



## **Journal of Public Mental Health**

### **Emerald Article: Promoting early detection of psychosis: the role of community outreach**

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#### **Article information:**

To cite this document: Brenda Joly, Kimberly Pukstas Bernard, Martha Elbaum Williamson, Prashant Mittal, (2012), "Promoting early detection of psychosis: the role of community outreach", Journal of Public Mental Health, Vol. 11 Iss: 4 pp. 195 - 208

Permanent link to this document:

<http://dx.doi.org/10.1108/17465721211289374>

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## Promoting early detection of psychosis: the role of community outreach

Brenda Joly, Kimberly Pukstas Bernard, Martha Elbaum Williamson and Prashant Mittal

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### Abstract

**Purpose** – *The purpose of this paper is to determine the effectiveness of community outreach efforts in promoting public education on the early warning signs of psychosis and in generating referrals for treatment during the prodromal stage of illness.*

**Design/methodology/approach** – *Five mental health centres across the United States implemented a community outreach model known as the Early Detection and Intervention for the Prevention of Psychosis Program (EDIPPP). A multi-site evaluation was conducted to assess whether the model's outreach objectives could be achieved among replication sites in geographically and demographically diverse locations. The assessment included the analysis of data from three main sources: administrative data, structured qualitative interviews, and participant self-report surveys.*

**Findings** – *Results demonstrated that the outreach activities in all five sites resulted in increased awareness of participants about the early warning signs of psychosis, the availability of local treatment options and increased knowledge of the referral process. There were benefits of outreach participation regardless of whether the participant was a professional or non-professional in the community. Additionally, outreach participants showed a significant increase in their likelihood to refer a young adult for a mental health evaluation.*

**Originality/value** – *Community outreach can be an effective tool for mental health centres in developing a local network that can generate timely referrals for early intervention programmes and clinical research. Results also show that relatively brief community engagement efforts can significantly increase the knowledge and awareness of the public on complex mental health conditions where early detection may be integral to effective treatment.*

**Keywords** *Early detection, Psychosis, Community outreach, Replication, Referrals, Prodromal, Mental illness, Social care, United States of America, Medical treatment*

**Paper type** *Research paper*

### Background

Mental illness is a major public health problem that is reported to affect approximately 25 percent of adults and upwards of 20 percent of children in a given year (National Institute of Mental Health, 2011; Belfer, 2008; Costello *et al.*, 2005; Patel *et al.*, 2007). Psychotic disorders in particular often impose a significant burden on individuals, families and society. While psychotic illness is typically associated with adulthood, the onset often occurs in adolescents (Kim-Cohen *et al.*, 2003) and researchers have found that psychosis in young people is more complicated due to maturity level and personality development (Hunter *et al.*, 2010). Given that the early symptoms of psychosis often go undetected in youth, there has been growing interest in developing public health strategies that help identify the early stages of disease and engage individuals in a treatment regimen (Domingues *et al.*, 2011). For example, the Scandinavian TIPS study (Early Identification and Treatment of Psychosis) investigated the timing of treatment based, in part, on educating the general public, schools and health professionals on

This work was supported by a grant from the Robert Wood Johnson Foundation (Grant No. 62200). The authors wish to thank Jennifer Pratt for her assistance with this project.

the early warning signs of psychosis (Johannessen *et al.*, 2005). Programmes focusing on prevention, early detection and treatment have begun to emerge in the USA, including the Portland Identification and Early Referral programme (McFarlane *et al.*, 2010). This initiative was based in part on earlier efforts in the UK (Falloon, 1992), Australia (McGorry *et al.*, 2002), Norway (Johannessen *et al.*, 2001), and Denmark (Nordentoft *et al.*, 2006) and it was subsequently replicated in five sites across the USA. This national initiative was called the Early Detection and Intervention for the Prevention of Psychosis Program (EDIPPP).

EDIPPP was a four-year research project supported by the Robert Wood Johnson Foundation totaling over \$10 million in grant funds. Five sites across the USA were invited to participate in this programme including:

1. Maine Medical Center (also the National Program Office (NPO)), Portland, Maine.
2. Mid-Valley Behavioral Care Network, Salem, Oregon.
3. University of California, Davis, Sacramento, California.
4. Washtenaw Community Health Organization, Ypsilanti, Michigan.
5. Zucker Hillside Hospital, Glen Oaks, New York.

