however, reduce harm and empower Michael in his own choices. A harm-reduction approach to non-adherence is thus clearly in accord with nursing as seen in both the NMC (2008) Code and the Prime Minister's Commission on the Future of Nursing and Midwifery in England (2010).

Acknowledgments

Thanks to Fiona Couper, Jaquline Sin, Geoff Brennan and all those who have supported this work.

References

Amador X.F. & David A. (2005) *Insight and Psychosis: Awareness of Illness in Schizophrenia and Related Disorders*. Oxford University Press, Oxford.

American Psychiatric Association (2004) *Practice Guideline for the Treatment of Patients with Schizophrenia*, 2nd edn. American Psychiatric Association, Arlington, VA.

Barnes T.R.E. & Curson D.A. (1994) Long-acting depot antipsychotics: a risk–benefit assessment. *Drug Safety* **10**, 464–479.

Barnes T.R.E., Leeson V.C., Mutsatsa S.H., *et al*. (2008) Duration of untreated psychosis and social function: 1-year follow-up study of first-episode schizophrenia. *The British Journal of Psychiatry* **193**, 203–209.

Bindman J., Maingay S. & Szmukler G. (2003) The human rights act and mental health legislation. *The British Journal of Psychiatry* **182**, 91–94.

Bola J.R. (2006) Medication-free research in early episode schizophrenia: evidence of long-term harm? *Schizophrenia Bulletin* **32**, 288–296.

Bradstreet S. & Norris R. (2004) *All You Need to Know? Scottish Survey of People's Experience of Psychiatric Drugs*. Scottish Association for Mental Health. Available at: http://www.psychminded.co.uk/ (accessed 20 September 2009).

British Medical Association (2010) *British National Formulary (60)*. BMJ Publishing Group Ltd., RPS Publishing, London.

Buckley P.F., Foster A., Patel N.C., *et al*. (2009) *Adherence to Mental Health Treatment*. Oxford University Press, Oxford, NY.

Burns T. & Dawson J. (2009) Community treatment orders: how ethical without experimental evidence? *Psychological Medicine* **39**, 1583–1586.

Cairns R., Maddock C., Buchanan A., *et al*. (2005) Prevalence and predictors of mental incapacity in psychiatric in-patients. *The British Journal of Psychiatry* **187**, 379–385.

Care Services Improvement Partnership (CSIP), Royal College of Psychiatrists (RCPsych), Social Care Institute for Excellence (SCIE) (2007) A common purpose: recovery in future mental health services (Joint Position Paper) Social Care Institute for Excellence.

Castle D, Morgan V, Jablensky A. (2002) Antipsychotic use in Australia: the patients' perspective. *Australian and New*

Zealand Journal of Psychiatry **36**, 633–641.

Chue P. (2011) Risperidone long-acting injection. In: *Antipsychotic Long-Acting Injections* (eds Haddad, P., Lambert, T. & Lauriello, J.), pp. 93–130. Oxford University Press, Oxford, NY.

Chue P. & Emsley R. (2007) Long-acting formulations of atypical antipsychotics: time to reconsider when to introduce depot antipsychotics. *CNS Drugs* **21**, 441–448.

Clatworthy J., Bowskill R., Parham R., *et al*. (2009) Understanding medication non-adherence in bipolar disorders using a necessity-concerns framework. *Journal of Affective Disorders* **116** 51–55.

Crepaz-Keay D. (1999) Drugs. In: *This is Madness: A Critical Look at Psychiatry and the Future of Mental Health Services* (eds Newnes, C., Holmes, G. & Dunn, C.), pp. 91–96. PCCS Books, Llangarron.

Cuesta M.J., Peralta V. & Zarzuela A. (2000) Reappraising insight in psychosis: multiscale longitudinal study. *The British Journal of Psychiatry* **177**, 233–240.

Dawson J. (2005) *Community Treatment Orders: International Comparisons*. Otago University Press, Dunedin.

Dilsaver S.C. & Alessi N.E. (1988) Antipsychotic withdrawal symptoms: phenemonology and pathophysiology. *Acta Psychiatrica Scandinavica* **77**, 241–246.

