



# Cannabis and Psychosis: What can be done?

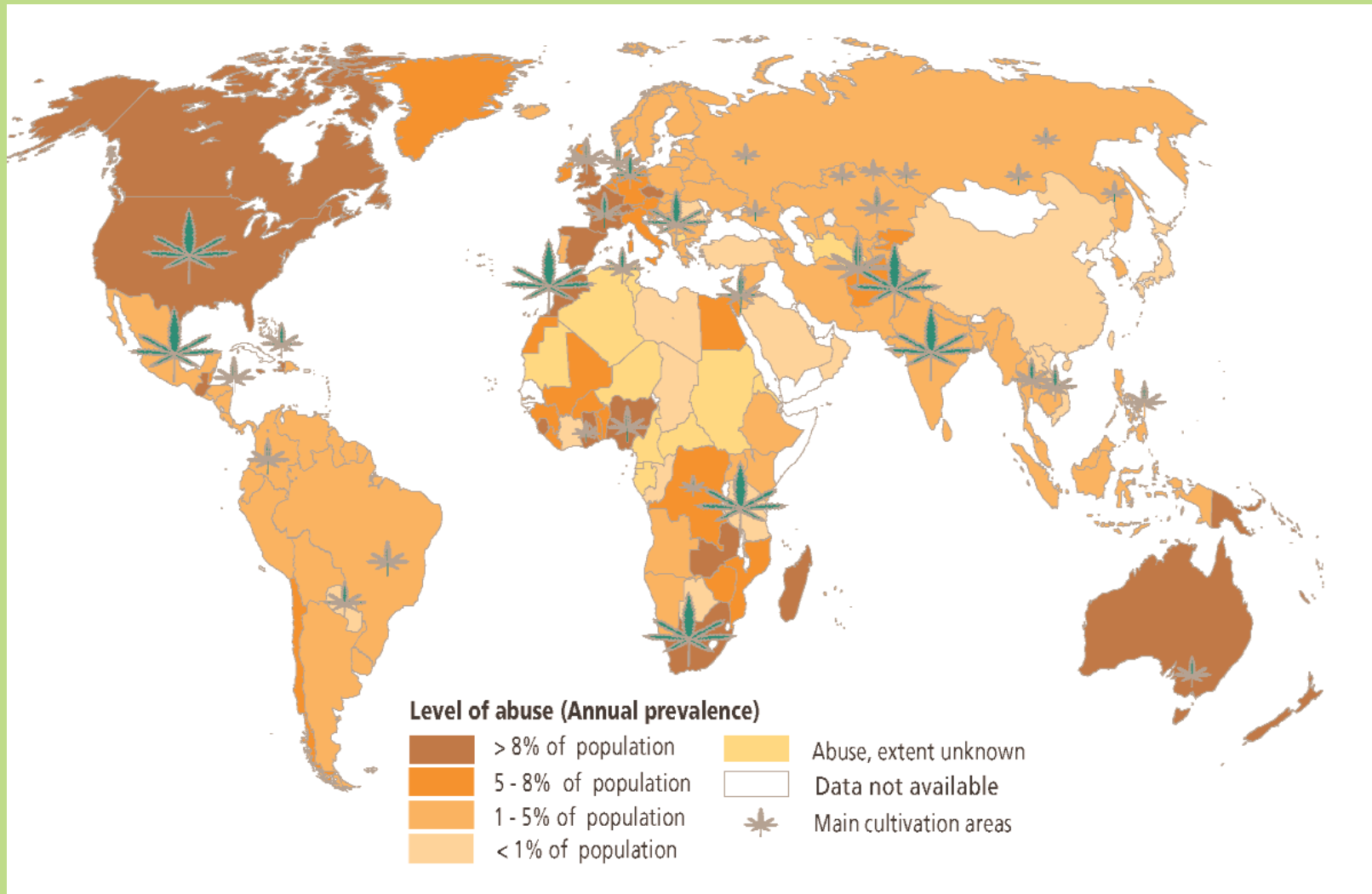
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# Plan:

