

Discharge and Step-Down in Coordinated Specialty Care (CSC) for Persons with a First Episode of Psychosis

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Substance Abuse and Mental Health Services Administration
U.S. Department of Health and Human Services



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Disclaimer

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Sustaining the Impact: Serving Young People after Early Intervention

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Concerns

- Treatment effects of coordinated specialty care/early intervention strong and robust (Correll et al., 2018)
- However, post-discharge outcomes raise serious concerns about longer-term sustainability (Gafoor et al., 2010; Nordentoft et al., 2014)

“Specialised treatment programmes for people with first-episode psychosis are cost-effective as long as the treatment continues. But the effect seems to be the result of an ongoing active treatment rather than a cure.”

-Friis, 2010

“Transitioning [young people] back to generic teams appears to undo the gains [of early intervention]. The question [the field needs] to ask is how to sustain [these gains].”

-Singh, 2010

Domain	OPUS Discharge	OPUS Follow-Up
Positive Symptoms	-	No difference by 3 yrs post-discharge
Negative Symptoms	-	No difference by 3 yrs post-discharge
GAF (Global Functioning)	+	No difference by 3 yrs post-discharge
Proportion without outpatient contacts	-	No difference by 2-3 yrs post-discharge
Days in supported housing	No difference	OPUS group more days in supported housing 2-3 yrs post discharge
Proportion living along	+	No difference by 2-3 yrs post-discharge
Proportion in School/Work	Trend in favor of OPUS participants	No difference by 2-3 yrs post-discharge

Secher et al., 2014

Domain	LEO Discharge	LEO Follow-Up
Hospital Admission Rate	-	No difference by 1.5-3 yrs post-discharge
Mean Number of Hospital Bed Days	-	No difference by 1.5-3 yrs post-discharge

Domain	LEO Discharge	LEO Follow-Up
Psychotic Symptoms	-	No difference by 8 yrs post-discharge
Symptomatic Remission	+	No difference by 8 yrs post-discharge
Functional Recovery	+	No difference by 8 yrs post-discharge
Suicide Attempts	-	Fewer attempts over post-discharge period (through 8 yrs post-discharge)
Completed Suicide	-	Fewer suicides over post-discharge period (through 8 yrs post-discharge)
Length of Periods of Employment	+	+ Longer periods of full time employment over post-discharge period (through 8 yrs post-discharge), but diminishing difference
Duration of Hospitalization	-	Reduced duration of hospitalization

Explanations and Solutions?

- Extension of services
 - Additional 1-3 years?
- “[H]eterogeneous trajectories of early psychosis require differentiation”
 - Stepped approaches from first treatment
- Better understanding/optimization of ‘active ingredients’
 - E.g. supported education/employment & associated outcomes
- Improved engagement with array of CSC components

International Extension Pilots & Trials

- OPUS II – Denmark
- Hong Kong EASY Extension
- Montreal PEPP Extension Trial (Dr. Malla)

Early Intervention in Psychosis: Is Transition to other levels of care possible?

Ashok Malla

Professor and Canada Research Chair in Early Psychosis and Early Intervention in Youth Mental Health, Department of Psychiatry, McGill University and ACCESS Open Minds (Esprits ouverts) Canada



Declarations

- I have no conflicts of Interest to declare in relation to the presentation or the original studies from which these data are derived.
- Salary support from Canada Research Chairs Program
- Research Funding (98%) from CIHR, FRSQ, NIH, GCC
- I have received honoraria for lectures on Early Intervention in Psychosis given at conferences in Europe and the USA supported by Lundbeck & Otsuka, Global
- I have provided consultation to Lundbeck and Otsuka in the last 2 years on matters related to research and practice in early psychosis

OBJECTIVES

- To review current status of early intervention (EI) service delivery to patients with a first episode of psychosis (FEP)
- To review the need to extend EI service beyond two years and effectiveness of EEI service (RCT)
- To examine issues related to transition to other levels of care following treatment of FEP in an EI service
- To present data derived from a RCT to support transition to different levels of care for FEP patients following 2 year treatment in an EI service

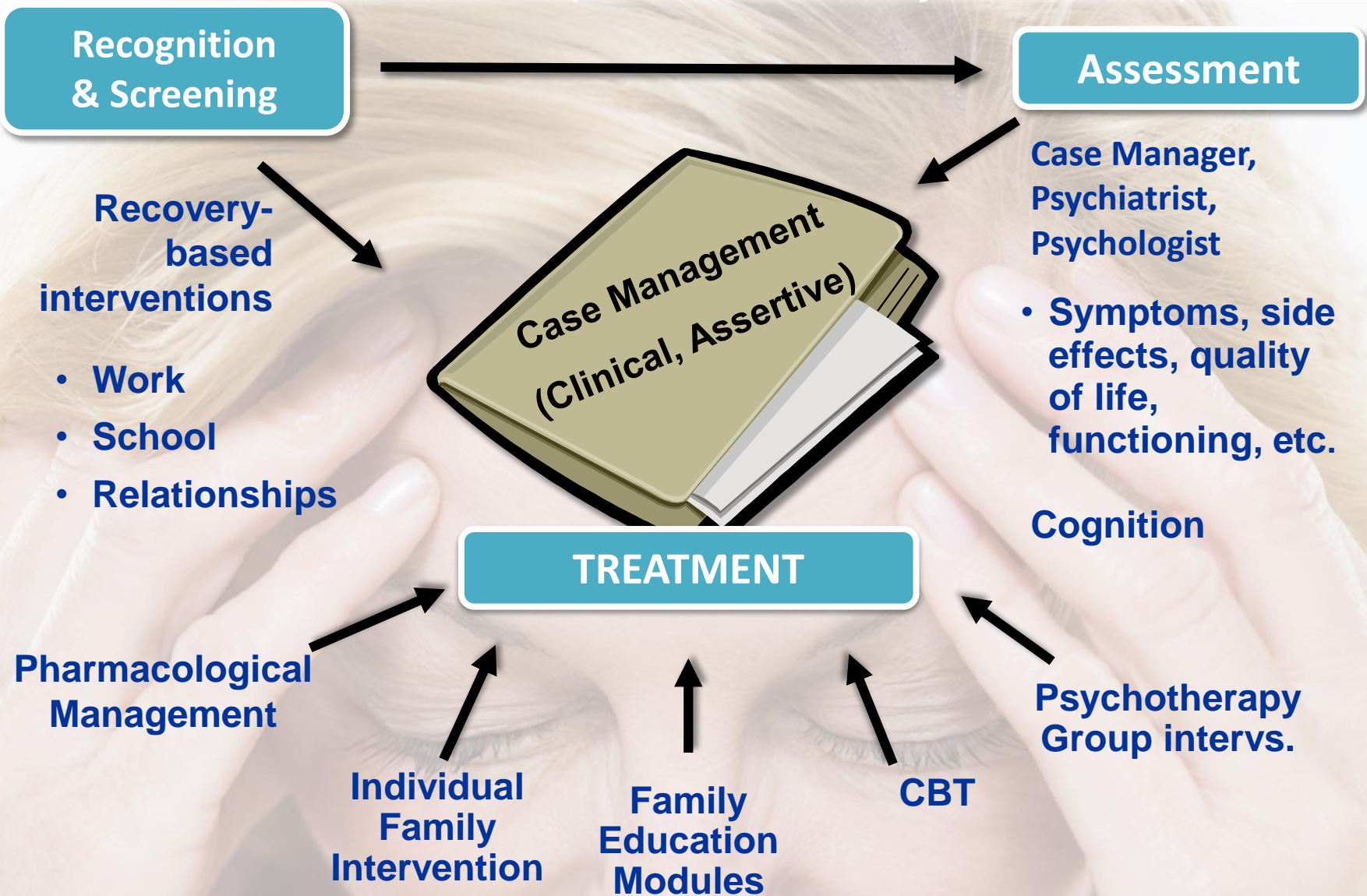
Early Intervention Is More Than Just Intervening Early (Malla & Norman 2001)

