Early Intervention IN PSYCHIATRY
First Impact Factor released in June 2010 and now listed in MEDLINE!
International Early Psychosis Association

Early Intervention in Psychiatry 2013; **7:** 322–328 doi:10.1111/eip.12037

Early Intervention in the Real World

Treatment and Early Intervention in Psychosis Program (TIPP-Lausanne): implementation of an early intervention programme for psychosis in Switzerland

Philipp Sebastian Baumann,[1,3] Sara Crespi,[1] Régis Marion-Veyron,[1] Alessandra Solida,[1] Jacques Thonney,[1] Jérôme Favrod,[2] Charles Bonsack,[2] Kim Quang Do[3] and Philippe Conus[1]

[1]Service of General Psychiatry, [2]Service of Community Psychiatry, Department of Psychiatry and [3]Center for Psychiatric Neuroscience, Department of Psychiatry, Lausanne University Hospital (CHUV) and University of Lausanne, Lausanne, Switzerland

Corresponding author: Dr Philipp Baumann, Service de Psychiatrie Générale, Département de Psychiatrie, Consultation de Chauderon, Avenue d'Echallens 9, 1004 Lausanne, Switzerland. Email: philipp.baumann@chuv.ch

Received 13 July 2012; accepted 6 January 2013

Abstract

Aim: In a survey conducted in the Lausanne catchment area in 2000, we could estimate on the basis of file assessment that first-episode psychosis (FEP) patients had psychotic symptoms for more than 2 years before treatment and that 50% did not attend any outpatient appointment after discharge from hospital. In this paper, we describe the implementation of a specialized programme aimed at improving engagement and quality of treatment for early psychosis patients in the Lausanne catchment area in Switzerland.

Method: The Treatment and Early Intervention in Psychosis Program-Lausanne is a comprehensive 3-year programme composed of (i) an outpatient clinic based on assertive case management; (ii) a specialized inpatient unit; and (iii) an intensive mobile team, connected for research to the Center for Psychiatric Neuroscience.

Results: Eight years after implementation, the programme has included 350 patients with a disengagement rate of 9% over 3 years of treatment. All patients have been assessed prospectively and 90 participated in neurobiological research. Based on this experience, the Health Department funded the implementation of similar programmes in other parts of the state, covering a total population of 540 000 people.

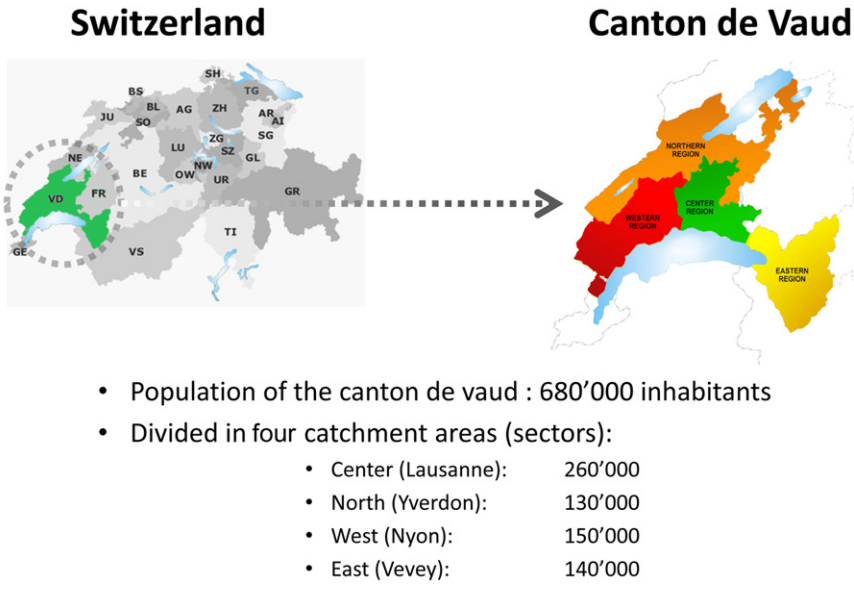
Conclusion: Programmes for early intervention in psychosis have a major impact on patients' engagement into treatment. While development of mobile teams and assertive case management with specific training are crucial, they do not necessitate massive financial support to be started. Inclusion of a research component is important as well, in terms of service planning and improvement of both quality of care and impact of early intervention strategies.