## What will be covered:

- Scale of cannabis use
- Rising strength of street cannabis
- What can be done?
  - Assessment of cannabis use in people with psychosis
  - Psychological and pharmacological interventions
- A case study





UN World Drug use report, 2006 - cannabis

# Scale of cannabis use



- Cannabis use is increasing worldwide
- The age of first use is decreasing
- People with psychosis use cannabis more than the general population
- Cannabis use is significantly more common amongst first-episode patients with severe mental illness
- Growing evidence from longitudinal and population based studies that cannabis use significantly increases the risk of development of a psychotic illness in a dose-dependent manner (the more heavy the use, the higher the risk) (*Moore et al, 2007*)
- No strong evidence as yet that using cannabis at a young age is more harmful for the development of a severe mental illness

# Cannabis use in psychosis is associated

## with:

- Early psychotic breakdown
- Exacerbation or precipitation of symptoms
- Poor adherence to treatment
- Increased rates of hospitalization
- Increased duration of hospitalization
- Increased duration of psychotic episode
- Poor social functioning
- Increased rates of violence
- Increased rates of suicide
- Increased rates of victimization
- Homelessness
- Criminal behaviour
- Poorer physical health
- Heavy burden on health services

Mueser *et al*, 2000; Arseneault *et al*, 2002; Miles *et al*, 2003; Haywood *et al*, 1995; Menezes *et al*, 1996; Owen *et al*, 1996; Sorbara *et al*, 2003; Pencer *et al*, 2005; Williams *et al*, 2005

# Why do patients with Severe Mental Illness use cannabis?



- The main motivators for use of cannabis same as others;
  - to relax, to reduce boredom, to socialize and to enjoy the positive mood which intoxication provides
- Nearly half of patients use it to get relief from dysphoria and agitation and also to sleep better, whilst a minority report using it to reduce their suspiciousness
- Even though self-medication has been argued to be one of the reasons for cannabis use in this group, this has not yet been supported by research evidence