Duncan E., Best C. & Hagen S. (2010) Shared decision making interventions for people with mental health conditions. *Cochrane Database of Systematic Reviews*, Issue 1. Art. No. CD 007297.

Emsley R., Chiliza B., Asmal L., *et al*. (2011) Long-acting injectable antipsychotics in early psychosis. In: *Antipsychotic Long-Acting Injections* (eds Haddad, P., Lambert, T. & Lauriello, J.), pp. 145–162. Oxford University Press, Oxford, NY.

Falloon I.R.H. (2006) Antipsychotic drugs: when and how to withdraw them? *Psychotherapy and Psychosomatics* **75**, 133–138.

Fenton W.S., Blyer C.R. & Heinssen R.K. (1997) Determinants of medication compliance in schizophrenia: empirical and clinical findings. *Schizophrinia Bulletin* **23**, 637–651.

Foster K., Meltzer H., Gill B., *et al*. (1996) *Adults with a Psychotic Disorder Living in the Community*. OPCS Surveys of Psychiatric Morbidity in Great Britain, Report 8. HMSO, London.

Gabel W. & Piezcker A. (1985) One-year outcome of schizophrenic patients: the interaction of chronic and neuroleptic treatment. *Psychopharmacology* **18**, 235–239.

Glazer W.M. & Kane J.M. (1992) Depot neuroleptic therapy: an underutilized treatment option. *Journal of Clinical Psychiatry* **53**, 426–433.

Gray R., Wykes T. & Gournay K. (2002) From compliance to concordance: a review of the literature on interventions to enhance compliance with antipsychotic medication. *Journal of Psychiatric and Mental Health Nursing* **9**, 277–284.

Haddad P. & Fleischhacker W.W. (2011) Adverse effects and antipsychotic long-acting injections. In: *Antipsychotic Long-Acting Injections* (eds Haddad, P., Lambert, T. & Lauriello, J.), pp. 47–69. Open University Press, Oxford, NY.

Hall W. (2007) *Harm Reduction Guide to Coming Off Psychiatric Drugs*. The Icarus Project and Freedom Center, San Francisco, CA.

Hamilton B. & Roper C. (2006) Troubling 'insight': power and possibilities in mental health care. *Journal of Psychiatric and Mental Health Nursing* **13**, 416–422.

Harrow M. & Jobe T.H. (2007) Factors involved in outcome and recovery in schizophrenia patients not on antipsychotic medications: a 15-year multifollow-up study. *The Journal of Nervous and Mental Disease* **195**, 406–414.

Hawton K., Sutton L., Haw C., *et al*. (2005) Schizophrenia and suicide: systematic review of risk factors. *The British Journal of Psychiatry* **187**, 9–20.

Helgason L. (1990) Twenty-year follow-up of first psychiatric presentation for schizophrenia: what could have been prevented? *Acta Psychiatrica Scandinavica* **81**, 231–235.

Hill S. & Laugharne R. (2006) Decision making and information seeking preferences among psychiatric patients. *Journal of Mental Health* **15**, 75–84.

Ho B.C., Alicata D., Ward J., *et al*. (2003) Untreated initial psychosis: relation to cognitive deficits and brain morphology in first-episode schizophrenia. *American Journal of Psychiatry* **160**, 142–148.

Hogan T.P., Awad A.G. & Eastwood R. (1983) A self-report scale predictive of drug compliance in schizophrenics: reliability and discriminative validity. *Psychological Medicine* **13**, 177–183.

Holmes G. & Hudson M. (2003) Coming off medication. *Open Mind* **123**, 14–15.

Hope T. (2002) Evidence-based patient choice and psychiatry. *Evidence Based Mental Health* **5**, 100–101.

Horne R. & Weinman J. (1995) *The Beliefs about Medication Questionnaire: A New Measure for Assessing Lay Beliefs about Medicines*. BPS, London.

Hosalli P. & Davis J.M. (2009) Depot risperidone for schizophrenia (Review). *The Cochrane Library* Issue 1.

Irwin D.S., Weitzel W.D. & Morgan D.W. (1971) Phenothiazine intake and staff attitudes. *American Journal of Psychiatry* **127**, 1631–1635.