Key words: case management, early intervention, psychosis, psychoeducation, TIPP.

INTRODUCTION

Over the last 20 years, many programmes focusing specifically on intervention in the early phase of psychotic disorders have been developed around the world. In Switzerland, the Berne First Episode Psychosis Project, started in 1989, was among the first programmes worldwide with such a focus.[1] The Swiss Early Psychosis Project (http://www.Swepp.ch) was then created in 1999, a national network aimed at disseminating knowledge and treatment guidelines for early psychosis (EP) in Switzerland.[1] In April 2004, the Treatment and early Intervention in Psychosis Program (TIPP) was launched in Lausanne; this paper describes the rationale for its implementation, the steps that led to its development, the key elements of the programme and its impact on patients' engagement.

FIGURE 1. Switzerland, the Canton de Vaud and its four sectors.



METHOD

Treatment of psychosis in Lausanne: geographical and historical context

Lausanne has a longstanding interest for the development of new approaches in the treatment of schizophrenia.[2] It is the place where Muller and Ciompi[3] conducted their landmark catamnestic study between 1963 and 1975 and contributed to the creation of the International Society for the Psychotherapy of Schizophrenia. It belongs to Canton de Vaud (one of the 26 cantons of Switzerland, with a total population of 700 000 inhabitants) where public psychiatry is organized in four distinct sectors, three of which are attached to the central university sector of the Department of Psychiatry of the University hospital (DP-CHUV; Fig. 1). In 1998, the central sector (SPC) reorganized adult psychiatry into five specialized sections: schizophrenia spectrum disorders, mood and anxiety disorders, personality disorders, addiction disorders and admission-triage. This allowed the development of more specific programmes and closer collaboration between inpatient and outpatient clinics.

A focalization on specific cohorts made it obvious that a subgroup of patients with psychosis were engaging poorly, initiating a revolving door mechanism. This motivated the development in 1999 of an Assertive Community Treatment (ACT) team which allowed, through time-limited intervention, to improve patients' engagement in standard care and decrease significantly number of readmissions.[4]

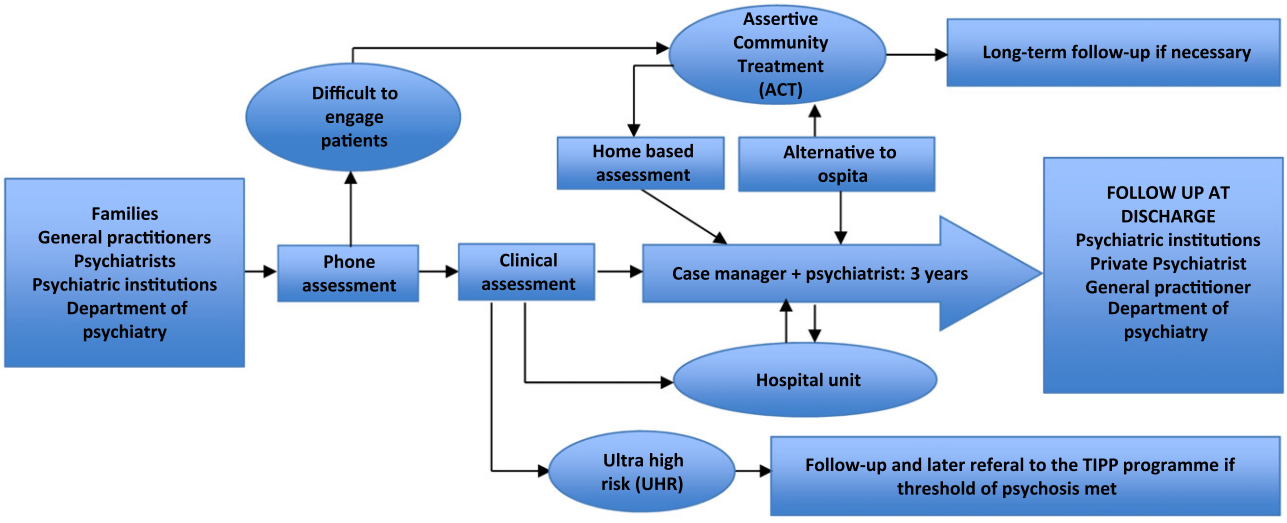
In 2000, a retrospective study[5] on 52 consecutive first admissions for psychosis in the SPC hospital revealed a long duration of untreated psychosis (DUP) that exceeded 2 years on the basis of file assessment, and high rates of drug abuse comorbidity (50%), previous suicidal ideation (30%) and suicide attempts (13%). First admission was involuntary in 50% of cases, and 25% of patients went through periods of seclusion. After discharge, 48% of first-episode psychosis (FEP) patients did not attend any appointment at the outpatient clinic.