- Informed by and in Response to Evidence:
 - Delay in Treatment is associated with poor outcome (Norman & Malla, 2001; Marshall et al 2005) *(Need to reduce delay in treatment)*
 - There is a critical period of 2-5 years following onset during which trajectories of long term outcome are defined (Birchwood 1998; Harrison et al 2001; Velthorst et al 2017) *(Need for better quality treatment)*

Two Components of Early Intervention Service in Psychosis

- Comprehensive, phase specific, evidence informed interventions provided within a positive, recovery oriented approach and mostly community focused (*Moderate to high fidelity in EI Services*)
- Reducing delay in treatment and providing treatment 'Early' (*Very Low Fidelity and Uptake*)

PEPP-Montréal Model of Care



Evidence for Effectiveness of SEI

- At one and at two years FEP patients treated in an SEI model show:
 - Higher rates of remission
 - Lower rates of residual positive and negative symptoms
 - Lowered rates of relapse
 - Less substance abuse
 - Better overall functioning
 - More cost effective

For review: Correl 2018; Harvey
et al., 2007
Srihari et al., 2015

At Five Year Follow up

Gains achieved with SEI at two years
are not maintained at 5 year follow up
when patients are transferred to
regular care: OPUS Trial

Bertelsen et al., 2008

Canadian (PEPP-London, Ont.) Evidence for Extending SEI for the full “Critical Period”

- Even Reduced level of SEI service offered to all patients for three additional years (5 years total) produced significantly higher rates of remission and lowered rates of hospitalization compared to the five-year outcome data of OPUS patients who only received two years of SEI treatment followed by regular care

Norman et al., 2011

“A five-year randomized parallel trial of an extended specialized early intervention vs. regular care in the early phase of psychotic disorders”

(Lutgen et al 2015; Malla et al World Psychiatry 2017)

Ashok Malla (PI)

Ridha Joobar; Srividya Iyer; Thomas G Brown; Ross Norman; Eric Latimer; Norbert Schmitz; Eric Jarvis; Howard Margolese; Amal Abdel Baki; Sherezad Abadi; Sally Mustafa

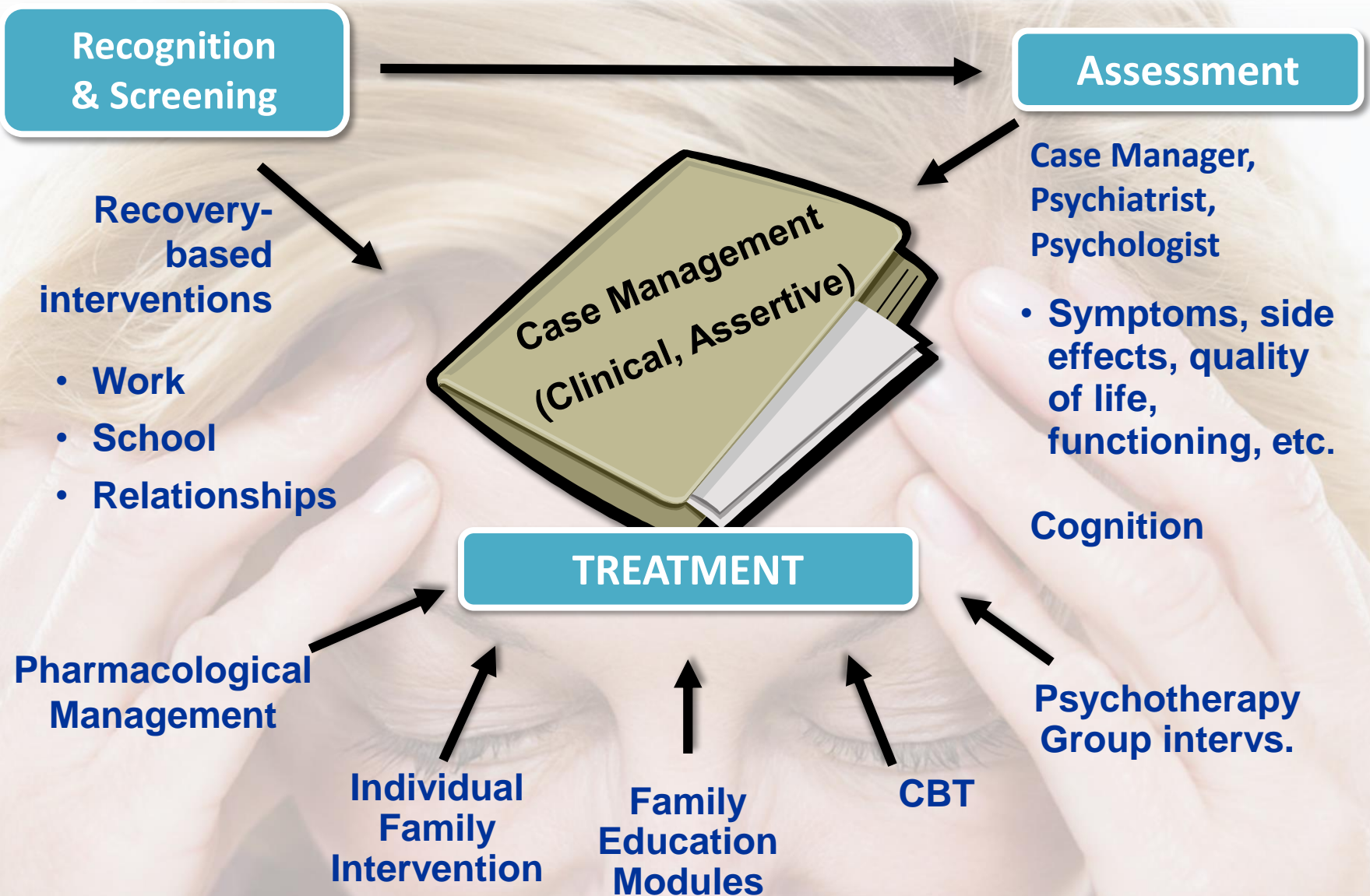
Danyael Lutgens (PhD candidate)