EDIPPP had three core components. The first was a clinical treatment protocol geared towards the needs of young adults (between the ages of 12 and 25) at risk for a psychotic episode during the period of illness prior to the manifestation of psychosis. The clinical programme included treatment involving multi-family group therapy, supported employment and education, and medication, if needed. The second component included research wherein a specialised multi-disciplinary clinical team assessed referred individuals' risk for psychosis and functioning level.

Community outreach, the third major component of EDIPPP, focused on educating individuals (e.g. school personnel, social workers, doctors, nurses, students, parents, clergy, and law enforcement) who interact regularly with young people and may be in a position to observe prodromal symptoms. Accordingly, EDIPPP prioritised three audiences for outreach:

1. educators;
2. mental health providers; and
3. healthcare professionals.

Community outreach efforts were intended to increase awareness and generate timely referrals into the treatment programme. In general, the outreach model prescribed two major activities:

1. establishing a community-wide network for early identification; and
2. educating professionals and the public about the early warning signs of mental illness and EDIPPP services.

Additional information about the community outreach framework and approach has been presented by Ruff *et al.* (2012).

This programme has been implemented at Maine Medical Center over the last decade (McFarlane *et al.*, 2010). While the preliminary results were encouraging, there has been little evidence that the clinical or outreach model could be successfully replicated elsewhere. This study is the first large-scale effort to replicate the EDIPPP model in five diverse locations (including the original Maine site) to determine if sites can meet or exceed established performance measures. This paper focuses on the evaluation of the community outreach efforts as conducted by third-party evaluators, funded through the Robert Wood Johnson Foundation. Results of the clinical treatment programme will be presented elsewhere.

## Purpose

Community outreach has been considered a formal component of programmes since the mid-1960s (Leviton and Schuh, 1991). Typically, outreach efforts have been used to increase

awareness, reach disenfranchised populations, and recruit participants for specific programmes, services, interventions or research projects. Yet, despite the long history of outreach in both mental health and public health, there are few comprehensive evaluations of community outreach that have been published, in part due to the complexity and barriers of evaluating these efforts (Richard *et al.*, 1996). Furthermore, there is relatively little research on the effects of outreach programmes in improving access to and use of mental health services (Nyunt *et al.*, 2009).

This article provides a comprehensive, mixed-method evaluation of community outreach in promoting public awareness and early intervention of psychosis. Formal outreach activities included training presentations. These sessions were defined as pre-arranged meetings for target audiences that included at least 15 minutes of outreach content. Other types of informal outreach were conference presentations, participation in health fairs, limited media outreach and informal phone consultations.

A detailed description of the evaluation framework has been presented elsewhere (Joly *et al.*, 2010, 2012). The evaluation was designed, in part, to address the following questions:

- To what extent did the replication sites implement the community outreach strategies as planned?
- To what extent have the outreach strategies reached the priority audiences?
- What factors have impeded or facilitated the implementation of community outreach efforts?
- Overall, what are the characteristics of outreach participants and referrers? Are the characteristics similar?
- What is the perceived role of outreach activities in generating mental health referrals?

## Methodology

In order to answer the evaluation questions, qualitative and quantitative data were collected from all five replication sites over a three-year period. All research protocols were submitted and reviewed by the University of Southern Maine's Institutional Review Board (IRB). The quantitative data were collected through the use of a centralised online database. This database was modelled after paper-based forms that were created in cooperation with the NPO and EDIPPP personnel. The following data were captured in the outreach evaluation database between March 2008 and March 2010:

- a list of each site's community contacts;
- a running log of outreach activities;
- self-report participant training evaluation data (post-test survey);
- self-report instructor training evaluation data (instructor survey);
- descriptions of information requests received by EDIPPP (information request form); and
- descriptions of referrers to EDIPPP (referrer form).

Outreach training data were collected using a paper-based post-test administered by instructors to training participants across all sites immediately following a training session at all sites to training participants immediately following a training session. The data were entered into the database by the evaluation team. The items were designed to capture factors that were likely to influence referrals to EDIPPP based, on the Theory of Planned Behavior (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975). Information about the training (e.g. number of attendees, training material used, material disseminated, length) was provided by the lead instructor after each training (instructor survey) and subsequently mailed to the evaluation team for data entry. The information request forms and referrer forms provided a standard mechanism for sites to capture and input, into the database, data about the type of information being requested and the individuals making a referral including demographic information, the person's familiarity with EDIPPP, and his or her relationship to the person he or she referred.