Implementation of the TIPP programme

These highly concerning findings motivated the development of a specialized EP programme[6] in order to: (i) improve continuity of care between inpatient and outpatient clinic; (ii) implement a team specialized in EP treatment, both through the development of an outpatient case management team and a specialized inpatient unit; (iii) decrease DUP; (iv) reduce rate of inpatient admissions; (v) promote adapted family support in the framework of multi-family groups; (vi) implement a prospective clinical monitoring; and (vii) develop a connected research programme.

The progressive implementation of this project was based on re-allocation of existing resources 0.5 full-time equivalent (FTE) of the SPC outpatient schizophrenia programme and new funding stemming from the department of public health, starting with a yearly budget of CHF 100 000, to reach the targeted CHF 400 000 after 3 years. Most of the

FIGURE 2. Organization of the Treatment and Early Intervention in Psychosis Programme.



funding was devoted to strengthening the outpatient case management team which currently counts 3.5 FTE case manager, 0.5 FTE consultant psychiatrists, 0.6 FTE intern psychiatrists and 0.6 FTE psychologists conducting prospective assessment. Inclusion criteria to the programme are (1) age 18 to 35; (2) no previous treatment with antipsychotic medication for more than 24 weeks; (3) having crossed the psychosis threshold according to CAARMS criteria.[7] With a catchment area of 260 000 people and an estimated incidence of two new cases of psychosis per 10 000 inhabitants, we expected to include 40–50 new patients per year. TIPP is now a fully integrated 36-months programme composed of an outpatient clinic, an inpatient unit and the ACT team (Fig. 2).

Outpatients clinic

In order to improve continuity of care, we needed to shift from a medically centred model, where psychiatric trainees on 12-month rotations were leading treatment, to a case management model, where nurses or social workers would take the front line and collaborate with psychiatrists. Case managers are in contact with patients as early as possible, ideally within 48 h, be it in a hospital, at the emergency room, at a general practitioner's practice or at a patient's home. They have a limited caseload (maximum of 30 for one EFT) and have been specifically trained in order to provide specialized assertive case management based on the International Early Psychosis Association guidelines. They coordinate the multidisciplinary treatment involving psychiatrist, social workers and psychologists.

In case of crisis, case managers can offer up to two home visits a week. Bulk of the work is to promote engagement, psychoeducation, integration of the psychotic experience, relapse prevention and recovery, through a realistic, but optimistic view of psychosis. The outpatient clinic is opened on working days and after hour service is available through the DP-CHUV emergency facility.

Intensive mobile team

The ACT team has three main functions in the programme: (i) assessment and engagement of patients who are treatment refractory or who need prolonged community assessment before they can be referred to the outpatient clinic; (ii) transitory treatment when close monitoring is needed at a frequency exceeding twice per week (such as daily monitoring of medication); and (iii) alternative to hospital admission when a relapse occurs. Close to 30% of TIPP patients receive treatment from the ACT team at some point during treatment, periods during which case managers remain involved in order to warrant continuity of care. In the 5% of patients who are specifically reluctant to treatment, the ACT team remains involved for the entire 3 years of the programme.

Inpatient clinic

Because of structural constraints (inpatient units designed to receive 15 patients) exclusive dedication of one unit to TIPP patients was impossible. The best solution was to restrict age range of one of them to 18–35, in order to warrant some degree of homogeneity in patient's age and interests. Team

FIGURE 3. Psychoeducational tool for early psychosis patients, with four brochures: (i) symptoms of psychosis; (ii) psychosis and cannabis; (iii) psychosis and medication; and (iv) psychosis and recovery.

members have been specifically trained to early intervention principles and current guidelines. A low-dose medication strategy is strictly applied, and various activities have been organized: Tai-chi, creative groups, specific interactive psychoeducation sessions (see later). Close interactions with case managers and the outpatient's team are promoted in addition to a weekly meeting where all situations are discussed.