Canadian Institutes of Health Research (CIHR 2009-2015)
(MCT 94189; Registration CCT-NAPN-18590)

RCT PEPP_MONTRÉAL (2009-2015)

- The current Randomized Controlled Trial (RCT) conducted at the Prevention and Early Intervention Program for Psychosis (PEPP-Montreal) was designed to address the question of SEI treatment length
 - *three years of extension of full SEI services following two years of SEI, compared to three years of regular care following the initial two years of SEI service.*

Extension of PEPP-Montréal Specialized



1. Primary level of care (Community health and social service clinics; Family Practitioner MDs)
2. Secondary level of care: External clinics (most are hospital based) with psychiatrists, often with non-physician staff (nurses, case managers, social workers, O.T. etc.) with back up of hospital beds (Tertiary level) but not an EI Service

Primary Hypothesis

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The **primary hypothesis**: Individuals in the experimental group (extended SEI) will show higher rates and longer periods of remission (both positive and negative symptoms) than the control group (regular care) over the extension period of three years.

Secondary Hypotheses (select)

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Individuals in the experimental group (extended SEI) will remain engaged in treatment at a higher rate and for longer period than those in the control group (regular care) over the extension period of three years

Inclusion Criteria

- Completed 24 months of SEI service (+ - 3 months) within the McGill network of SEI services;
- Diagnosis (DSM-IV) of a psychotic disorder (Schiz. Spectrum Psychoses or Affective Psychosis);
- Age 18-35; IQ greater than 70;
- Ability to communicate fluently in English or French;
- Able to provide informed consent.

Exclusion Criteria

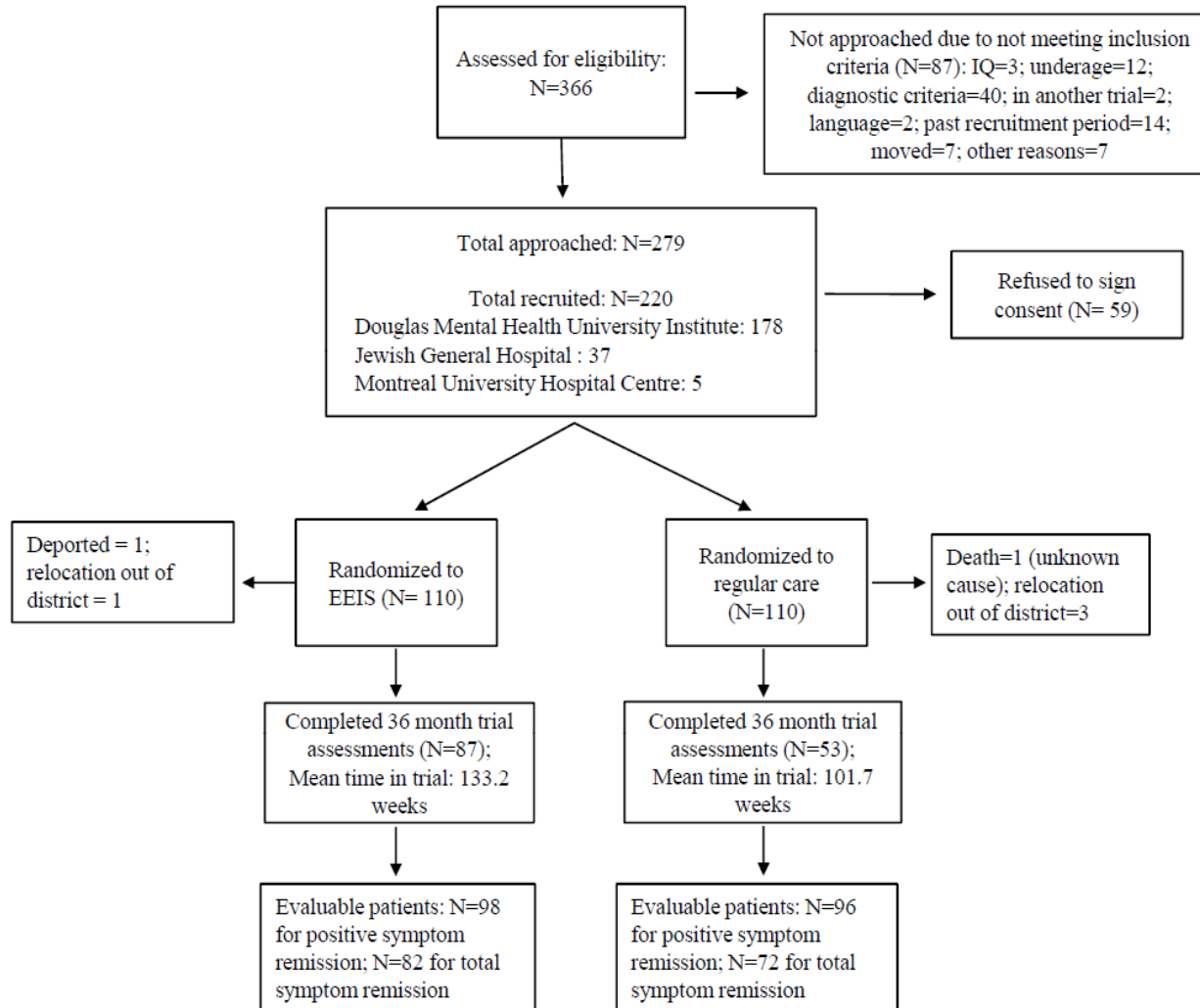
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Exclusion:

Under 18 years old at the time of signing consent;
Psychotic disorder explained by a medical condition;
Substance dependence being the primary diagnosis;
IQ lower than 70.

Co-morbid substance abuse was **not** an exclusion criterion (to protect ecological validity)

Randomization of Participants



Study Assessments

- Evaluations and assessments at entry (randomization) and every *three* months for the entire follow up period, or until withdrawal from the study
- Assessments were blinded
- 2 consecutive missed evaluations (6 months) considered study drop out.

RESULTS

Comparison of Demographic Characteristics of the SEI and Control Groups at Baseline (Randomization)

Variable		Total (n = 220)	Control (n = 110)	SEI (n = 110)	p
Age at FEP onset (years)	M (SD)	22.39 (4.42)	22.90 (4.66)	21.87 (4.12)	.083
Age at consent signing (years)	M (SD)	25.22 (4.33)	25.76 (4.38)	24.68 (4.24)	.066
Gender (Male)	n (%)	151 (69%)	76 (69%)	75 (68%)	1.00
Marital status (Single)	n (%)	200 (91%)	97 (88%)	103 (94%)	.240
Education (High school or less)	n (%)	103 (47%)	50 (46%)	53 (48%)	.788
Socioeconomic status (middle, lower middle and lower class)	n (%)	150 (87%)	77 (88%)	73 (86%)	.825
Visible minority status: yes	n (%)	62 (39%)	37 (46%)	25 (32%)	.076

No Significant Differences

Comparison of Differences Between the SEI and Control Group on Clinical Characteristics at Baseline

Variable		Total (n = 220)	Control (n = 110)	SEI (n = 110)	p
Duration of untreated psychosis (DUP) (weeks)	M (SD)	49.33 (123.61) [Median = 11.57 weeks]	46.29 (92.71)	52.39 (148.82)	.716
Primary diagnosis (Schizophrenia Spectrum)	n (%)	143 (65%)	69 (63%)	74 (67%)	.500
Secondary Diagnosis (Substance Abuse/Dependence: yes)	n (%)	78 (36%)	37 (34%)	41 (37%)	.795
SAPS	M (SD)	6.53 (9.68)	6.00 (8.95)	7.07 (10.39)	.416
SANS	M (SD)	13.80 (11.63)	14.03 (12.79)	13.58 (10.43)	.784
BPRS	M (SD)	37.00 (10.58)	35.82 (10.60)	38.12 (10.50)	.118
SOFAS	M (SD)	59.09 (15.01)	61.40 (14.16)	57.20 (15.48)	.063

No significant difference

Opinion of Research Participants Regarding Their Assigned Condition

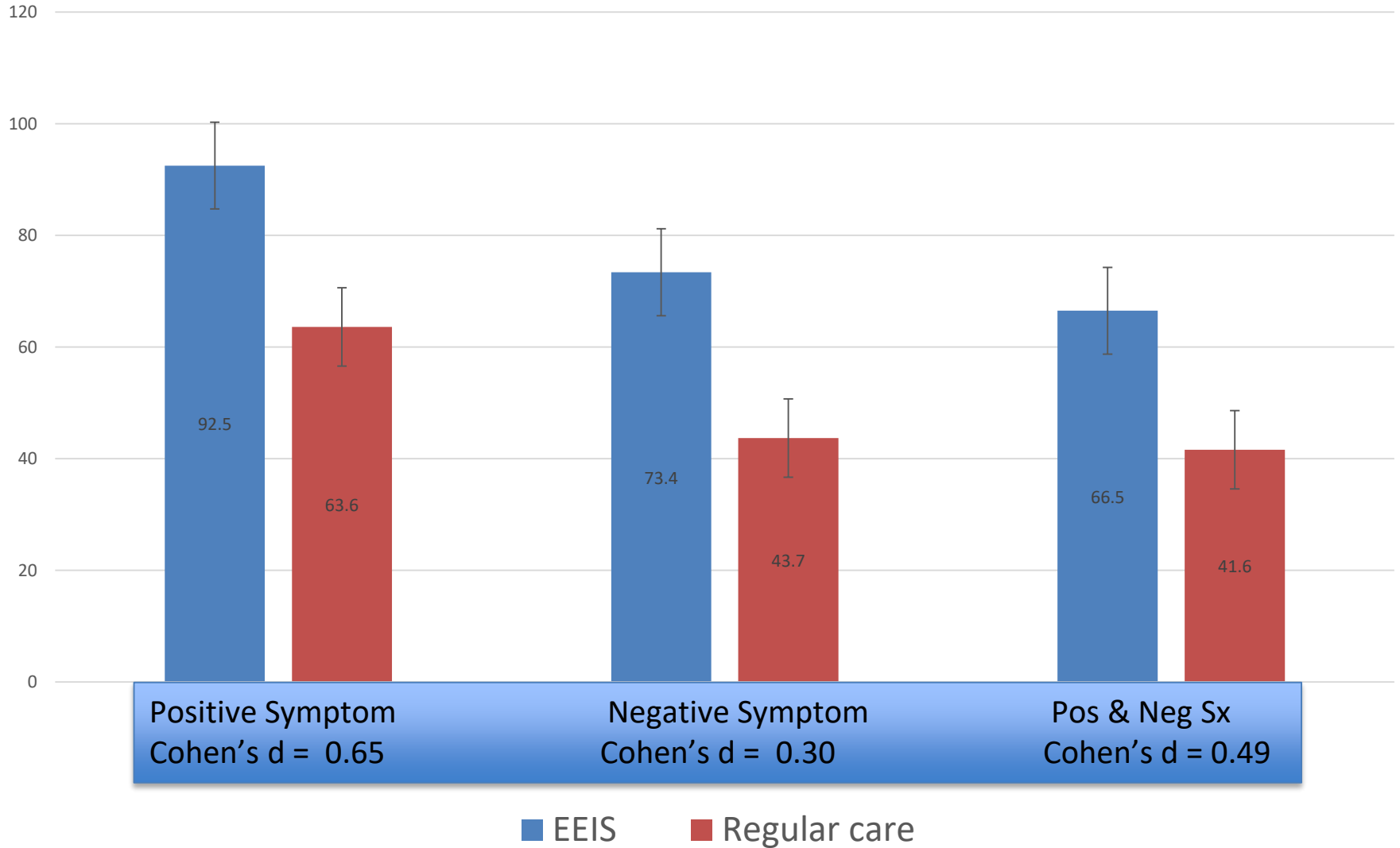
	Control (n = 110)	Experimental (n = 110)
I'm happy with the results	31%, n = 23	88%, n = 66
I'm not happy with the results	31%, n = 23	4%, n = 3
It does not matter to me where I receive services	37%, n = 27	8%, n = 6