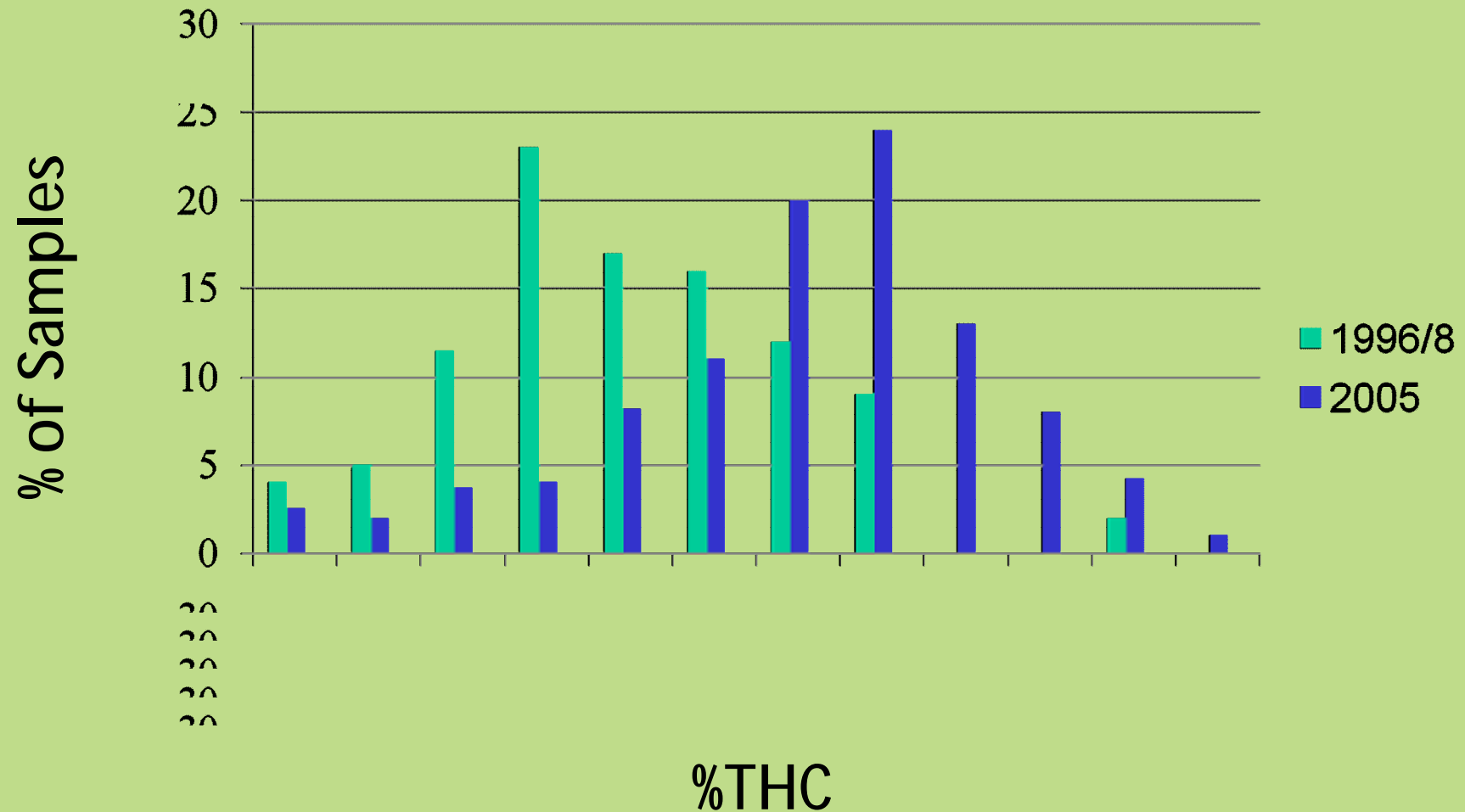
Schofield *et al*, 2006; Gregg *et al*, 2007

# Why do patients with Severe Mental Illness use cannabis?

- CBD, the 2<sup>nd</sup> major compound of cannabis plant, has strong antianxiety and antipsychotic effects
- Some patients might be getting relief from CBD
- Due to chemical 'competition between CBD and THC within the plant, street cannabis contains very small amounts of CBD
- There are as yet no satisfactory models evidenced by research to explain the interaction between psychosis and SUD
- A multiple risk factor model needs to be developed and tested