Items assessing whether or not a referrer had ever participated in an EDIPPP training session or made a previous information request were also included on the referrer form.

Qualitative data were collected from focus groups and key informant interviews. Individual visits to the five replication sites were made in October and November 2007 and again between October 2008 and March 2009. As part of each round of site visits, a focus group was held with outreach staff. The discussions focused on the outreach model, site efforts, and factors affecting implementation. In addition to meeting with site staff, the evaluators also held a focus group with members of the NPO in 2010 to garner their perspectives on outreach efforts, lessons learned, their administrative role, and thoughts about replicating outreach. A member of the evaluation team used a moderator's guide to facilitate the discussions. All focus groups lasted approximately 90 minutes and were digitally recorded and transcribed for analysis.

In order to capture the perspectives of key community members regarding the implementation and replication of the EDIPPP outreach model, telephone interviews were conducted with approximately 20 members of the EDIPPP Advisory Boards representing various sectors between May and July 2008. At the time of data collection, New York was still forming their Advisory Board. Therefore, no interviews were conducted for this site. The semi-structured interviews lasted approximately 30 minutes using a key informant interview guide.

### *Data analysis*

Transcripts from the focus groups and key informant interviews were analysed by applying standard techniques to code the data based on themes and connections between themes (Saldana, 2009). Maps of each site's catchment area were developed using the ArcGIS software (version 9.2) to plot, by zip code, all training activities and referrals. Post-training participant evaluation forms were analysed using descriptive statistics. Bivariate analyses were used to determine differences between groups of referrers (professionals versus non-professionals). In order to test the association between outreach activities and referrals, the number of activities and referrals were aggregated by month and analysed for associations using zero-order correlations. Lagged regression analysis was used to explore the relationship between outreach events at a given point in time with the amount of future referrals. All statistical analyses were performed using SAS version 9.2.

## **Findings**

### *Summary of outreach efforts and referrals*

Between March 2008 and March 2010, the replication sites estimated that they conducted approximately 539 formal and informal outreach activities, reaching over 23,000 people. During this same period, approximately 2,420 participants in formal outreach activities were surveyed and 1,221 referrals were recorded. A referral was based on anyone who contacted an EDIPPP site seeking professional service for an individual perceived to be at risk of psychosis. Of the referrals, about one in four (26 percent) were deemed appropriate for the programme based on the perceptions of intake clinicians at the time of the referral. Among those who were referred to the programme, subsequent formal mental health assessments were conducted to determine enrollment in the clinical programme.

### *Knowledge, attitudes and intentions to refer*

Across all of the EDIPPP replication sites, there was evidence that participants in the formal training sessions were learning new information as a result of the outreach activities. Participant self-reports revealed that before the outreach event occurred, the majority of participants were not knowledgeable about the early warning signs of psychosis, the referral process or EDIPPP services. However, following the presentations, participants at each site reported large gains in knowledge about the early warning signs of psychosis, the EDIPPP referral process, and services provided by EDIPPP (Table I).

Outreach training participants also endorsed the credibility of the EDIPPP staff and their mental health programme (Table II). Over three-quarters (79 percent) of participants believed that the staff members were highly trained and 87 percent believed that making a referral to

**Table I** Knowledge prior to and following training session across sites (*n* = 2,420)

Survey items	ME (%)	MI (%)	Agree/strongly agree (%)		
			OR (%)	CA (%)	NY (%)
<i>Prior to this presentation, I was knowledgeable about...</i>					
The early warning signs of psychosis	19	26	21	26	34
The EDIPPP referral process	8	9	17	17	13
Services provided by EDIPPP	8	9	19	17	14
<i>After this presentation, I was knowledgeable about...</i>					
The early warning signs of psychosis	67	61	57	59	49
The EDIPPP referral process	69	71	63	76	77
Services provided by EDIPPP	72	78	67	78	79