PRIMARY OUTCOME: LENGTH OF REMISSION

Symptom Remission

	Positive symptom remission				
	Beta	SE	Standardized beta	t	p
Treatment group	31.58	7.06	0.34	4.47	0.001
Length of treatment	0.20	0.08	0.20	2.62	0.009
	Negative symptom remission				
	Beta	SE	Standardized beta	t	p
Treatment group	13.79	6.98	0.15	2.84	0.005
Number of interventions	0.25	0.09	-0.25	-2.70	0.008
	Positive and negative symptom remission				
	Beta	SE	Standardized beta	t	p
Treatment group	19.80	8.80	0.23	2.25	0.03
Number of interventions	0.28	0.12	-0.25	-2.40	0.02

Differences in Length of Positive and Negative Symptom Remission in EEIS vs Regular Care (Malla et al 2017)

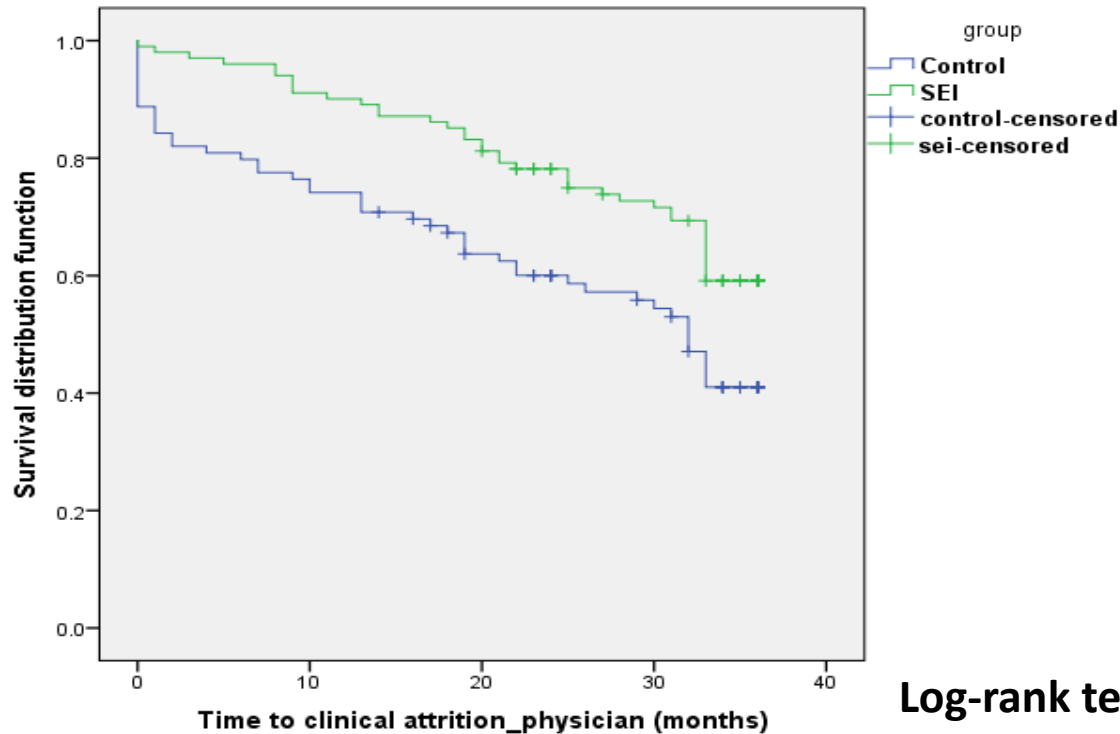


Potential Confounds Tested as Covariates

- Site (specific clinic within the McGill system of EI services)
- Length of exposure to treatment
- Number of treatment interventions
- There were no differences between the two groups at the time of randomization on all other variables.

