Economics and schizophrenia: consequences and treatments

Martin Knapp

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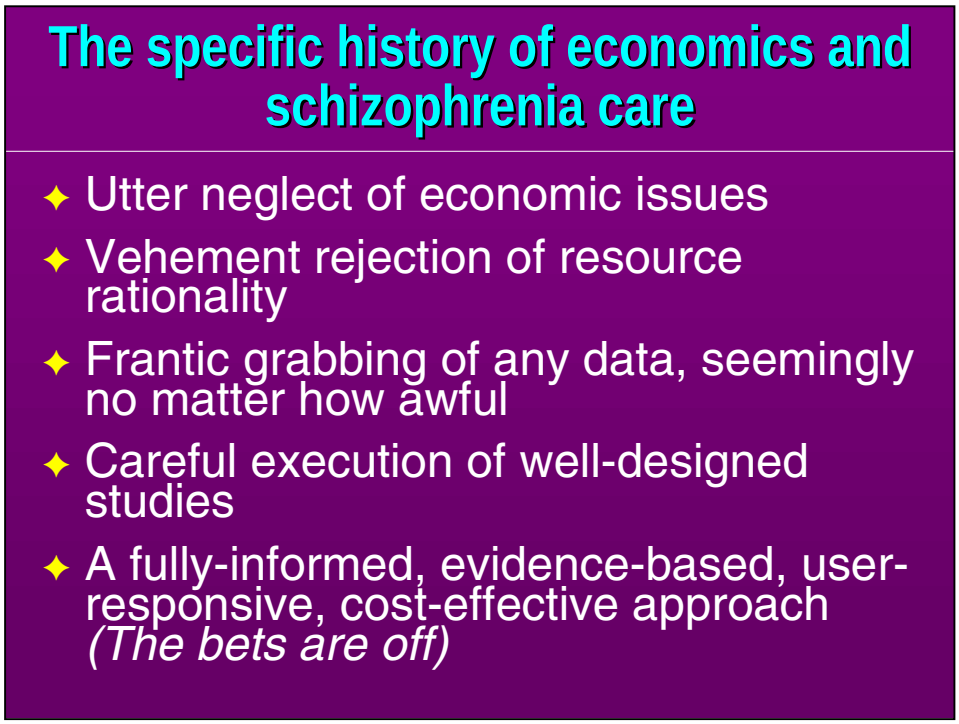
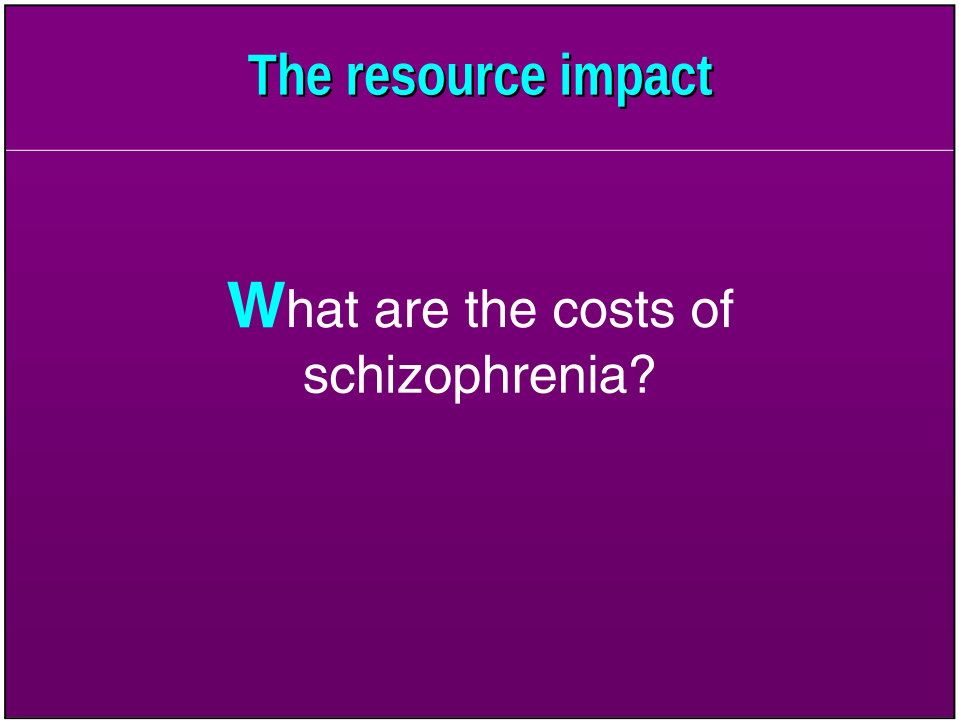
Slide 1 - Title slide
Schizophrenia is a frequently devastating illness. It has potentially huge impacts on sufferers, their families, service systems and the wider society. In many countries today the costs of schizophrenia and the cost-effectiveness of its treatment are coming increasingly under the scrutiny of decision-makers. It was not always thus.

Slide 2 - Mental health economics: an unofficial European history
In fact, economic issues have been the focus of attention for a relatively short time. For many years economic issues appeared to be ignored, or attempts to raise cost-effectiveness were criticised. In many countries there followed a period of unselective over-enthusiasm, which produced some poor decisions. Today, in Australia and in the UK (as well as in a number of other countries), economic criteria are used more constructively alongside other criteria to guide macro and micro decision making in health care systems.



Slide 3 - The specific history of economics and schizophrenia care
For schizophrenia specifically, there were very few economic studies of different treatment options until quite recently. Today, with the availability of a number of new drug treatments and a growing interest in psychosocial interventions such as cognitive behavioural therapy, economic studies are getting more common.



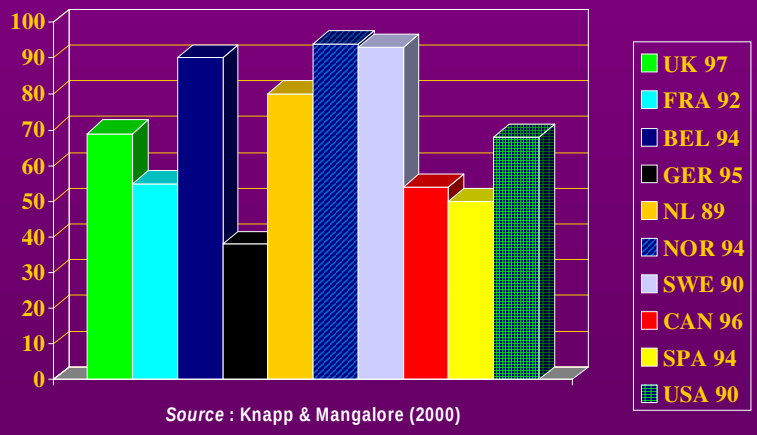
Slide 4 - The resource impact
The first question to address, therefore, relates to the costs of schizophrenia.