**Table II** Attitudes and intentions of training participants (*n* = 2,420)

Survey items	Agree or strongly agree (%)	Neutral (%)	Disagree or strongly disagree (%)
I believe the staff at EDIPPP is highly trained	79	21	0
I believe that referring a young person at risk to EDIPPP would be beneficial	87	13	0
I know how to refer a young person at risk to EDIPPP	70	28	2
Most people whose opinions I value would encourage me to refer to EDIPPP	68	30	2
If I referred a person to EDIPPP, he/she would become angry or embarrassed	13	56	31
Before this training, I would have referred a young person at risk to EDIPPP	22	28	51
I am confident in my ability to identify those at risk for psychosis	40	56	4
I frequently interact with young people at risk of psychosis	37	42	20
I anticipate barriers that would prevent me from referring someone to EDIPPP	15	42	43
If I knew a young person at risk, I would refer him/her to EDIPPP	79	19	2

EDIPPP would be beneficial to a youth at risk. More than three-quarters (79 percent) of participants also believed that they would refer youth at-risk to EDIPPP. Yet, despite the relatively high number who reported intentions to refer, approximately 15 percent of trainees anticipated barriers to making a referral.

While the referrer surveys did not provide additional detail about the source of potential barriers to referral, interviews with outreach staff, with EDIPPP Advisory Board members, and with referrers to the programme provided some insight into the potential causes of the perceived barriers. For example, during referrer interviews, we learned that features of the referrer's workplace could be a barrier to referral. Several referrers indicated that they were unable to make a referral because of an internal policy against making a referral or because of professional disagreement about the appropriateness of a referral. Our qualitative data collection and analysis also provided information that indicated that EDIPPP eligibility requirements (e.g. age and residence in catchment area) could be a barrier to referring clients not meeting those criteria. Finally, our qualitative data also suggested that family characteristics, such as lack of receptivity to mental health services, or family disorganisation could pose barriers to referral. It is unclear if more training could have helped removed these barriers.

#### *Replication of outreach across sites*

Our qualitative results revealed that the replication sites implemented outreach efforts as planned in their respective catchment areas. Although the EDIPPP outreach model provided the flexibility to adapt material and to develop different processes for planning and implementing outreach events, there appeared to be a high level of consistency in terms of the

messages that were delivered, particularly in formal trainings. Data from the instructor evaluation forms from the formal training sessions indicated that a majority of instructors “agreed” or “strongly agreed” that they had adequate time to cover the core messages. However, there remained a notable minority who appeared to have insufficient time. For example, approximately one-third (34 percent) of instructors did not have adequate time to cover the early warning signs of psychosis, 29 percent did not have adequate time to discuss the importance of early detection, 27 percent indicated inadequate time to cover the importance of intervention, 42 percent reported that they did not have adequate time to cover the referral process, and 37 percent reported that they did not have adequate time to cover the services available through EDIPPP.

### *Outreach with desired audiences*

Results from our mapping efforts revealed that sites tended to conduct outreach in close proximity to their main office location. Of all the sites, the Oregon and Michigan sites demonstrated the greatest coverage of their defined catchment areas over the study period. These were also the only two sites whose organisational history and structure were classified as representing a community-based organisation as compared to an academic/hospital-based organisation. However, all sites focused their outreach efforts primarily on the three groups prioritized in the EDIPPP model. Nearly three of every four (73 percent) outreach efforts were conducted with educators, mental health professionals or healthcare providers.

### *Factors affecting outreach efforts*

The replication sites were diverse in terms of their community demographics, staffing mix, and organisational structure. Based on the information provided in the key informant interviews, we were able to classify the sites into one of three groups: academic/hospital-based organisations (California and New York), community-based organisations (Michigan and Oregon), and a hybrid of the two (Maine).

The evaluation findings suggested that organisational structure influenced the outreach activities of the replication sites. The community-based EDIPPP sites had already established longstanding histories of outreach aimed at improving the uptake of mental health or other social services. Our qualitative findings suggested that sites with community relationships prior to EDIPPP were able to build upon these existing relationships to launch their outreach efforts. Furthermore, our interviews revealed that sites with Advisory Boards were able to engage the members in their efforts and in some instances work with medical representatives on the Board to secure entry into hard to reach offices such as physician practices. Community-based sites also planned their outreach activities in ways that the academic/hospital-based organisations did not. Staff from the community-based sites conducted a community mapping exercise before arranging their outreach activities. Geographic Information Systems (GIS) mapping and administrative data results confirmed that the community-based sites conducted outreach activities that were more geographically dispersed and reached a broader audience when compared to their counterparts. Finally, an organisational mission that valued the role of prevention was identified as essential for this type of broad-based, community outreach.