Specific tools and interventions

Over the years, various tools were developed to enrich the content of intervention and to improve patient care. In addition, in order to complete our structure and because of the limited amount of funding, several connections were made with existing structures.

Psychoeducation tool

While psychoeducation is a key issue in EP, most available tools are geared to patients with long-term psychosis and are not attractive to younger patients. We therefore designed four sets of nine files mixing drawings and clinical vignettes, using terms that belong to young patient's vocabulary (Fig. 3), and dealing with what we felt were key issues: (i) symptoms of psychosis; (ii) psychosis and cannabis; (iii) psychosis and medication; and (iv) psychosis and recovery. These tools are used both in inpatient (two sessions per week) and outpatient settings, and are available both in French and English.[8]

Psychological intervention for cannabis abuse

Cannabis abuse being known to impede recovery in EP,[9] we developed a specific intervention combining individual and group sessions, with promising results in a randomized controlled trial.[10–12]

Multi-familial sessions

Considering the critical role played by families during treatment, we developed a four-session multifamilial group covering the main aspects of psychosis and its treatment. Parents are then referred to a support group run by families, in addition to regular contacts with case managers.

Prospective monitoring of medication side-effects

While use of atypical antipsychotics is recommended in EP, their unfavourable impact on metabolism requires close screening. We have implemented a compulsory prospective monitoring, at times 0, 1, 2, 3, 6, 9 and 12 months and yearly thereafter, in case of prescription of antipsychotics and/or mood stabilizers and certain antidepressants, with optional inclusion in a pharmacogenetic study aiming at the identification of genetic

factors linked to the development of weight gain and metabolic dysregulation when exposed to treatment, with the ultimate goal to base choice of medication on a potential risk profile.[13]

Cognitive assessment and remediation

Cognitive deficits have been identified as key prognostic features and cognitive remediation has gained increasing recognition over the years. A specific remediation programme (RECOS: Cognitive Remediation programme for patients with a Schizophrenia spectrum disorder; http://www.programme-recos.ch/), developed in the schizophrenia spectrum section,[14] is now proposed to TIPP patients who display cognitive deficits at assessment.

Supported employment

The rehabilitation service at DP-CHUV has recently implemented a supported employment programme where patients are referred on the single condition that they have a wish to go back to work.

Case management manual

Even if many clinicians have dealt with FEP patients, we feel there is a need for training in order to improve specificity of care. The Early Psychosis Prevention and Intervention Centre in Melbourne produced a case management manual that we use as a support for continuous education and training of new registrars. This manual is available in French through the ORYGEN website.

Interface with research

As mentioned earlier, a prospective data collection has been conducted in order to monitor outcome. In addition, these data are the basis of various clinical studies with foci ranging from pathways to care to impact of migration on outcome, for example. However, considering that the full benefit of early intervention strategies is still hampered by a lack of knowledge regarding mechanisms underlying psychotic disorders, we created a connection with the Center for Psychiatric Neuroscience at DP-CHUV.

Set up in 1999, this unit was designed to promote collaboration between researchers in basic neuroscience and clinicians. In this context, Do *et al.*[15,16] have identified redox dysregulation as a potential 'final common pathway' where various risk factors for psychosis converge, and glutathione (one of the most important cellular antioxidant) has been shown to be decreased in the prefrontal cortex of patients with chronic schizophrenia. Our current studies explore (i) the presence of redox dysregulation in EP; (ii) the potential validity of glutathione metabolism dysregulation as a biomarker in EP; and (iii) the impact of N-acetyl-cysteine (a glutathione precursor) supplementation in EP, considering its documented significant effect in the chronic phase of schizophrenia.[17–19] This cohort-based project is connected to the SYNAPSY project (http://www.nccr-synapsy.ch/) of the Swiss National Fund.[20]

RESULTS AND DISCUSSION

Over the last 8 years, TIPP has enrolled 350 patients and their profile at entry is similar to other FEP samples. The 36-months disengagement rate of 9% (calculated on the 100 first consecutively admitted patients in the programme) outlines its impact on patient's engagement, and both the average number of hospital admissions per patient of 1.2 and the fact that 54% of patients are never hospitalized illustrate the shift to treatment in the community. On the basis of this successful implementation, in 2012, the Department of Health has decided to support the development of similar programmes in two other sectors (North and West) of the DP-CHUV (see Fig. 1); a coordinated early intervention strategy covers now a global population of 540 000 inhabitants.