Direct health care costs (examples)

Country and year	Direct costs	% of total health spend
USA 1990	$17.3 b	2.5%
UK 1992	£810 m	2.8%
France 1992	Fr 12.4 b	2.0%
Belgium 1994	US$304 m	1.9%
Netherlands 1994	800 m guilders	1.4%
Australia 2000	?	?

Slide 5 - Direct health care costs (examples)
The slide shows that schizophrenia accounts for between 1.4% and 2.5% of total national health care expenditures in developed economies. This compares with a prevalence rate of under 1%. Clearly schizophrenia is a "costly" illness.

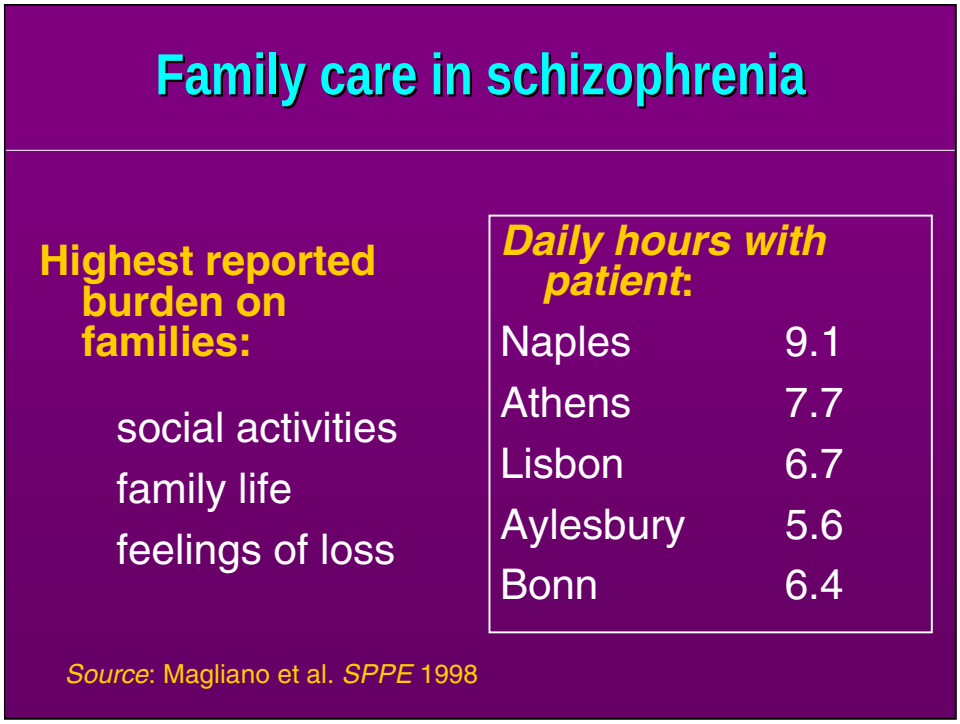
Inpatient services as % of total direct health care costs



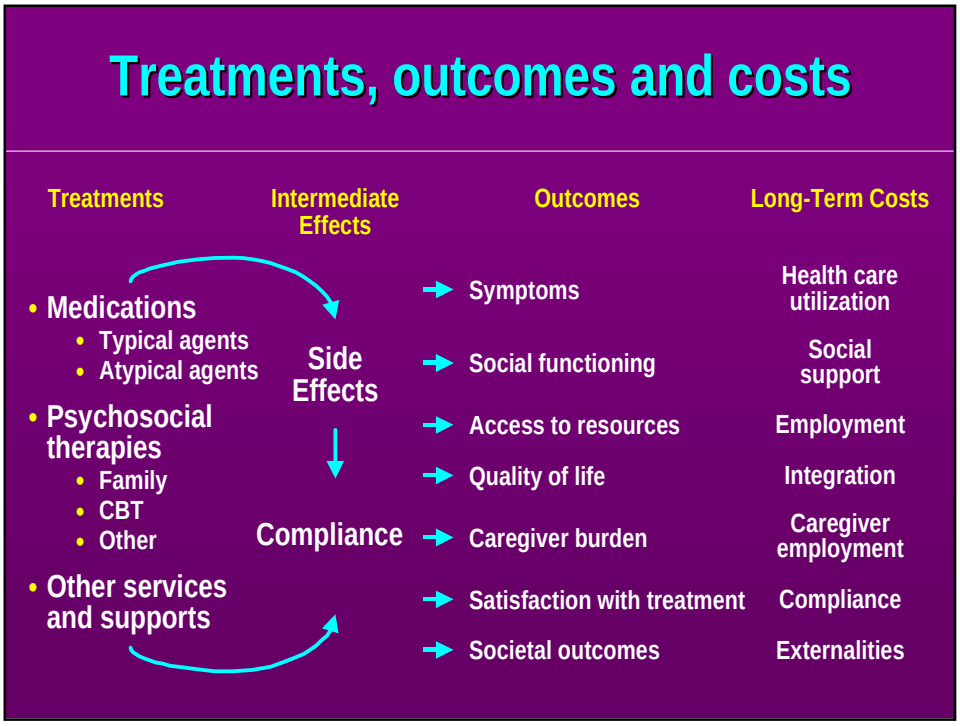
Source : Knapp & Mangalore (2000)

Slide 6 - Inpatient services as % of total direct health care costs
A sizeable proportion of total health care expenditure is accounted for by inpatient stays. Although health care systems have tended to reduce reliance on inpatient services for schizophrenia, and have done so at different rates, hospitalisation services are still major cost drivers in schizophrenia.