Beyond, organisational structure, staffing considerations were observed to be influential across all of the sites. For example, access to full-time outreach staff was reported to serve as a major advantage. Having a dedicated member of the EDIPPP team devoted to outreach without clinical responsibilities was perceived as beneficial and an opportunity to assure a consistent and high level of quality regarding outreach services. Stronger coordination also tended to facilitate the implementation of outreach efforts. In addition, the evaluation also found wide agreement among the EDIPPP staff at all sites, that involving clinicians in training sessions was beneficial in enhancing credibility of the outreach efforts.

One of the major perceived barriers to outreach implementation across sites was the lack of clarity regarding expectations. Our qualitative findings revealed that sites were generally not aware of the outreach performance targets set by the NPO. The expectations included: conducting outreach in all schools within a catchment area, implementing one to two outreach events per week and generating 60 referrals annually. We learned that the size of a catchment

area and the number organisations in a “priority group” per catchment area impact the spread of outreach efforts. For example, sites with only one or two school districts were able to reach schools more efficiently when compared to sites having to deal with multiple districts.

### *Training participants and referrers*

Results revealed that most outreach training participants across all sites were female and a majority had one or more degrees (Table III). Similarly, most referrers were women and many referrers had a post-graduate degree (Table IV). While some sites were limited in their ability to collect referrer demographic information due to IRB issues, the data suggest that most of the referrals were made by a professional versus a family member, friend, or co-worker.

As seen in Table V, professional referrers were significantly more likely than non-professional referrers to have:

- made a referral in the past;
- made an appropriate referral; and
- known the client they referred for one month or less.

In terms of referrer characteristics, professional referrers were more likely to be female and have a college degree. Additionally, there is evidence that professionals first learned about EDIPPP through sources that are different than non-professionals. Most professional referrers first learned about the programme by attending an EDIPPP training (42 percent), through direct communication with an EDIPPP staff member (16 percent) or one of their colleagues (18 percent). For non-professionals, the most common introduction was either through a healthcare provider (31 percent) or direct communication with an EDIPPP staff

**Table III** Characteristics of training participants (*n* = 2,420)

<i>Demographics</i>	<i>ME</i> ( <i>n</i> = 826)	<i>MI</i> ( <i>n</i> = 658)	<i>OR</i> ( <i>n</i> = 490)	<i>CA</i> ( <i>n</i> = 307)	<i>NY</i> ( <i>n</i> = 139)
<i>Gender</i>					
Male (%)	25	15	22	21	22
Female (%)	69	75	63	70	68
Missing (%)	6	10	16	8	9
<i>Race</i>					
American Indian/Alaska Native (%)	1	0	2	1	0
Asian (%)	2	3	2	14	4
Black/African American (%)	3	8	1	6	9
Native Hawaiian/Pacific Islander (%)	0	0	1	0	1
Caucasian/White	85	74	72	53	71
Other (%)	2	4	6	17	5
Missing (%)	6	10	16	9	11
<i>Age group</i>					
Under 18 (%)	8	2	1	0	0
18-25 (%)	25	41	14	15	8
26-35 (%)	22	15	22	28	35
36-45 (%)	14	10	19	18	14
46-55 (%)	16	11	16	16	14
56-64 (%)	9	8	12	12	15
Over 65 (%)	1	4	2	3	3
Missing (%)	5	9	13	7	11
<i>Highest level of education</i>					
Grade school (%)	0	1	0	0	1
Some high school (%)	8	4	2	0	0
Graduated high schools (%)	20	26	12	12	4
Graduated colleges (%)	34	32	32	17	11
Post-graduate degree (%)	32	29	39	62	76
Missing (%)	5	9	15	9	9