Programmes for early intervention in psychosis have a major impact on patients' engagement into treatment. While development of mobile teams and assertive case management with specific training are crucial, they do not need massive financial support to be started. Inclusion of a research component is important as well, in order to generate data that can be used to negotiate funding and to improve both quality of care and impact of early intervention strategies.

This programme also allowed to include a translational research branch, in cross-talk with neurobiological studies aiming at the discovery of biological markers useful for early detection, and paving the way towards preventive strategies.

While TIPP-Lausanne applies treatment strategies that are similar to other services following international guidelines, some specific aspects of our programme can be outlined. Due to the limited funding we could rely on, and contrary to programmes such as LEO in London who could develop a totally independent program[21] we were forced to embed our initiative into the existing service. This had three main consequences: Firstly, we decided to focus on the development of an outpatient case

management team, considering assertive case management was pivotal to facilitate patient's engagement into treatment. Secondly, instead of creating a specialized inpatient unit, the best we could do was to focus one of the existing units on the treatment of psychosis patients of a definite age range (18–35). Finally, we had to renounce implementing a specialized ultra high risk clinic, considering addressing the needs of FEP patients as a priority. Nevertheless, despite these constraints, we managed to create a coherent programme and a well-defined focus that allowed considerable improvement in patient's engagement and the emergences of a creative spirit that lead to the development of specific treatment tools presented earlier. Another specificity of this programme is its tight connection with the neuroscience centre, which is part of the same Department of Psychiatry, which allowed the development of translational research projects stemming from clinical issues such as identification of stage dependent biomarkers for example.[22]

On the basis of our experience, the implementation of an early intervention programme needs to focus on three key elements: (i) the development of a philosophy of early intervention within the treating team through continuous education and seminars, in order to guarantee the specificity of the focus; (ii) the development of a case management programme, where clinicians have a clearly identified role and specific competences to focus on first-episode patients; and (iii) the implementation of an intensive mobile team delivering intensive case management and home visits when patients are reluctant to engage in the usual outpatient treatment. It can however be achieved with limited funding if re-allocation of existing resources is decided in order to create a more fluid structure.

ACKNOWLEDGEMENTS

Special thanks to the TIPP case management team (Claudia Brogli, Annette Cossy, Patrice Kolypczuk, Pierre Lequin, Agnès Maire, Nadir Mebdouhi, Sybille Perroud, Bruno Robalo), the psychologist team (Patricia Deppen, Romaine Dukes, Carina Ferrari, Pascale Sarrasin Bruchez) and Jean-Marc Faust.

Philipp Baumann is supported by the clinician–scientist programme of the NCCR SYNAPSY