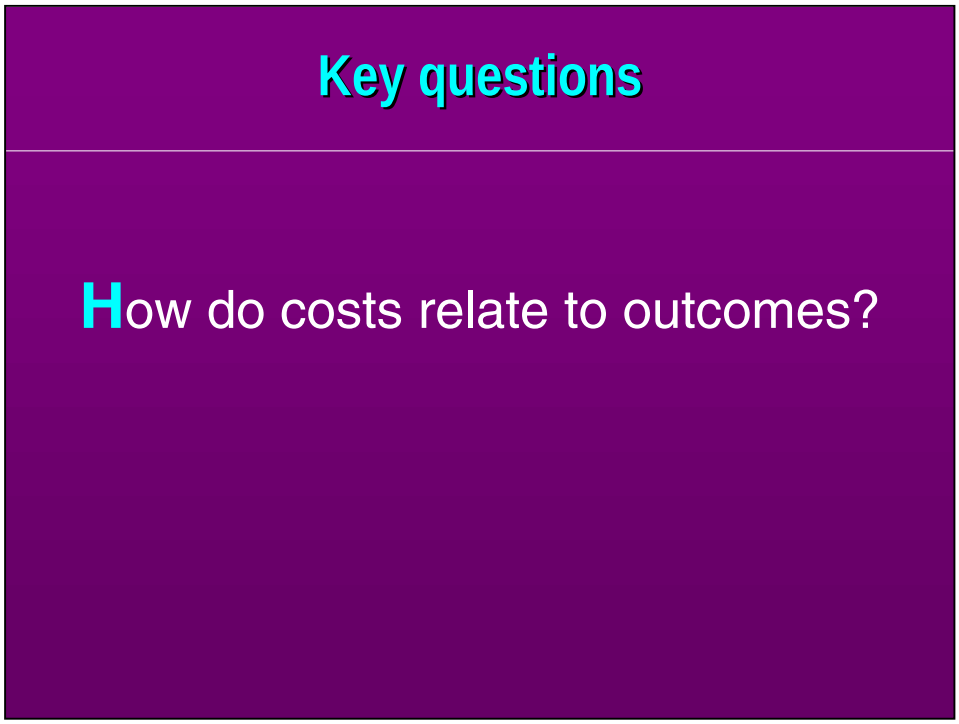
Slide 7 - Lost employment
However, the health care expenditure on schizophrenia is only part of the overall economic impact. One very sizeable "indirect" cost relates to lost employment. People with schizophrenia have difficulty getting jobs, and many will have difficulty keeping them. They may need to take days off because of their illness, and they may find their career progression constrained. The consequences for them are felt not only in terms of reduced income, but also in reduced social networks, low self-esteem and so on. Estimates from a number of countries clearly show the high cost in terms of lost productivity.



Slide 8 - Family care in schizophrenia
Another impact, although one that is much harder to gauge, is on families. Schizophrenia can impose considerable burdens on family members, only some of which can be measured in monetary terms. The findings summarised on the slide come from a five-site European study, and clearly show the quite high commitment of time by relatives of people with schizophrenia.

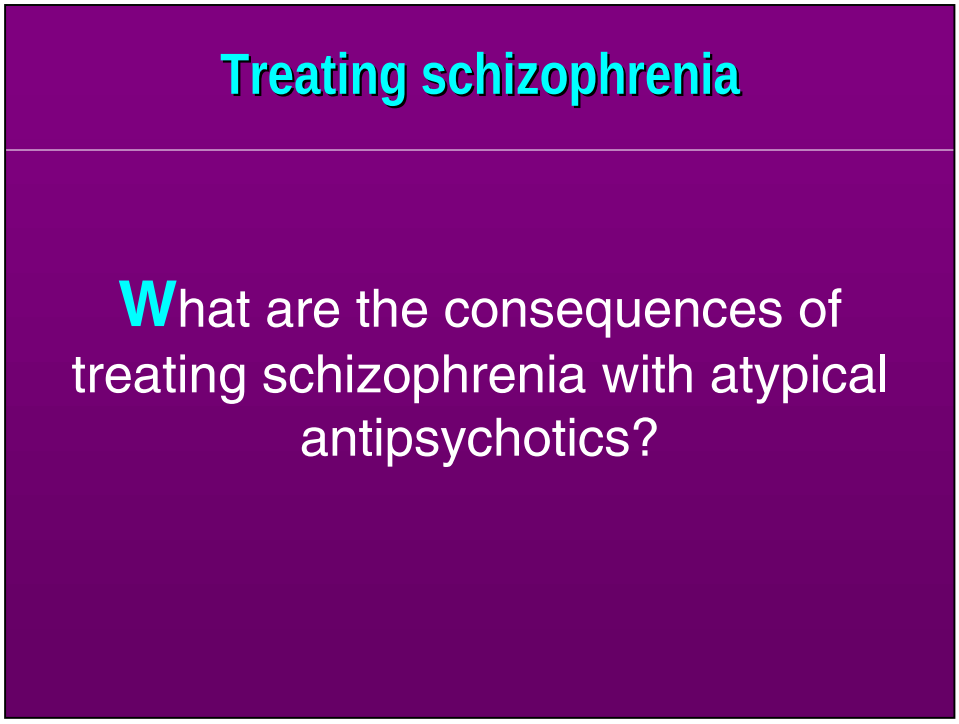


Slide 9 - Crime and public safety
There are also concerns in some countries about violent acts by people with schizophrenia. Fears about violence (including self harm) are genuine but possibly exaggerate the true risk. Taylor and Gunn (British Journal of Psychiatry, January 1999) have carefully studies homicide data in a number of countries. They show that homicides by people with psychoses constitute quite a high proportion of the total, but that the proportion appears to be falling.

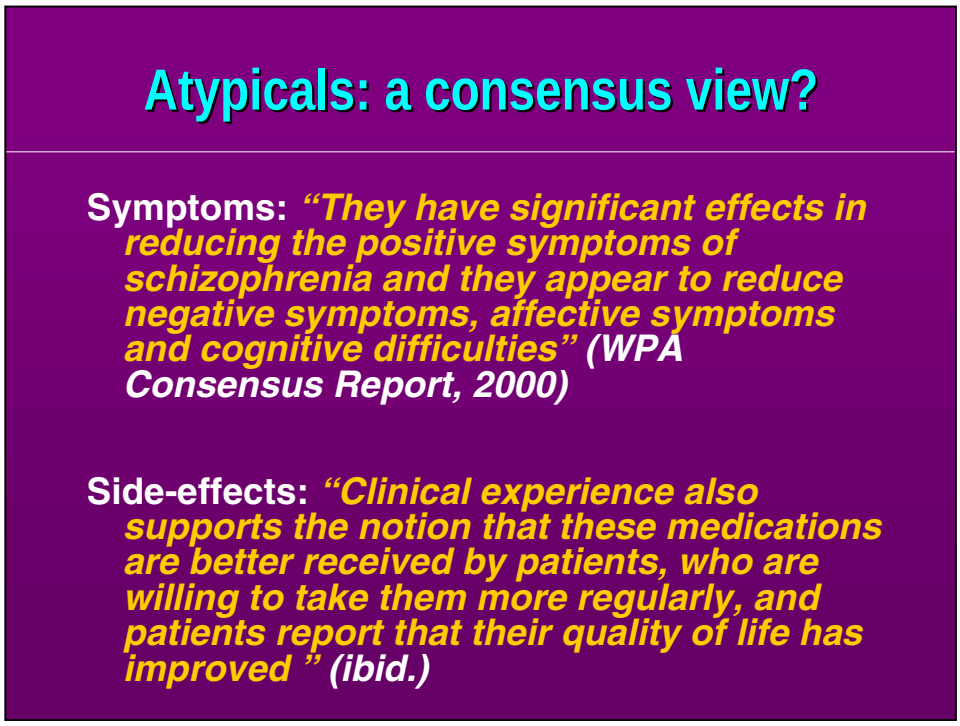


Slide 10 - Key questions
Given these high costs, what is the link to outcomes?