SECONDARY OUTCOME: DISENGAGEMENT

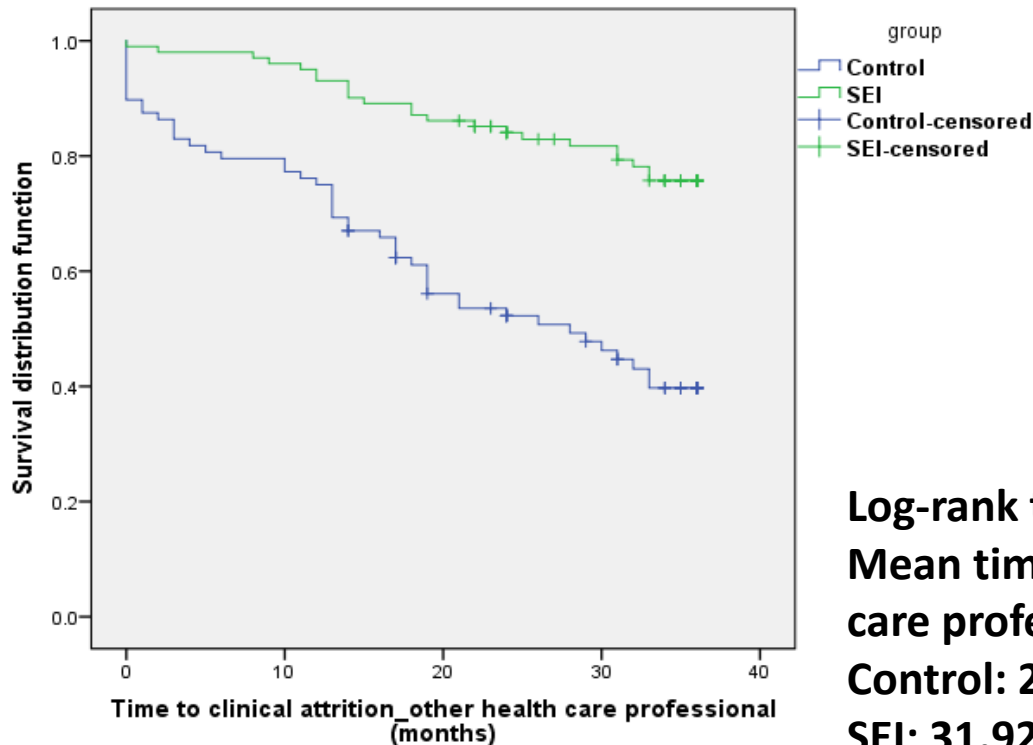
Time to Clinical Attrition: Physician Contact



Log-rank test: ($\chi^2(1) = 8.564, p = .003$)
Mean time to clinical attrition_physician:
Control: 23.84 (CI 20.90-26.78) months
SEI: 29.90 (CI 27.97-31.84) months

Significantly different

Time to Clinical Attrition: Health Care Professional Contact



Log-rank test: ($\chi^2 (1) = 27.281, p = <.001$)
Mean time to clinical attrition_other health care professional:
Control: 22.78 (CI 19.89-25.66) months
SEI: 31.92 (CI 30.23-33.62) months

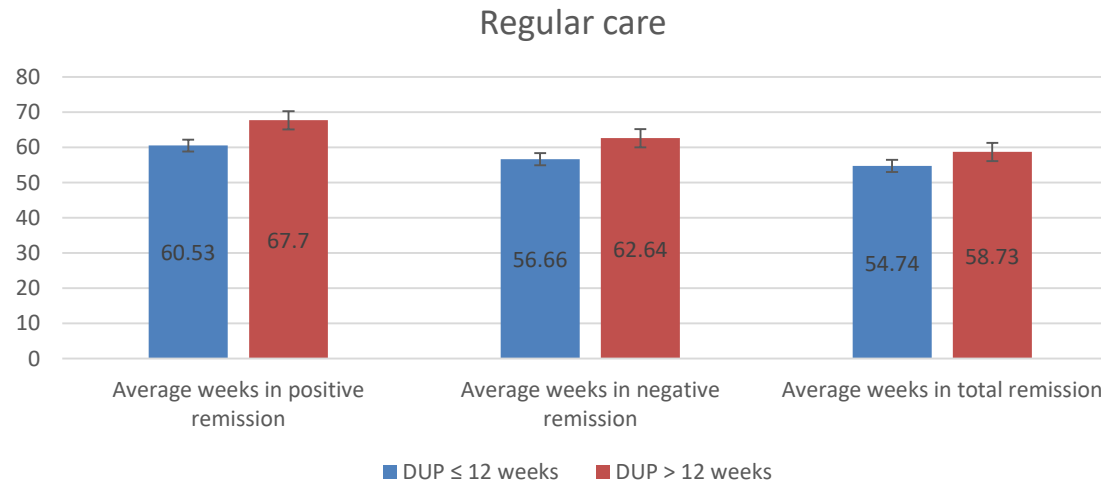
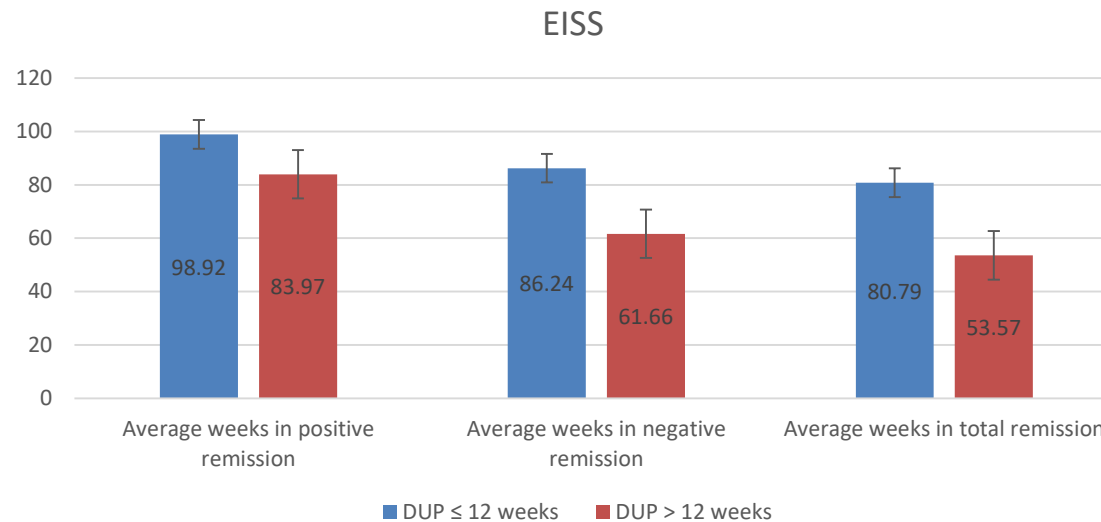
Significantly different

Does DUP Influence the effect of EEI service on
the primary outcome (length of remission)?
WHO recommends a cut-off of 12 weeks to get
the most benefit!