REFERENCES

1. Simon AE, Theodoridou A, Schimmelmann B, Schneider R, Conus P. The Swiss Early Psychosis Project SWEPP: a national network. *Early Interv Psychiatry* 2012; **6**: 106–11.
2. Grasset F, Bovet P. Les apports de l'étude vaudoise sur la schizophrénie réalisée dans le cadre de l'Enquête de Lausanne (The interest of Lausanne inquiry about schizophrenia). *Confrontations Psychiatr* 1994; **35**: 217–45.
3. Ciompi L. Catamnestic long-term study on the course of life and aging of schizophrenics. *Schizophr Bull* 1980; **6**: 606–18.
4. Bonsack C, Adam L, Haefliger T, Besson J, Conus P. Difficult-to-engage patients: a specific target for time-limited assertive outreach in a Swiss setting. *Can J Psychiatry* 2005; **50**: 845–50.
5. Bonsack C, Pfister T, Conus P. Insertion dans les soins après une première hospitalisation dans un secteur pour psychose. *L'Encéphale* 2006; **32**: 679–85.
6. Conus P, Polari A, Bonsack C. Intervention dans la phase précoce des troubles psychotiques: objectifs et organisation du programme TIPP (Traitement et intervention dans la phase précoce des troubles psychotiques) à Lausanne. *Inf Psychiatr* 2010; **86**: 145–51.
7. Yung AR, Yuen HP, McGorry PD *et al*. Mapping the onset of psychosis: the Comprehensive Assessment of At-Risk Mental States. *Aust N Z J Psychiatry* 2005; **39**: 964–71.
8. Favrod J, Crespi S, Faust JM, Polari A, Bonsack C, Conus P. A psychoeducation tool for patients with first episode psychosis. *Acta Neuropsychiatrica* 2011; **23**: 75–7.
9. Lambert M, Conus P, Lubman DI *et al*. The impact of substance use disorders on clinical outcome in 643 patients with first-episode psychosis. *Acta Psychiatr Scand* 2005; **112**: 141–8.
10. Bonsack C, Montagrin Y, Favrod J, Gibellini S, Conus P. Une intervention motivationnelle pour les consommateurs de cannabis souffrant de psychose. *L'Encéphale* 2007; **33**: 819–26.
11. Bonsack C, Montagrin Y, Gibellini S, Favrod J, Besson J, Conus P. Pratique d'une intervention motivationnelle pour les consommateurs de cannabis souffrant de psychose. *Schweiz Arch Neurol Psychiatr* 2008; **159**: 378–85.
12. Bonsack C, Gibellini S, Favrod J *et al*. Motivational intervention to reduce cannabis use in young people with psychosis: a randomized controlled trial. *Psychother Psychosom* 2011; **80**: 287–97.
13. Choong E, Solida A, Lechaire C, Conus P, Eap CB. [Follow-up of the metabolic syndrome induced by atypical antipsychotics: recommendations and pharmacogenetics perspectives]. *Rev Méd Suisse* 2008; **4**: 1994–6, 1998–9.
14. Deppen P, Sarrasin Bruchez P, Dukes R, Pellanda V, Vianin P. [Cognitive remediation program for individuals living with schizophrenia (Recos): preliminary results]. *L'Encéphale* 2011; **37**: 314–21.
15. Do KQ, Cabungcal JH, Frank A, Steullet P, Cuenod M. Redox dysregulation, neurodevelopment, and schizophrenia. *Curr Opin Neurobiol* 2009; **19**: 220–30.
16. Gysin R, Kraftsik R, Sandell J *et al*. Impaired glutathione synthesis in schizophrenia: convergent genetic and functional evidence. *Proc Natl Acad Sci U S A* 2007; **104**: 16621–6.
17. Berk M, Copolov D, Dean O *et al*. N-acetyl cysteine as a glutathione precursor for schizophrenia – a double-blind, randomized, placebo-controlled trial. *Biol Psychiatry* 2008; **64**: 361–8.
18. Lavoie S, Murray MM, Deppen P *et al*. Glutathione precursor, N-acetyl-cysteine, improves mismatch negativity in schizophrenia patients. *Neuropsychopharmacology* 2008; **33**: 2187–99.
19. Carmeli C, Knyazeva MG, Cuénod M, Do KQ. Glutathione precursor N-acetyl-cysteine modulates EEG synchronization in schizophrenia patients: a double-blind, randomized, placebo-controlled trial. *PLoS ONE* 2012; **7**: e29341.
20. Conus P, Preisig M, Aubry J-M *et al*. The 'SYNAPSY' project: where psychiatrists and neuroscientists meet. *Revue* 2011; **7**: 1818–20. 1822–3.

21. Power P, McGuire P, Iacoponi E *et al*. Lambeth Early Onset (LEO) and Outreach & Support in South London (OASIS) service. *Early Interv Psychiatry* 2007; **1**: 97–103.
22. Conus P, Do KQ. What is the possible role for neuroscience in improving the treatment of the early phase of psychotic disorders? Example of the hypothesis of glutathione/redox deregulation in schizophrenia. *Inf Psychiatr* 2010; **86**: 484–92.