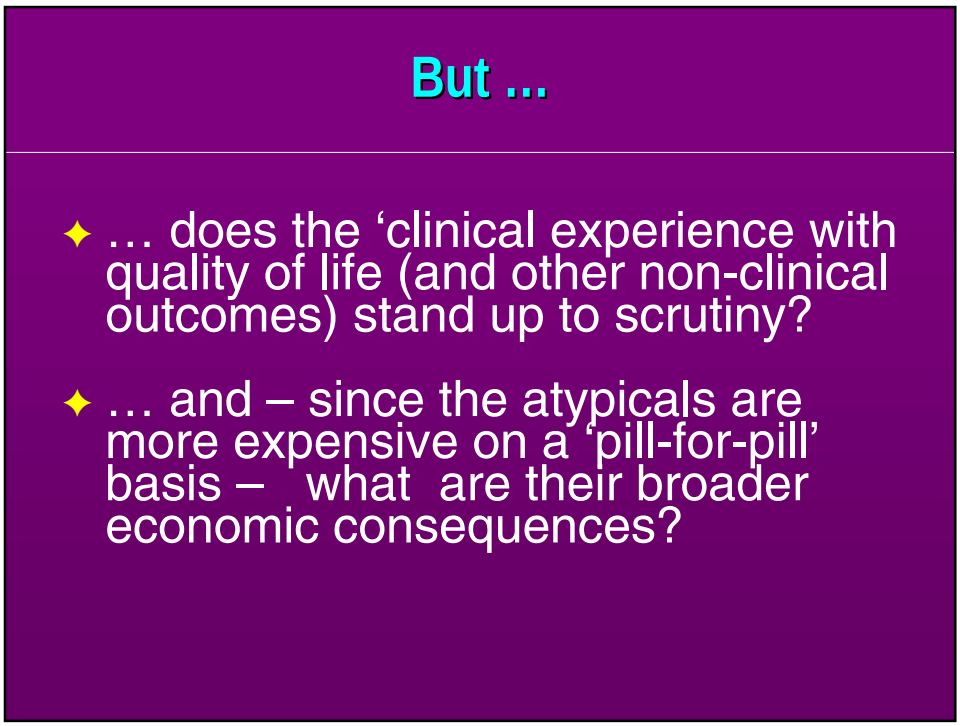
Slide 11 - Treatments, outcomes and costs
It is possible to hypothesise a number of connections between treatments for schizophrenia, their intermediate effects in terms of side-effect profiles and rates of compliance (or adherence) with treatment recommendations, and the "final" outcomes. The latter can be gauged in terms of symptom change, social functioning, quality of life and so on. With an economics focus, we need to go beyond these outcome measures to look at their long-term cost implications. The inter connections summarised on the slide represent a vast hypothesis set. To date, studies have only been able to address a proportion of these hypotheses.



Slide 12 - Treating schzophrenia
What, then are the consequences of treating schizophrenia with the new generation of antipsychotic drugs?



Slide 13 - Atypicals: a consensus view?
There have been a number of studies relating to a number of these new drugs. Recently the World Psychiatric Association published a consensus document summarising the evidence. Their conclusions about the impact of atypical antipsychotics on symptoms and on side-effects are positive.



Slide 14 - But…
However, research evidence is still needed, particularly about quality of life, a neglected dimension in many studies in schizophrenia. Moreover, because the new drugs are more expensive than the old, what are their broader economic consequences?

Olanzapine vs haloperidol (in Europe)

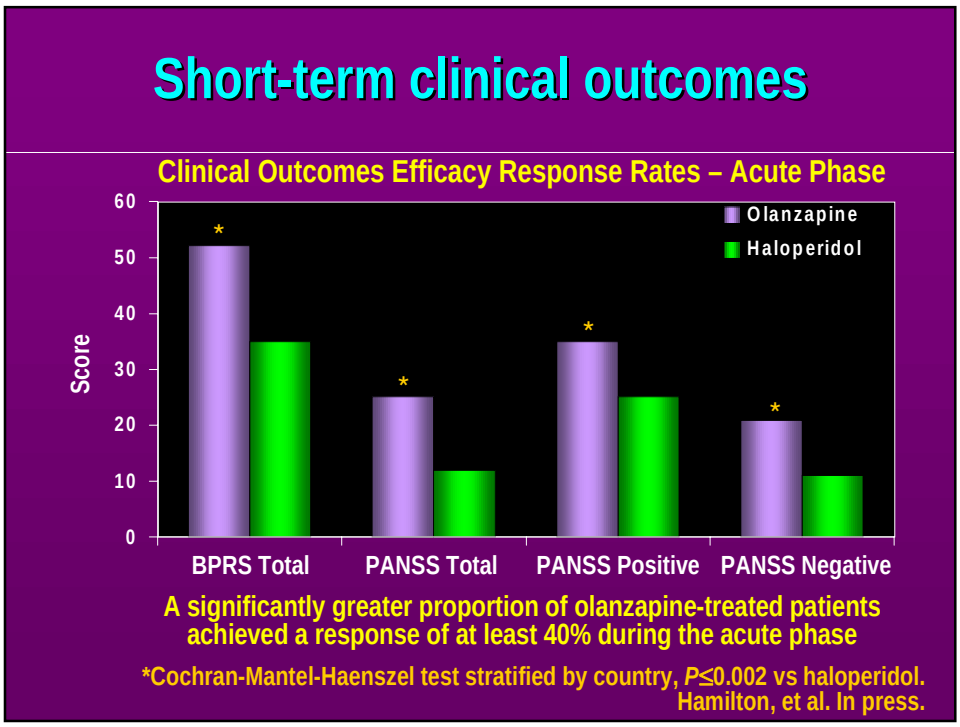
- Parent Study (n = 1996)
  - International, double-blind, randomized clinical trial
  - Inpatients or outpatients, ≥18 years of age
  - DSM-III-R schizophrenia, schizophreniform disorder, or schizoaffective disorder
  - BPRS total scores ≥18 and/or no longer tolerating current neuroleptic
  - dosages 5-20mg per day
  - 6-week acute period, followed by 46-week maintenance period (for responders only)

Slide 15 - Olanzapine vs Haloperidol (in Europe)
Evidence to address these two questions can be gleaned from a large international randomised controlled trial of one of these new antipsychotics (Olanzapine) compared to one of the most commonly used older drugs (Haloperidol). Almost 2000 patients were included in this double-blind RCT.