**Table IV** Characteristics of referrers (*n* = 1,221)

	ME ( <i>n</i> = 216)	MI ( <i>n</i> = 75)	OR ( <i>n</i> = 321)	CA ( <i>n</i> = 128)	NY ( <i>n</i> = 481)
<i>Demographic information</i>					
<i>Referrer type</i>					
Professional (%)	52	59	68	74	42
Non-professional (%)	45	40	31	24	56
Missing (%)	3	1	0	2	2
<i>Gender</i>					
Male (%)	20	27	28	20	19
Female (%)	77	73	67	68	70
Missing (%)	3	0	4	12	11
<i>Race</i>					
American Indian or Alaska Native (%)	1	1	1	0	0
Asian (%)	0	11	1	8	1
Black or African American (%)	1	12	0	2	1
Native Hawaiian/Pacific Islander (%)	0	0	0	2	0
Caucasian/White (%)	82	67	59	29	10
Other (%)	1	4	3	11	0
Missing (%)	13	5	36	49	87
<i>Highest level of education</i>					
Grade school (%)	0	0	0	1	0
Some high schools (%)	2	3	0	0	1
Graduated high schools (%)	11	17	1	0	1
Graduated college (associates) (%)	4	7	0	2	0
Graduated college (BA/BS) (%)	19	17	7	3	1
Post-graduate degree (%)	49	44	56	52	36
Missing (%)	16	12	36	42	61

**Table V** Professional versus non-professional referrers

<i>Characteristic</i>	<i>Professional (%)</i>	<i>Non-professional (%)</i>	$\chi^2$ and <i>p</i> -value
<i>Made referral in past</i>			
Yes	51	3	$\chi^2 = 323.77$ $p = <0.0001^a$
No	49	97	
<i>Made appropriate referral</i>			
Yes	34	23	$\chi^2 = 13.59$ $p = 0.0002^a$
No	66	77	
<i>Gender</i>			
Male	28	19	$\chi^2 = 11.75$ $p = 0.0006^a$
Female	72	81	
<i>Race</i>			
White	85	83	$\chi^2 = 0.20$ $p = 0.6551$
Non-white	15	17	
<i>Education</i>			
College degree	99	60	$\chi^2 = 210.89$ $p = <0.0001^a$
No college degree	1	40	
<i>Length of relationship to client</i>			
One month or less	64	1	$\chi^2 = 474.05$ $p = <0.0001^a$
More than one month	36	99	

Note: <sup>a</sup>Statistically significant

member (16 percent). Non-professionals were also more likely to report that they had learned about EDIPPP through the web site (13 percent).

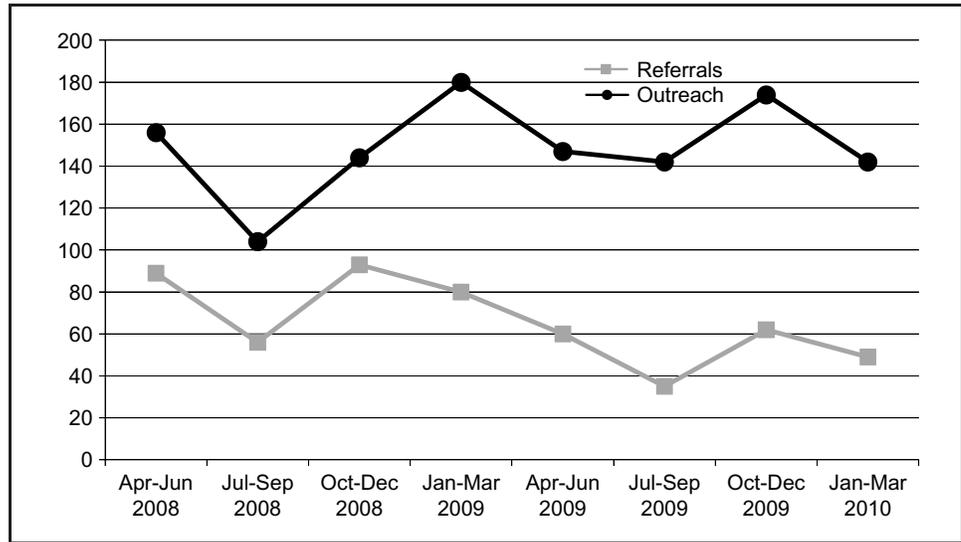
#### *Relationship between outreach and referrals*

Across the five replication sites, there was an established relationship between outreach activities and the generation of referrals to the clinical programme. As shown in Figure 1, referrals often tended to increase as outreach efforts increased with the exception of quarters four and six.

Further analyses based on lagged regression modelling revealed a significant positive relationship between the size of the outreach audience in the prior month and the number of referrals that would be received in the following month ( $p < 0.05$ ) (Table VI).