*Mechoulam et al, 2002; Ashton et al, 2005; Zuardi et al, 2006*

# Sinsemilla potency comparison 1996/8 v 2005 in UK

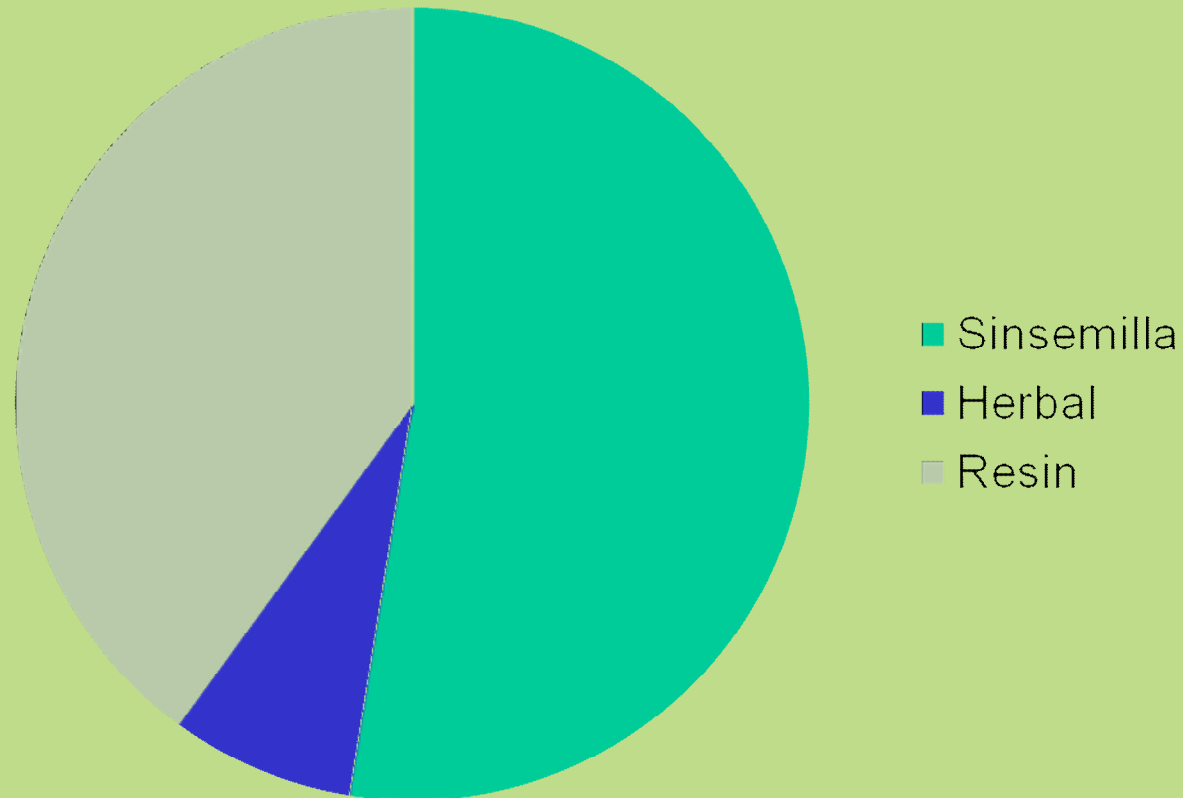


David Potter et al, 2005

Potency levels significantly higher in 2005 ( $p < 0.0001$ )

# Forms of street seized cannabis – 2005

## Overall Distribution Pattern, UK



Figures are the total number of seizures from five constabularies

*David Potter et al, 2008*

# Rising strength of street cannabis

- Skunk, or sinsemilla, has a huge share of the market and is squeezing out other types of cannabis
- Cannabis resin now accounts for 20 per cent of use, compared with 60-70 per cent in 2002
- “Traditional” herbal cannabis now accounts for only 5 per cent, compared with 15 per cent six years ago
- The amount of THC in skunk has doubled in the last 10 years



David Potter *et al*, 2008

# What can be done?

- Effective early campaign
- Full history of cannabis use
- Assessment tools
- Interventions:
  - Psychosocial
  - Pharmacological



# Effective campaigning and psychoeducation



- Campaign and education on the health effects of cannabis at the primary and secondary school level, similar to tobacco smoking
- Provision of information for parents and young people (leaflets, websites, health services, voluntary organisations and media)
- Well structured educational sessions can have some impact on the patient's insight into their mental health problems

Henry et al, 2003; El-Guebaly et al, 2002; Macpherson *et al*, 1996

# Comprehensive cannabis use history includes:



- Age of onset of first cannabis use
- Length of cannabis use
- Amount of use over a period of time
- Type and strength of cannabis used over the period of time
- Preferred method of use
- Reasons for cannabis use, including what the patient gains or loses from it

# Comprehensive cannabis use history includes:



- Subjective experiences and whether these have changed over time
- The effects on mental and physical health, social life, medication, compliance and finances, as experienced by the patient
- Other substance use (same information gathering for each substance used)
- Comprehensive substance history should be taken without a judgemental-tone, allowing the person to express his/her experiences freely

# Useful substance misuse assessment scales:

- PRISM: Psychiatric Research Interview for Substance and Mental Disorders Scale
- CUAD : Chemical Use, Abuse and Dependence Scale
- SOCRATES: Stages of Change Readiness and Treatment Eagerness Scale
- SATS : Substance Abuse Treatment Scale
- ASI: Addiction Severity Index
- The Substance Use Scale for Psychosis
- Readiness to Change Questionnaire
- TLFB: Timeline Followback
- CEQ: Cannabis Experiences Questionnaire