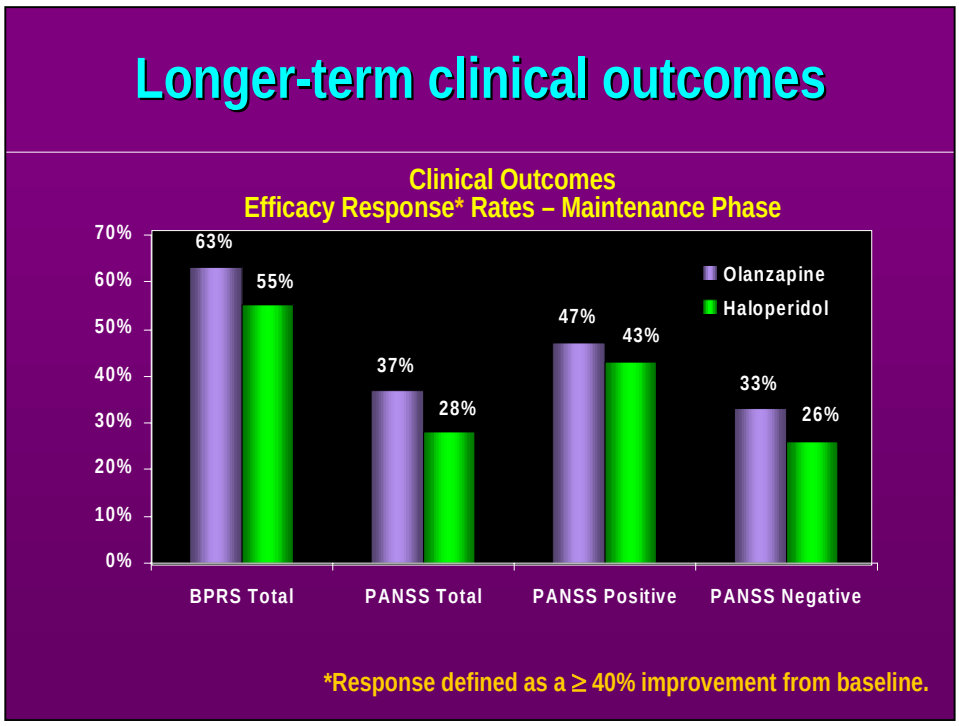
European sample

- N = 778 patients
- 96 clinical centres
- 13 countries
  - Austria (23 patients)
  - Belgium (66)
  - Denmark (16)
  - Finland (33)
  - France (308)
  - Germany (66)
  - Italy (40)
  - Luxembourg (5)
  - Netherlands (5)
  - Portugal (8)
  - Spain (53)
  - Sweden (16)
  - United Kingdom (139)

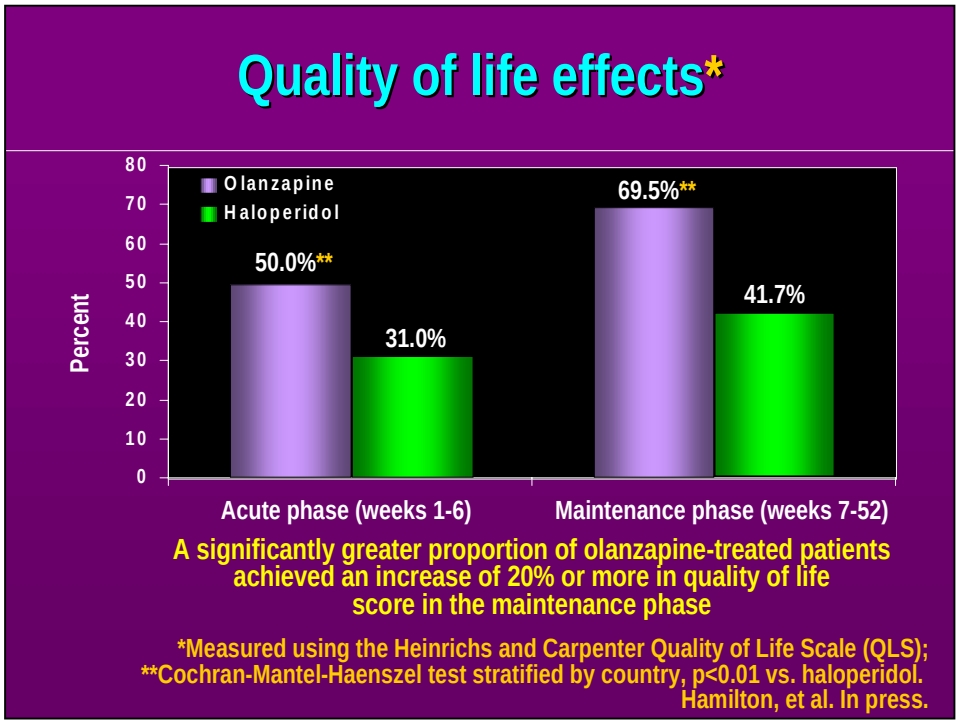
Slide 16 - European sample
Here I shall focus on the European sample results. The results relate to nearly 800 patients drawn from thirteen countries and have recently been published (Hamilton et al, 2000).



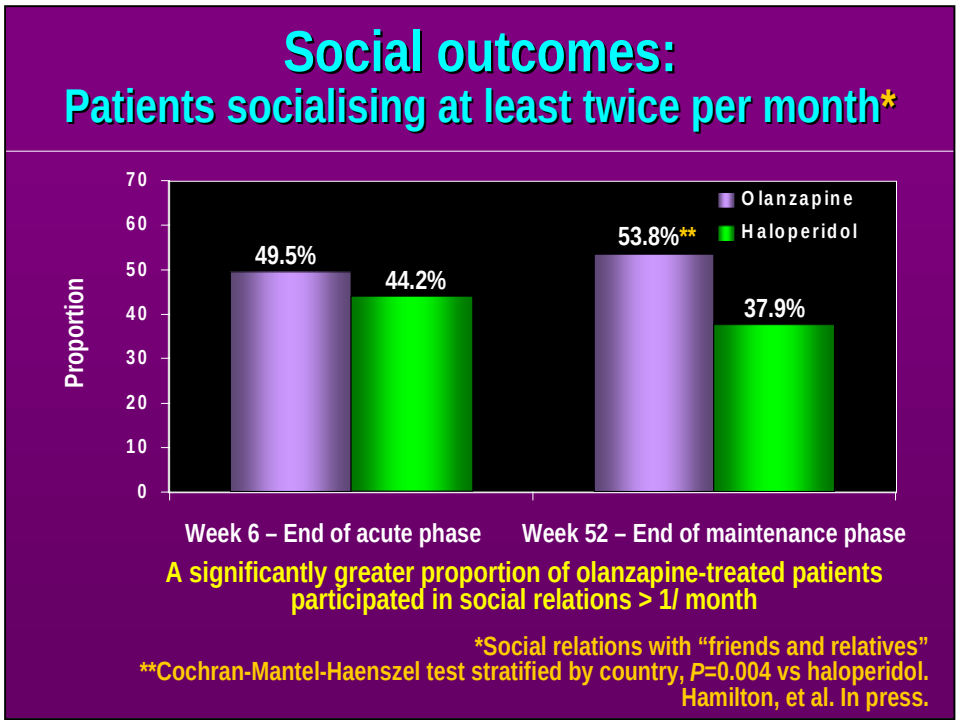
Slide 17 - Short-term clinical outcomes
Two commonly used measures of clinical outcomes are the brief Psychiatric Rating Scale and the Positive and Negative Syndrome Scale. In the short term, a six-week acute period, Olanzapine was clearly clinically superior to Haloperidol.