Jeste D.V., Depp C.A. & Palmer B.W. (2006) Magnitude of impairment in decisional capacity in people with schizophrenia compared to normal subjects: an overview. *Schizophrenia Bulletin* **32**, 121–128.

Kinderman P. & Cooke A., eds (2000) *Recent advances in understanding mental illness and psychotic experiences: a report by the British Psychological Society Division of Clinical Psychology*. The British Psychological Society.

Kisely S.R., Campbell L.A. & Preston N.J. (2010) Compulsory community and involuntary outpatient treatment for people with severe mental disorders (Review). *The Cochrane Library* Issue 3.

Lacro J.P., Dunn L.B., Dolder C.R., *et al*. (2002) Prevalence of and risk factors for medication non-adherence in patients with schizophrenia: a comprehensive review of recent literature. *Journal of Clinical Psychiatry* **63**, 892–909.

Lauriello J. & Beck N. (2011) Recently approved long-acting antipsychotic injections: paliperidone LAI and olanzapine LAI. In: *Antipsychotic Long-Acting Injections* (eds Haddad, P., Lambert, T. & Lauriello, J.), pp. 131–144. Oxford University Press, Oxford, NY.

Lecompte D. & Pelc I. (1996) A cognitive-behavioral program to improve compliance with medication in patients with schizophrenia. *International Journal of Mental Health* **25**, 51–56.

Lenton S. & Single E. (1998) The definition of harm reduction. *Drug & Alcohol Review* **17**, 213–220.

Lincoln T.M., Wilhelm K. & Nestoriuc Y. (2007) Effectiveness of psychoeducation for relapse, symptoms, knowledge, adherence and functioning in psychotic disorders: a meta-analysis. *Schizophrenia Research* **96**, 2232–2245.

Marshall M., Lewis S., Lockwood A., *et al*. (2005) Association between duration of untreated psychosis and outcome in

cohorts of first-episode patients: a systematic review. *Archive of General Psychiatry* **62**, 975–983.

McCabe R. & Priebe S. (2004) Explanatory models of illness in schizophrenia: comparison of four ethnic groups. *The British Journal of Psychiatry* **185**, 25–30.

McEvoy J.P. (2004) The Relationship between insight into psychosis and compliance with medications. In: *Insight and Psychosis: Awareness of Illness in Schizophrenia and Related Disorders* (eds Amador, X. & David, A.), pp. 311–333., 2nd edn. Oxford University Press, Oxford, NY.

McIntosh A., Conlon L., Lawrie S., *et al*. (2006) Compliance therapy for schizophrenia. *Cochrane Database of Systematic Reviews*, Issue 4. Art. No. CD 003442.

Merinder L.B. (2000) Education in schizophrenia: a review. *Acta Psychiatrica Scandinavica* **102**, 98–106.

Miller B.J. (2008) Antipsychotic discontinuation in first-episode psychosis. *Journal of Psychiatric Practice* **14**, 289–300.

Molodynski A., Rugkasa J. & Burns T. (2010) Coercion and compulsion in community mental health care. *British Medical Bulletin* **95**, 105–119.

Moncrieff J. (2006) Does antipsychotic withdrawal provoke psychosis? Review of the literature on rapid onset psychosis (supersensitivity psychosis) and withdrawal-related relapse. *Acta Psychiatrica Scandinavica* **114**, 1–11.

Moncrieff J. (2008) *The Myth of Chemical Cure: A Critique of Psychiatric Drug Treatment*. Palgrave Macmillan, Basingstoke.

Morken G., Widen J.H. & Grawe R.W. (2008) Non-adherence to antipsychotic medication, relapse and rehospitalisation in recent-onset schizophrenia. *BMC Psychiatry* **8**, 123–129.

Munetz M., Galon P.A. & Frese F.J. III (2003) The ethics of mandatory community treatment. *The Journal of the American Academy of Psychiatry and the Law* **31**, 173–183.

National Institute for Health and Clinical Excellence (2002) Guidance on the use of newer (atypical) antipsychotic drugs for the treatment of schizophrenia. Available at: http://www.nice.org.uk (accessed 1 March 2008).