Linear Regression Models to Test for Interaction between Treatment Condition and DUP ≤ 12 weeks (Dama et al 2019)

	β coefficient	Standard Error	t-value	p-value
<i>Length of positive symptoms remission</i>				
Treatment condition	16.28	9.11	1.79	0.08
DUP ≤ 12 weeks	-7.17	9.06	-0.79	0.43
Treatment condition* DUP	22.11	12.79	1.73	0.09
≤ 12 weeks	$R^2 = 0.10$			
<i>Length of negative symptoms remission</i>				
Treatment condition	-0.98	9.93	-0.10	0.92
DUP ≤ 12 weeks	-5.98	9.87	-0.61	0.54
Treatment condition* DUP	30.57	13.77	2.22	0.03
≤ 12 week	$R^2 = 0.19$			
<i>Length of total symptoms remission</i>				
Treatment condition	-5.15	9.81	-0.53	0.60
DUP ≤ 12 weeks	-3.99	9.94	-0.40	0.69
Treatment condition* DUP	31.20	13.71	2.28	0.02
≤ 12 weeks	$R^2 = 0.16$			

Linear Regression Models to Test for Interaction between Treatment Condition and DUP ≤ 12 weeks (Dama et al 2019)



Potential Confounds Tested as Covariates

- Age at onset of psychosis
- Pre-morbid adjustment score
- Schizophrenia diagnosis (vs affective psychosis)
- Length of exposure to treatment
- Number of treatment interventions
- Adherence to medication

Questions Arising with Relevance to Transition of I Level of Care

- It is unlikely that specialized care in an EI service can or even should be maintained for all FEP patients for five years or more
- Are there patients who can transition at different time points during the critical period? If so, to what level of care, when and who?
- How do we achieve these transitions successfully?

TRANSFER TO OTHER SERVICES (CONTROL: REGULAR CARE)

Transfer to other services

1 st Line Services (General Practitioner; CLSC)	52%, n = 51
2 nd Line Services (Psychiatric)	48%, n = 48

CLSC: Community Health and Social Services clinics (Primary care)
Mean time to transfer was 5.71 months (*S.D.* = 3.26; max = 18.03 months)

Processes Involved in Transfer to Other Levels of Care-Part 1

- Prior to randomization, patients were told that in case they were randomized to regular care we would, *a-priori*, establish if that would be primary care or secondary specialist care based on their progress over the first 21 months in the EI service (remission status and length, history of relapses, functional status prior to and during treatment, etc.) within a shared decision making with patient and family input.
- Once randomized we followed the initial decision unless circumstances had changed (e.g. patient in relapse)
- Detailed reports were prepared on each patient on multiple dimensions of their progress (clinical, social, occupational) based on data collected at PEPP-Montréal (EI service)

Processes Involved in Transfer to Other Levels of Care-Part 2

- Contact was made with the required service immediately following randomization to seek a meeting with the putative receiving service. The EI clinician attended the case discussion at the receiving service
- For primary care level the presence of and acceptance by a family physician was confirmed
- First meeting with the receiving service was held accompanied by the EI clinician to ensure smooth transition
- EI clinician maintained contact with the patient until a satisfactory transition had taken place
- During the waiting period the EI service maintained responsibility for patient's care

TRANSFER TO OTHER SERVICES (REGULAR CARE)

Transfer to other services

1 st Line Services (General Practitioner; CLSC)	46%, n = 51
2 nd Line Services (Psychiatric)	44%, n = 48
Not Transferred (dropped out before transfer)	10 %, n = 11

Mean time to transfer was 5.71 months (*S.D.* = 3.26; max = 18.03 months)

Post-hoc Analyses in Patients Transferred to Primary or Secondary Care

Baseline				
	Primary (N=51)	Secondary (N=48)	Test	p
Post-secondary education (N, %)	31 (60.8%)	18 (39.1%)	$\chi^2=4.53$	0.03
Substance abuse (N, %)	20 (46.5%)	28 (68.3%)	$\chi^2=4.06$	0.05
SAPS (global score, mean \pm SD)	2.4 \pm 3.5	9.7 \pm 10.1	$z = -4.37$	<0.001
SANS (global score, mean \pm SD)	10.7 \pm 10.4	19.9 \pm 14.4	$t = -3.39$	<0.001
Positive symptom remission (N, %)	45 (88.2%)	26 (54.2%)	$\chi^2=14.15$	<0.001
Negative symptom remission (N, %)	32 (62.7%)	16 (33.3%)	$\chi^2=8.54$	<0.001
Total symptom remission (N, %)	31 (60.8%)	10 (20.8%)	$\chi^2=16.26$	<0.001

Post-hoc Analyses in Patients Transferred to Primary or Secondary Care

Follow-up and outcome	Primary	Secondary	Test	p
Total number of treatment interventions (mean±SD)	20.8±24.8	60.1±94.9	z =3.90	<0.001
Length of treatment (weeks, mean±SD)	102.3±55.3	107.7±48.8	t =-0.47	0.64
Positive symptom remission length (weeks, mean±SD)	75.2±48.6	57.2±42.2	t =1.90	0.07
Negative symptom remission length (weeks, mean±SD)	73.9±47.8	47.0±41.6	t=2.52	<0.01
Total symptom remission length (weeks, mean±SD)	66.1±46.4	46.9±40.6	t=1.66	<0.10
Positive symptom remission at any time (N, %)	44 (86.3%)	24 (50.0%)	χ^2 =15.12	<0.001
Negative symptom remission at any time (N, %)	33 (64.7%)	11 (22.9%)	χ^2 =17.49	<0.001
Total symptom remission at any time (N, %)	31 (60.8%)	7 (14.6%)	χ^2 =22.32	<0.001

Extended Early Intervention Study Conclusions- 1

- Extended EI service from 2 to 5 years resulted in longer length of remission of symptoms (known to be directly associated with functional outcome) compared to two years of EI followed by 3 years of regular care
- This benefit of EEI interacted with DUP. Persons with shorter DUP in the EEI condition showed greater improvement than persons with longer DUP while no significant differences were obtained between DUP groups in the control condition.