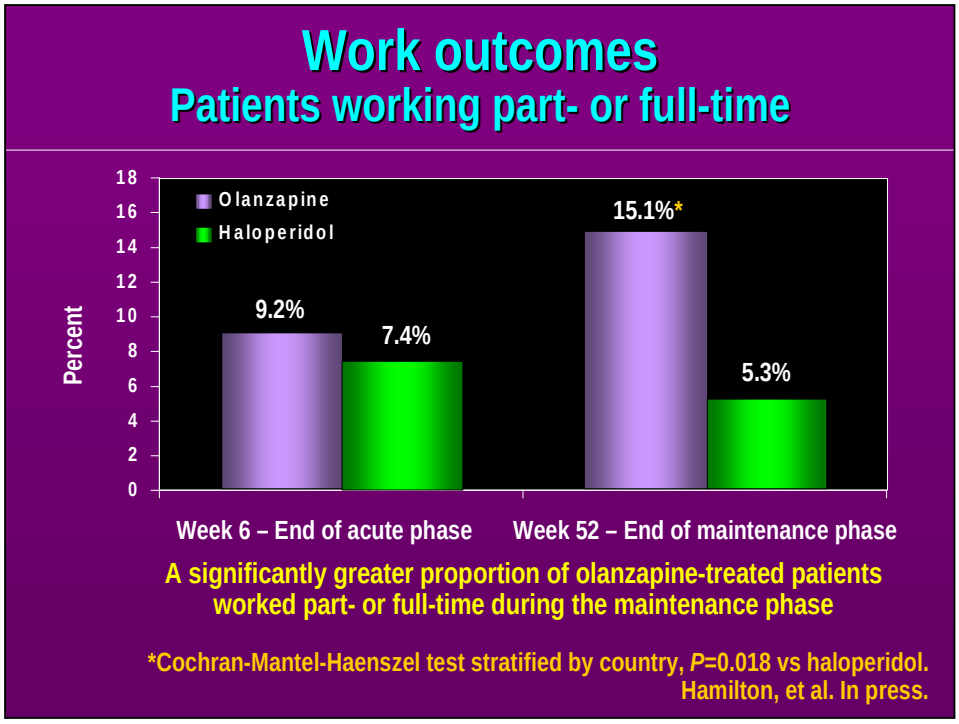
Slide 18 - Longer-term clinical outcomes
However, in the longer-term the apparent advantage for Olanzapine did not reach statistical significance. One of the reasons for this may be the trial design. At the end of the six-week acute phase, patients who were not responding well to their double-blind treatment were discontinued in the trial. A larger number of Haloperidol patients than Olanzapine patients dropped out of the trial at this six-week point.



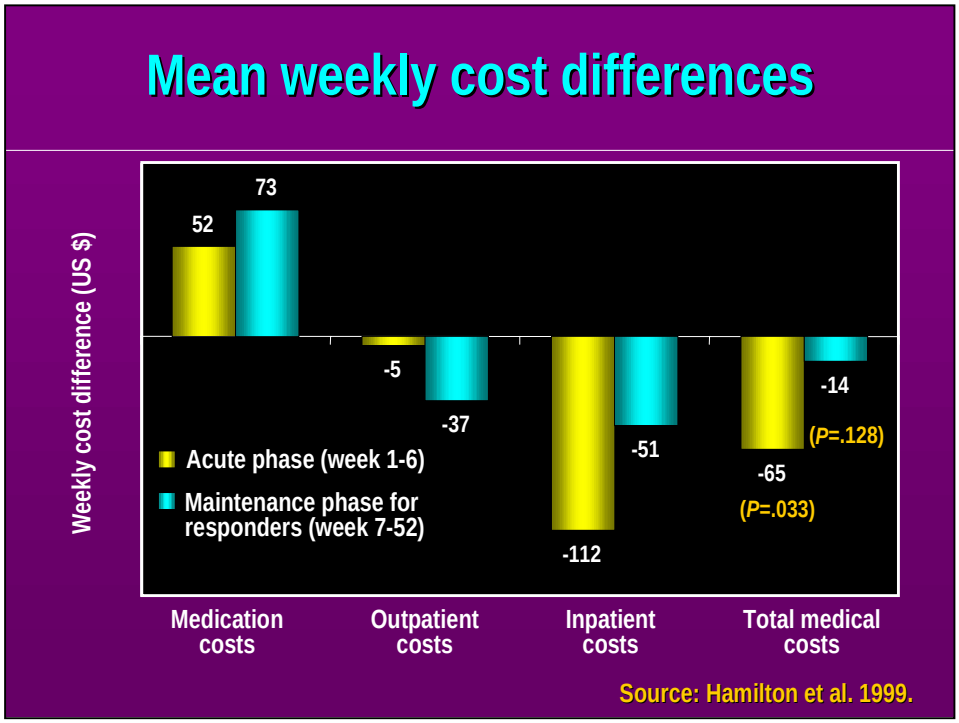
Slide 19 - Quality of life effects
The one-year duration of the full trial is important when looking at some of the non-symptom implications of treatment. This can clearly be seen from this and the next two slides. Qualify of life, measured using the schizophrenia-specific Quality of Life Scale, was superior for the Olanzapine patients at six weeks, and even more markedly so at the end of 52 weeks. There were similar results using a generic Quality of Life Instrument (SF36).



Slide 20 - Social outcomes: patients socialising at least twice per month
For social outcomes, measuring the level of socialisation, there was no significant difference at the end of the acute treatment phase, but by the end of the maintenance phase (52 weeks) the difference was marked and significant. What is clear is that some of the positive outcomes of the new drugs take time to reveal themselves.