National Institute for Health and Clinical Excellence (2009) Schizophrenia: core interventions. In: *The Treatment and Management of Schizophrenia in Primary and Secondary Care* (Update): National Clinical Practice Guideline Number 82.

National Institute for Health and Clinical Excellence (2010) *Schizophrenia: core interventions in the treatment and management of schizophrenia in adults in primary and secondary care (update)*. The British Psychological Society and The Royal College of Psychiatrists.

NMC (2008) *The Code: Standards of Conduct, Performance and Ethics for Nurses and Midwives*. Nursing and Midwifery Council, London.

Nose M., Barbui C., Gray R., *et al*. (2003) Clinical interventions for treatment non-adherence in psychosis: meta-analysis. *The British Journal of Psychiatry* **183**, 197–206.

Olofinjana B. & Taylor D. (2005) Antipsychotic drugs – information and choice: a patient survey. *Psychiatric Bulletin* **29**, 369–371.

Overall J.E. & Gorham D.R. (1962) The Brief Psychiatric Rating Scale (BPRS). *Psychological Reports* **10**, 799–812.

Owen G.S., Szmukler G., Richardson G., *et al*. (2009) Mental capacity and psychiatric in-patients: implications for the new mental health law in England and Wales. *The British Journal of Psychiatry* **195**, 257–263.

Patel M.X., Nikolaou V. & David A.S. (2003) Psychiatrists' attitudes to maintenance medication for patients with schizophrenia. *Psychological Medicine* **33**, 83–89.

Patel M.X., De Zoysa N., Baker D., *et al*. (2005) Antipsychotic depot medication and attitudes of community psychiatric nurses. *Journal of Psychiatric and Mental Health Nursing* **12**, 237–244.

Patel M.X., De Zoysa N., Bernadt M., *et al*. (2008a) A cross-sectional study of patients' perspectives on adherence to antipsychotic medication: depot versus oral. *Journal of Clinical Psychiatry* **69**, 1548–1556.

Patel M.X., Yeung F.K.K., Haddad P.M., *et al*. (2008b) Psychiatric nurses' attitudes to antipsychotic depots in Hong Kong and comparison with London. *Journal of Psychiatric and Mental Health Nursing* **15**, 758–766.

Patel M.X., De Zoysa N., Bernadt M., *et al*. (2009) Depot and oral antipsychotics: patient preferences and attitudes are not the same thing. *Journal of Psychopharmacology* **23**, 789–796.

Patel M.X., de Zoysa N., Bernadt M., *et al*. (2010) Are depot antipsychotics more coercive than tablets? The patient's perspective. *Journal of Psychopharmacology* **24**, 1483–1489.

Pereira S. & Pinto R. (1997) A survey of the attitudes of chronic psychiatric patients living in the community toward their medication. *Acta Psychiatrica Scandinavica* **95**, 464–468.

Peters E.R., Joseph S.A. & Garety P.A. (1999) Measurement of delusional ideation in the normal population: introducing the PDI (Peters *et al*. Delusions Inventory). *Schizophrenia Bulletin* **25**, 553–576.

Prime Minister's Commission on the Future of Nursing and Midwifery in England (2010) *Front Line Care: the future of nursing and midwifery in England*. Report of the Prime Minister's Commission on the Future of Nursing and Midwifery in England. 2010 Crown Copyright.

Puschner B., Angermeyer M.C., Leese M., *et al*. (2009) Course of adherence to medication and quality of life in people with schizophrenia. *Psychiatry Research* **165**, 224–233.

Rainer M.K. (2008) Risperidone long-acting injection: a review of its long term safety and efficacy. *Neuropsychiatric Disease and Treatment* **4**, 919–927.

Rattehalli R.D., Jayaram M.B. & Smith M. (2010) Risperidone versus placebo for schizophrenia. *Cochrane Database of Systematic Reviews*, Issue 1. Art. No. CD 006918.

Read J. (2005) *Coping with Coming Off: Mind's Research into the Experiences of People Trying to Come Off Psychiatric Drugs*. MIND Publications, London.

Read J., Haslam N., Sayce L., *et al*. (2006) Prejudice and schizophrenia: a review of the 'mental illness is an illness like any other' approach. *Acta Psychiatrica Scandinavica* **114**, 303–318.