Extended Early Intervention Study Conclusions 2

- Matched with significant care and precision, patients transferred to primary health and social care fared better than expected and better than those transferred to secondary level care (who had a worse course in the first two years)
- Patients with poorer course and outcome during the first two years may be the ones likely to need extended EI service.
- *IS THIS Evidence for careful matching and delicately woven transition to another service may achieve successful transition to different levels of care?*
- This needs further investigation

THANK YOU
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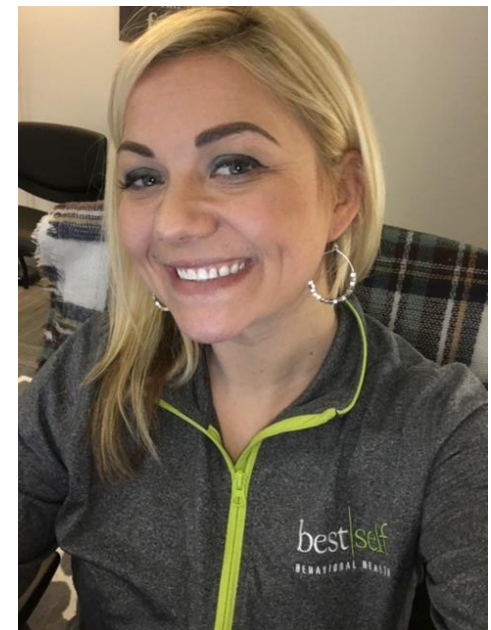
Jill Dunstan, LMHC, CASAC, Program Director

Who is OnTrack@BestSelf?

We are a **Certified Community Behavioral Health Clinic (CCHBC)** designed to provide intervention services for young adults who are experiencing psychosis.

What we do:

- **OnTrack began in June of 2015 and is federally funded innovative treatment program for adolescents and young adults who recently have had unusual thoughts and behaviors or who have started hearing or seeing things that other don't. OnTrack helps people achieve their goals for school, work and relationships.**
- **The OnTrack companion program began July of 2017 when BestSelf moved to a cost-based, per-clinic rate that is a fixed amount for all CCBHC services provided any given day to a Medicaid beneficiary.**



Enrollment

OnTrack:

- Individuals between the ages of 16 and 30.
- Have recently been experiencing symptoms such as, unusual thoughts and behaviors, hearing and seeing things that others don't, or disorganized thinking
- Symptoms have been present over a week but less than 2 years.
- Are willing to work with a diverse team of healthcare professionals.

OnTrack-Companion Program:

- Individuals between the ages of 16 and 30.
- A primary psychotic disorder such as Schizophrenia that could last as long as long 5 years.
- Individuals may have a co-occurring mood disorder
- Individuals may have a substance abuse disorder - however, that substance abuse disorder must be managed with minimal supports. We use a harm reduction model and do provide toxicology and medication assistance (MAT).

Prior to Companion Program

- Prior to the existence of the companion program
 - 20% of Ontrack Clients needed extended treatment in OnTrack following their 2 year anniversary
 - Psychotic Disorders with co-occurring affective symptoms were ineligible for CSC services
 - Psychotic Disorders with longer than 24 month durations were also ineligible for CSC services

Following Availability of the Companion Program

- After the Availability of the Companion Program of the 51 Clients in OnTrack
 - 16 Clients (31%) were referred to the companion program
 - 5 Were discharged in 2017-2018 (LOS 3.3 years)
 - 4 of these referred to other services
 - 11 Continued in the companion program (LOS 2.7 years)
 - 14 Clients were discharged
 - 21% graduated
 - Other Reasons for discharge
 - 26% Moved
 - 18% Chose Another Service
 - 22% Refused Treatment
 - 4% Treatment Unlikely to Yield Gain
 - 8% Psychiatric Hospitalization
 - 22% Referred to Other Agency

Conclusions

- About 20-30% of OnTrack Clients need more than 2 years of service
- Of individuals transferred to Companion
 - 25% Can be referred to other services after about 1 year
 - 69% Continue in the companion care program at the end of FY 16-17

Stepped Care for CSC in PA: The Need and the Model

Irene Hurford, M.D.

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Horizon House

Director, Pennsylvania Early
Intervention Center

Assistant Professor of Clinical Psychiatry,
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Engagement in Aftercare Services						
	Number	Aftercare Service Engagement Challenges				Total Endorsing Aftercare Challenges
Engaged in Mental Health Services at Follow-Up	15	Excessive time to be admitted to service		1	5	
		Excessive time to get appts. (first appt. or between appts.)		2		
		Unsatisfied with service/ wants a different service		2		
NOT Engaged in Mental Health Services at Follow-Up	9	Not in service, would like to engage service	4	Was in service, withdrew b/c unsatisfactory	2	4
Total Contacted	24					9

^[1] The 2 respondents “in service, withdrew b/c unsatisfactory” are also included in the 4 “not in service, would like to engage service” in the previous column.

Participant/ Family Suggestions and Comments at Follow-Up

<p>Suggested a PEACE extension, a PEACE step-down, or other service similar to PEACE</p>	<p>5</p>
<p>Common Themes to Their Comments About Peace</p>	<ul style="list-style-type: none"> • would like to have continued in PEACE/ struggling because there is no program like PEACE after discharged • loved the program • atmosphere was pleasant, welcoming • felt cared about by staff • accommodating/ convenience/ availability was great • appreciated art programs • appreciated multi-family group • liked working with a man • miss the staff/ want to visit • doctors helpful with medication • program should have food, graphic design class, tutoring • too far away • would have liked to have had a better good-bye to certain staff • learned a lot/ came a long way through participation in PEACE • would recommend PEACE to others

Step 1

- Full CSC model
- Min contact every 2 wk

Step 2

- Some reduced services
 - e.g. cut OT, family therapy, case management
- Max contact 3times/wk, min 2 times/months

Step 3

- More reduced services
 - e.g. maintain psychopharm and booster therapy only
- Max 3 times/mo

Thank you

For an Annotated List and Links to All First Episode TA Material Click on

https://www.nasmhpd.org/sites/default/files/Overview_Links_All_FEP_TA_Products_9-28-18_0.pdf

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