Hasin *et al*, 1996; Appleby *et al*, 1996; Miller & Tonigan 1996; McHugo *et al*, 1995; Helseth *et al*, 2005; Spencer *et al*, 2002; James *et al*, 2004; Sobell *et al*, 1996; Barkus *et al*, 2006

# Three treatment models (SMI+SUD):

1. Serial treatment: One treatment is followed by the other
2. Parallel treatment: Concurrent but separate treatments delivered by two teams

Serial and Parallel treatment programmes require:

- Seamless planning
- Time management
- Special care not to overload the patient

3. Integrated treatment: Both treatments are delivered by the same team and this model requires:

- Well integrated in-patient and substance misuse treatments and assertive community services
- Assertive styles of engagement
- Supportive living environments



# Three Treatment models:

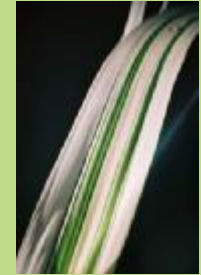
- So far there is no clear evidence that any one of the models is superior over others or that they provide a better outcome than standard care (Jeffery *et al*, 2000)
- However, some studies have shown that the third model, with integrated case management services, can lead to a better outcome in dual diagnosis patients (Rosenthal *et al*, 1992; Ries & Comtois, 1997)

# Psychological interventions:



- Ideological barriers need to be confronted to challenge established views that people with psychosis and substance use cannot benefit from psychological interventions
- As part of Clinical Antipsychotic Trials of Intervention Effectiveness study (CATIE);
  - Decision making capacity of patients with schizophrenia was studied; Negative symptoms had very little effect and positive symptoms had no effect on decision making capacity (Stroup *et al*, 2005) (Krabbendam *et al*, 2005)

# Psychological interventions:



- Despite methodological limitations, current research studies show consistent positive outcomes following several types of interventions
- There is some evidence, based on a few randomized controlled trials on out-patient groups that cognitive behaviour therapy, motivational intervention and a hybrid of other combined therapies can be superior to routine care

Barrowclough *et al*, 2001; Haddock *et al*, 2003; James *et al*, 2004

# Psychological interventions:



- Most patients respond to interventions by reducing their cannabis use, rather than stopping use altogether
- Long term effects of interventions do not yet appear to be encouraging
- There is a great need for more standardized research and well resourced implementation
- Outcome measures need to be developed and generalized beyond use of substances
- IMPACT study – will be showing the outcome effects of MI + CBT vs. standard care

*Denis et al, 2006; Drake et al , 2008*

# Motivational Interview (MI) + Cognitive Behaviour Therapy (CBT)

MI: Aims to match treatment to the individual, according to their motivational level. Motivational interviewing therapies are based on a 5 stage scale

- Precontemplation
- Contemplation
- Preparation
- Action
- Maintenance



CBT: Cognitive behaviour therapy sessions (for distressing symptoms such as delusions and hallucinations)

# Additional therapeutic tools:

- SMART goal setting:

Specific

Measureable

Achievable

Realistic

Within a Time frame

- Enhancing; Self efficacy, self-liberation, stimulus control, counter-conditioning, helping relationships and reinforcement management



# Additional therapeutic tools:

- Examining pros and cons for;
  - Current behaviour
  - Changing behaviour
  - Rating the importance of each on a scale of 0 -10
- Exploring 'new' alternative behaviour to replace current behaviour by providing;
  - List of alternative behaviours
  - List of local community resources
- Summarising, reflections and affirmations

# Pharmacological interventions:



- A recently developing area
- It studies both the pharmacokinetics of the substances and the psychotropics and the interactions between them
- An ideal medicine, for a cannabis abusing patient with psychosis, should aim to reduce negative, positive and affective symptoms and the drive to take stimulants
- Typical antipsychotics do not provide benefit and may even worsen substance use (McEvoy *et al*, 1995)
- A growing body of evidence that some of the atypical antipsychotics may have possible benefits when compared to typical antipsychotics (Green *et al*, 2008)