Rethink (2010) *Mental Health Services 'breaching human rights', says Rethink*. Press Release 27 October 2010. Available at: http://www.rethink.org (accessed 1 March 2011).

Sackett D.L. & Haynes B.R. (1976) *Compliance with Therapeutic Regimens*. Johns Hopkins University Press, Baltimore, MD.

Schooler N.R. (2003) Relapse and rehospitalisation: comparing oral and depot antipsychotics. *Journal of Clinical Psychiatry* **64**, 14–17.

Soskis D.A. (1978) Schizophrenic and medical inpatients as informed drug consum-

ers. *Archives of General Psychiatry* **35**, 645–649.

Stant A.D., TenVergert E.M., Wunderink L., *et al*. (2007) Economic consequences of alternative medication strategies in first episode non-affective psychosis. *European Psychiatry* **22**, 347–353.

Staring A.B.P., Van der Gaag M., Koopmans G.T., *et al*. (2010) Treatment adherence therapy in people with psychotic disorders: randomised controlled trial. *The British Journal of Psychiatry* **197**, 448–455.

Szmukler G. & Holloway F. (1998) Mental health legislation is now a harmful anachronism. *Psychiatric Bulletin* **22**, 662–665.

Tacchi M.J. & Scott J. (2005) *Improving Adherence in Schizophrenia and Bipolar Disorders*. John Wiley & Sons, Ltd., Hoboken, NJ.

Tacchi M.J., Nendick J. & Scott J. (2011) Patient choice and improving the uptake of longacting injectable medication. In: *Antipsychotic Long-Acting Injections* (eds Haddad, P., Lambert, T. & Lauriello, J.), pp. 185–208. Open University Press, Oxford, NY.

Taylor D., Paton C. & Kapur S. (2009) *The South London and Maudsley NHS Foundation Trust Oxleas NHS Foundation Trust Prescribing Guidelines*, 10th edn. Informa healthcare, London.

The British Psychological Society (2000) *Recent Advances in Understanding Mental Illness and Psychotic Experience*. The British Psychological Society, Leicester.

Thomas A., Katsabouris G. & Bouras N. (1997) Staff perception on reduction of medication in patients with chronic schizophrenia. *Psychiatric Bulletin* **21**, 692–694.

Ucok A., Polat A., Cakir S., *et al*. (2006) One year outcome in first episode schizophrenia; predictors of relapse. *European Archives of Psychiatry and Clinical Neuroscience* **256**, 37–43.

UK Harm Reduction Alliance (2011) *UK Harm Reduction Alliance Definition of Harm Reduction*. Available at: http://www.ukhra.org/harm_reduction_definition.html (accessed 20 March 2011).

Viguera A.C., Baldessarini R.J., Hegarty J.D., *et al*. (1997) Clinical risk following abrupt and gradual withdrawal of maintenance neuroleptic treatment. *Archive of General Psychiatry* **54**, 49–55.

Waddell L. & Taylor M. (2009) Attitudes of patients and mental health staff to antipsychotic long-acting injections: systematic review. *The British Journal of Psychiatry* **195**, 43–50.

Warner R. (2004) *Recovery from Schizophrenia: Psychiatry and Political Economy*, 3rd edn. Brunner-Routledge, Hove and New York.

Warner R. (2010) Does the scientific evidence support the recovery model? *The Psychiatrist* **34**, 3–5.

Whitaker R. (2004) The case against antipsychotic drugs: a 50-year record of doing more harm than good. *Medical Hypotheses* **62**, 5–13.

Williams C.C. & Collin A.A. (2002) The social construction of disability in schizophrenia. *Qualitative Health Research* **12**, 297–309.

Wunderink L., Nienhuis F.J., Sytema S., *et al*. (2007) Guided discontinuation versus maintenance treatment in remitted first episode psychosis: relapse rates and functional outcome. *Journal of Clinical Psychiatry* **68**, 654–661.

Zygmunt A., Olfson M., Boyer C.A., *et al*. (2002) Interventions to improve medication adherence in schizophrenia. *American Journal of Psychiatry* **159**, 1653–1664.