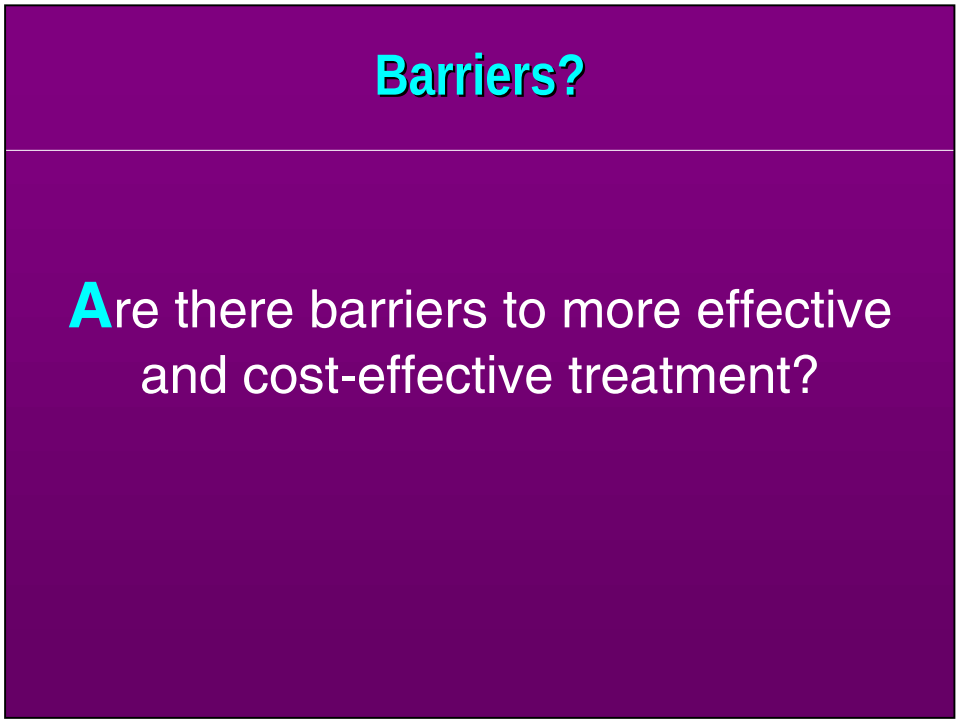


Slide 21 - Work outcomes: patients working part-time or full-time
This also applies to work outcomes. A suggestion of an advantage for Olanzapine at the end of the six weeks has grown to a significant difference at the end of 52 weeks. Even though the great majority of patients in the sample are still not working, this relative improvement over time is an important finding. It is important to patients, because of its impact on income and social networks and self-esteem, and it is also potentially important to the economy because of its impact on productivity.

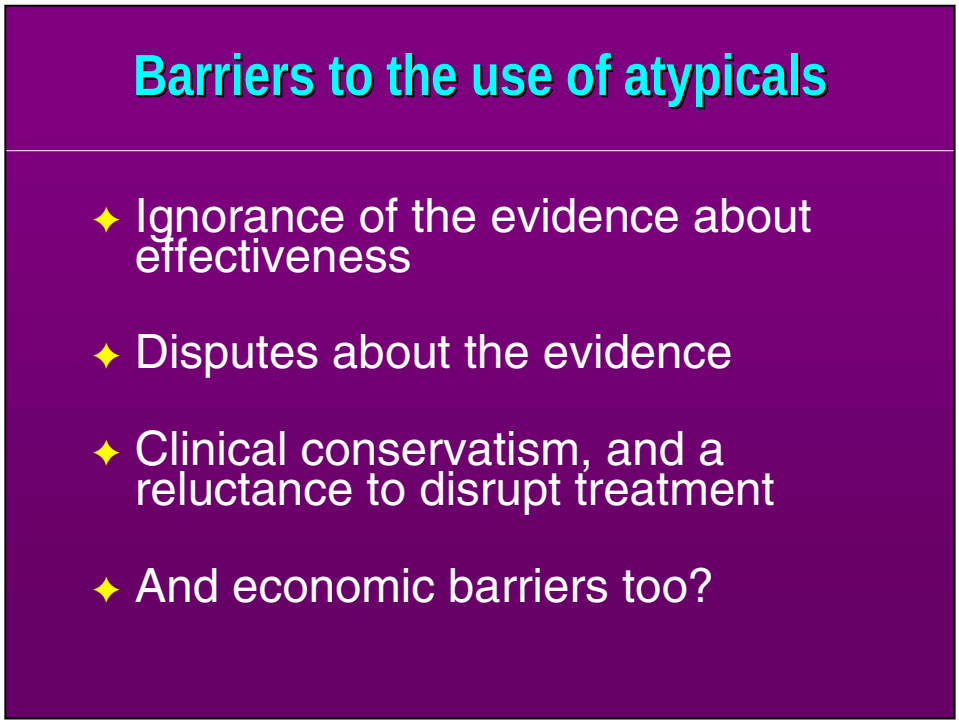


Slide 22 - Mean weekly cost differences
The European sample was drawn from thirteen countries, and for methodological reasons the published evidence from this trial does not include an economic evaluation across those sites. However, there is evidence for the US sub-sample from this same trial on the cost implications of treatment. The results can be seen in the slide which shows the net cost difference between Olanzapine and Haloperidol. Cost differences above the line indicate that Olanzapine is more expensive, and cost differences below the line indicate that Haloperidol is more expensive. It can be seen Olanzapine is more expensive to purchase than Haloperidol, but that there are counter-balancing savings in terms of outpatient and inpatient service use. The net effect is significant in the short-term but not in the longer-term.

Slide 23 - Cost-effectiveness and cost-offset
Clearly, therefore, Olanzapine has clinical superiority over Haloperidol. It is also superior to Haloperidol in terms of quality of life, social outcomes and work outcomes. On cost grounds treatment with Olanzapine is less costly than treatment with Haloperidol in the acute phase and of equivalent cost in the maintenance phase. Compared to Haloperidol, therefore, Olanzapine is a cost-effective treatment.

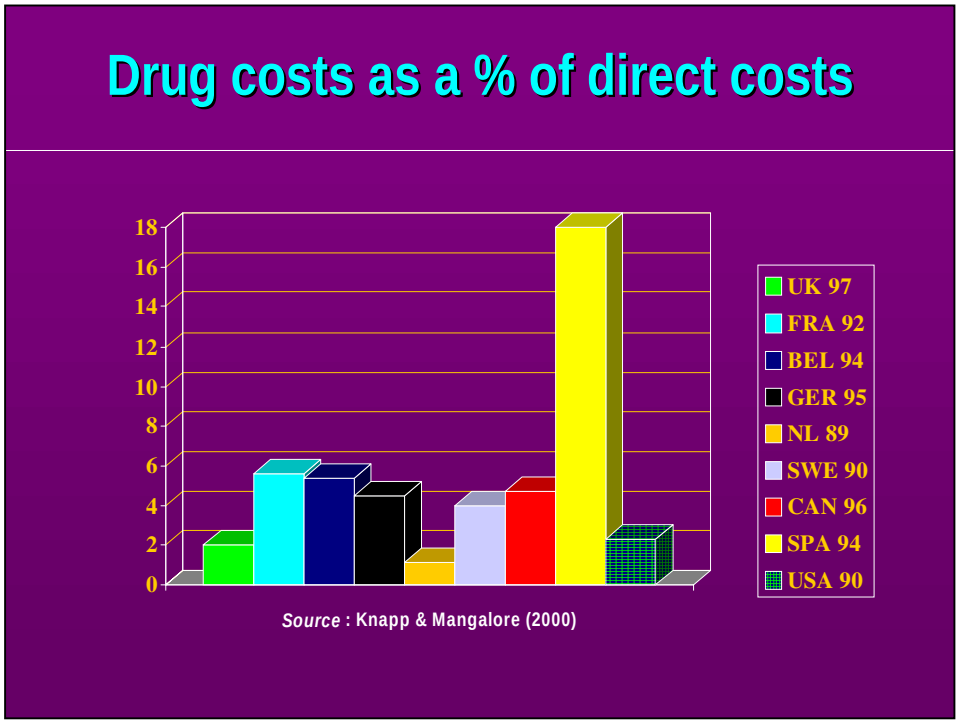


Slide 24 - Barriers?
Given this positive result, in terms of broad health outcomes and cost-effectiveness, why is it that the newer drugs are not more widely used? Are there barriers to their utilisation?