The model based on the EDIPPP outreach efforts predicted that six treatment referrals were generated for every 1,000 members that are added to the outreach audience (Figure 2).

**Figure 1** Number of outreach efforts and referrals by quarter

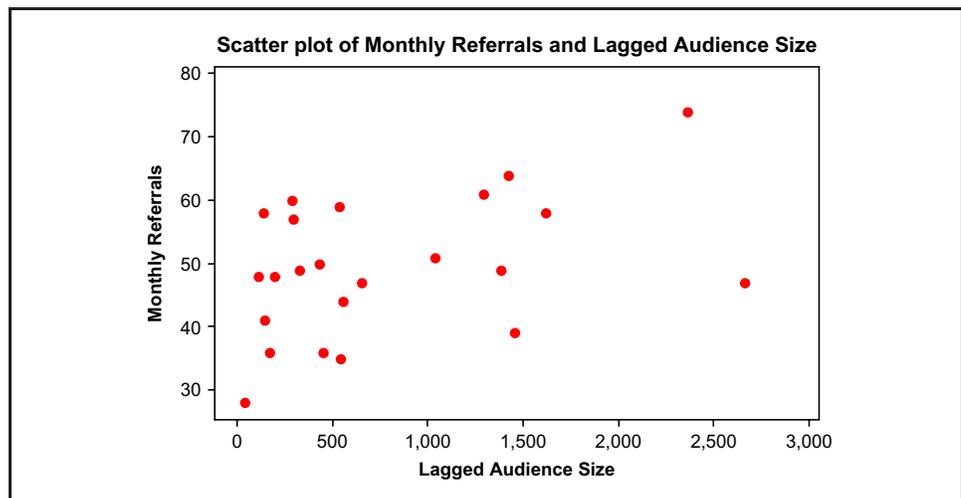


**Table VI** Model for predicting referrals resulting from outreach ( $n = 23$ )<sup>a</sup>

Model variables	Coefficient	SE	t-value	Significance
Intercept	44.63	3.13	14.29	<0.0001
Size of outreach audience in prior month	0.006	0.003	2.10	0.047

Notes: <sup>a</sup>Actual  $R^2 = 17$  percent; adjusted  $R^2 = 13$  percent

**Figure 2** Number of outreach efforts and referrals by quarter



## Discussion

### *Research implications*

This evaluation study provides evidence that community outreach efforts can generate appropriate referrals to mental health services. Our analyses demonstrated that community outreach, targeted to high priority groups, can educate potential referrers about the early warning signs of psychosis, the process for making a referral, and about the services offered through the programme. The findings also revealed that consistent messaging and credible presentation staff are important elements of effective outreach. While a sizeable proportion of professional referrers, and notably, referrers who made multiple referrals to the programme, first learned about EDIPPP from training activities, non-professional referrers frequently learned about the programme from health care providers who themselves may have attended training, or heard about the programme through a colleague. While training was an important strategy of the EDIPPP outreach model, the results revealed that having inadequate time for a presentation was a barrier to delivering core messages including information about the referral process and available services.

The evaluation data show that referrals tended to increase as outreach activities reached more members of the target audience. Our model predicted that six referrals were generated for every 1,000 members that are added to the outreach audience.

### *Practice implications*

Each replication site successfully implemented the outreach activities required by the EDIPPP model and was able to generate appropriate referrals for the clinical programme. Cross-site analyses did reveal several emerging themes that have practical implications for the field of public mental health. First, the role of formal training, presented by credible clinical staff, with consistent and clear messages to specific “priority” audiences, was essential. The results revealed that most training participants had not been familiar with the early warning signs of psychosis, the EDIPPP referral process or the services provided by the programme prior to their participation. Yet after the training, knowledge in these areas increased substantially. In general, most training participants revealed positive attitudes about EDIPPP and intentions to refer. However, barriers to referral were reported by 15 percent of respondents and additional in-depth analyses indicated that workplace policies, eligibility criteria, and parental receptivity were likely to impact potential referrals.

Our findings also provided indication that additional training time should have been devoted to risk factors and early warning signs. While 70 percent reported that they understood the EDIPPP referral process, only 40 percent felt confident in their ability to identify a youth at risk. This may have led to the relatively high number of referrals that were subsequently referred to other services.