# Pharmacological interventions:

- All atypicals have been tried in this group, except for Ziprasidone
- Most of these studies however are retrospective, non-randomized and include only small numbers of patients
- Quetiapine:
  - 9 in-patients; benefits were observed in terms of reduced substance use (Sattar *et al*, 2004)
  - A 12 week, open-label, uncontrolled trial, 24 patients with schizophrenia and substance use (Potvin *et al*, 2006)
- Olanzapine:
  - A 12 week, first-episode patient study, olanzapine vs. haloperidol, 262 patients; 27% of patients with substance use disorder responded to either medication, compared to 35% of those who did not use substances (Green *et al*, 2004)

# Clozapine:



- A retrospective survey of 58 clozapine clinic patients with schizophrenia or schizoaffective disorder and substance use, a significant reduction in cannabis, alcohol and cocaine use was recorded in those who continued to take clozapine, compared to those who discontinued it (Zimmet *et al*, 2000)
- A retrospective study of Clozapine vs. Risperidone in 41 patients; co-morbid patients treated with clozapine are more likely to abstain from alcohol and cannabis use than those treated with risperidone (Green *et al*, 2003)

# Clozapine:

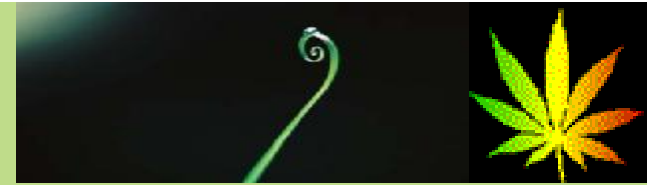
- Most studied antipsychotic in this group
- The available data shows consistent, positive effect of clozapine especially in alleviating depressive symptoms and improving, psychosocial functioning levels (Buckley *et al*, 1998)
- A 10 year follow up report from the same group showed that those on clozapine were less likely to relapse over the subsequent year than those who were treated with other antipsychotics (Brunette *et al*, 2006)
- Prospective study with patients who had schizophrenia or schizoaffective disorder and were using alcohol or cannabis; those on clozapine had significantly better remission rates for substance use, compared to those who were on typical antipsychotics (Drake *et al*, 2000)

# Clozapine:



- Green (2006) emphasises the role of clozapine and proposes that clozapine's positive effect in co-morbid patients may be related to its ability to decrease brain reward circuit dysfunction
- Cannabis smoking cessation may lead to intoxication with clozapine or olanzapine (Zullino *et al*, 2002)
- More randomized, prospective studies with larger number of patients and use of appropriate measurement scales are required

# Summary:



- The effect of cannabis use clearly has serious implications on severe mental illness
- The problem is further complicated by poor assessment, lack of successful educational campaigns and, most significantly, by lack of any successful models of intervention
- Some encouraging research is emerging from the hybrid use of various psychological interventions, even though these need fine tuning
- Equally, pharmacotherapy is also in its early stages, with overall agreement that atypical antipsychotics may prove to be beneficial
- Adding contingency management, psychoeducation and social skills training may enhance the efficacy of pharmacotherapy

# A case study:

- A 32 year old man of Ghanaian origin
- Has an established bipolar disorder
- Has criminal record
- He has been an in-patient at a medium secure unit for the last two years
- Has been symptom free for the last one year

# A case study:

- Has been using cannabis in the unit, almost on a daily basis
- Staff has been unable to stop the influx of cannabis being brought to the unit, despite all efforts
- They do not allow leaves or make plans to discharge him, due to his cannabis use
- They all feel “helpless and stuck”!

# Points for discussion:

- What would you do?
- Offer information?
- Measure his motivation for change?
- Patient agrees to use resin, rather than skunk. What would you do?
- Would you be content with harm minimization?
- Or insist on stopping use altogether?



**Thank you...**