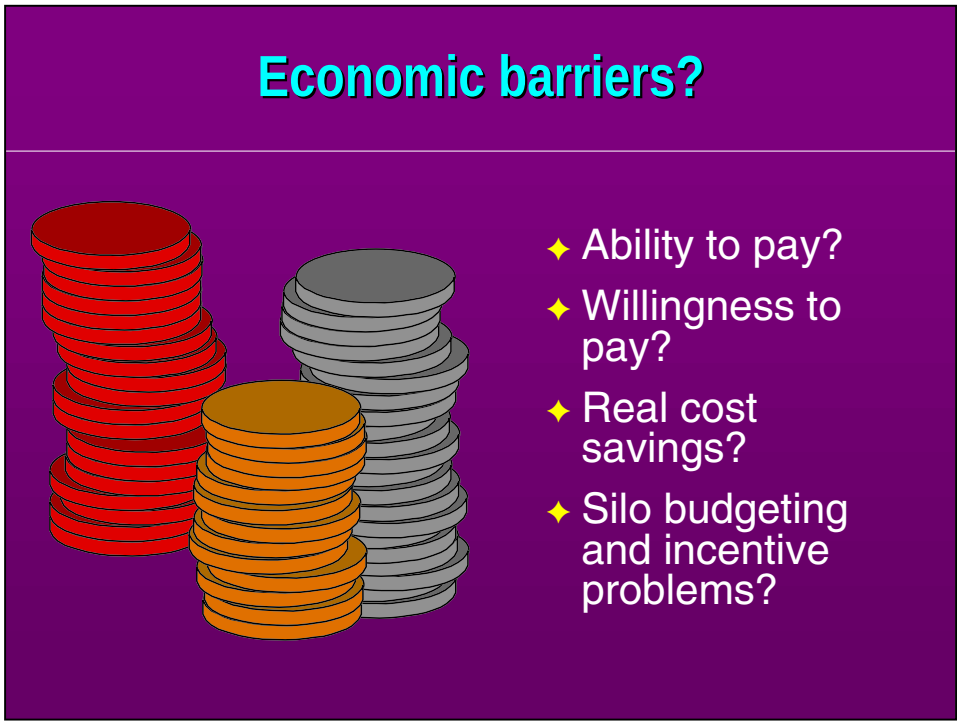


Slide 25 - Barriers to the use of atypicals
There are a number of reasons why atypical antipsychotics might not be more widely used. One could be ignorance as to their effectiveness. Another could be that the evidence of that effectiveness is known but is disputed. A third possibility is that clinicians are conservative, particularly if they see their patients responding reasonably well to the older drugs. (Unfortunately, the older drugs do have very unpleasant side effects for many patients, some of which effects do not reveal themselves immediately. Consequently, such conservatism may well be misplaced in many cases.) Might there be economic barriers too?

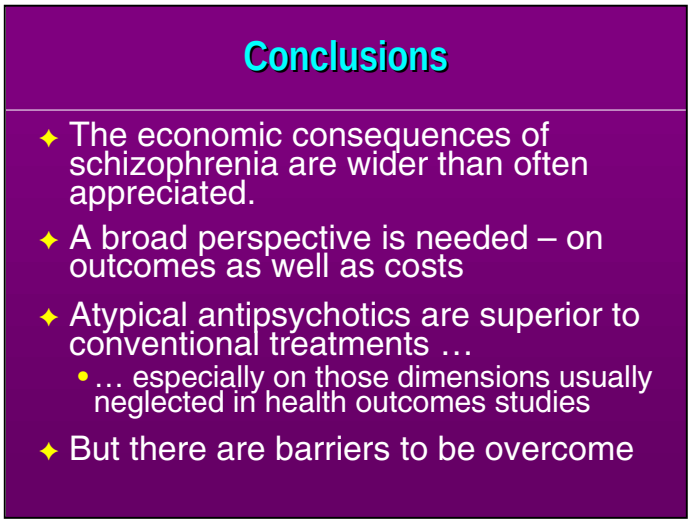
Slide 26 - Economic barriers?
One obvious economic barrier is a perceived inability to purchase the new drugs. Are they too expensive?



Slide 27 - Drug costs as a percentage of direct costs
In fact, in developed countries at least, drug costs account for a very small proportion of the total cost of the schizophrenia. This slide shows that drug costs account for between 2% and 6% of just the direct health care costs in the countries illustrated (with one exception). The exception is Spain, which generally has high utilisation of all drugs (not just for psychiatric disorders). Outside the developed world, drug costs do, however, account for a much higher percentage of total health care expenditure.



Slide 28 - Economic barriers?
As well as a perceived inability to pay, there may be an unwillingness to pay for these new drugs. That might stem from the view that the outcome improvements are not sufficient to warrant expenditure, or because decision-makers do not value very highly the significant quality of life improvements that can be gained by people with schizophrenia. A third economic barrier may be that the cost savings - which trial evidence suggest might particularly come through reductions in inpatient admissions - are simply too slow to materialise. Fourthly, there is the universal problem of silo budgeting. Different agencies have different budgets, and people with schizophrenia often need to draw service supports from across a wide range of agencies. Incentive problems can follow.



Slide 29 - Conclusions

What are we to conclude? The economic consequences of schizophrenia are considerable, and they are probably wider than most health care decision-makers appreciate. Informed decisions about treatment of schizophrenia need to view the wider economic impact. This is important not just on efficiency grounds but also because of the inequities that might follow. Patients and their families bear many of the costs of schizophrenia.

A broad perspective is also needed on outcomes because, although symptom reduction must be a key aim of schizophrenia treatment, the illness has so many other adverse implications that must not be forgotten in macro and micro decision making.

There is now evidence - not just on Olanzapine but on other drugs - that the atypical antipsychotics are superior in clinical, quality of life and other respects when compared to the conventional drug treatments. Indeed, their impact on the non-symptom dimensions of health outcomes is especially marked. Evidence from a number of trials now points to cost-effectiveness advantages. However, there remain barriers - including economic barriers - to their wider use.