Time management may have also impacted the ability of outreach staff to geographically disperse outreach efforts across their catchment areas. While community-based organizations were able to reach broader audiences than their counterparts, GIS mapping results suggest that all sites struggled to provide outreach across their catchment areas. The participation of clinical staff in outreach has been shown to help establish the credibility of the EDIPPP program; however, their participation also presents barriers to conducting outreach events. In qualitative interviews across sites, clinical staff reported challenges in making time for outreach in addition to their clinical responsibilities. It is likely that any additional travel time required to reach remote communities would be experienced as an additional barrier.

Our findings also revealed important information about performance expectations and communication about those expectations. This evaluation underscored the need to establish clear community outreach objectives and targets for all sites. The findings also called attention to the critical role of sponsors in communicating these expectations at the onset of an initiative and on a routine basis as well as holding programmes accountable for achieving expectations through ongoing reporting or monitoring. The evaluation revealed that sites were not required to report on the proportion of schools reached through EDIPPP outreach

efforts, despite the utility of this information. While the EDIPPP model stressed the importance of implementing outreach in every school in a catchment area, the sites were generally unable to report on the extent to which this objective was achieved and several sites were actually unaware of this performance expectation. Similarly, sites were encouraged, but not required, to map their catchment area prior to outreach or to develop benchmarks to ensure adequate coverage of the local communities had been achieved. Developing routine tracking sheets and reporting mechanisms regarding these targets would have been helpful in clarifying expectations, monitoring progress, and planning future training events.

The evaluation suggests that training efforts resulted in referrals. While the frequency of outreach efforts varied based on the site, the aggregate findings revealed a fair amount of synergy between the overall number of outreach activities and programme referrals. Our preliminary findings suggest that referrals often tended to increase as outreach efforts increased in six of the eight quarters or time periods and an increase in outreach efforts in one month significantly led to an increase in referrals during the next. Furthermore, outreach among key target groups and organisations resulted in referrals from those organisations and referrer demographics tended to mirror training participant characteristics, for example most referrers and most training participants were highly educated women. The demographic data collected is consistent with national workforce data which has shown that the majority of social workers in the USA are female, Caucasian, and have attained at least a Masters degree (Center for Health Workforce Studies, 2006). Since most referrers self-identified as professionals, the limited diversity among the referrer pool reflects the limited diversity amongst the workforce.

### Limitations and next steps

Several limitations deserve comment. First, because the evaluation engaged replication sites in development of the data collection instruments, data collection for this evaluation began several months after the commencement of outreach activities. As a result, the data gathered during the evaluation period did not capture all of the outreach activities of sites which typically began shortly after funding was received. Nor did the evaluation capture elements that would have been needed to conduct a cost-benefit analysis of outreach efforts which is a limitation of other similar studies (Johannessen *et al.*, 2005).

Second, the source of much of the evaluation data discussed in this paper was from the formal outreach training efforts, in part because it was not practical to survey participants in less formal outreach activities, such as health fairs or brief encounters. Therefore, this evaluation does not examine the effectiveness of less formal outreach activities in generating referrals.

Third, although this replication study was designed to test the application of the EDIPPP model in five diverse sites, we were unable to use a pre-post design to measure changes in knowledge, attitudes and referral intentions across all sites. We were also unable to compare the community outreach efforts to the original Maine programme findings due to differences in outreach strategies and data collection efforts. The EDIPPP sites did not conduct advertising, launch a public education campaign or administer community surveys and this was a clear focus of outreach in the original programme. Additionally, we were unable to test other models of outreach that may have been less resource intensive such as letter writing or relying on word of mouth. None of the sites engaged in social media outreach efforts as these technologies were not widely available when the EDIPPP model was originally being developed.

Fourth, given the relatively low prevalence rate of psychotic disorders in the general public, the programme did not anticipate that referrals would come from all or most training participants or recipients of outreach. However, we were not able to detect missed opportunities for a referral due to lack of awareness about EDIPPP's services, referral process, or some other reason such as the relative homogenous characteristics of referrers.

Finally, while the evaluation was designed to allow for analysis linking individuals who had made a referral to the programme with their participation in formal training activities,

a low match rate of the unique identifier resulted in insufficient data to allow for this type of analysis. Therefore, our evaluation did not include information on the percent of training recipients that subsequently called to make a programme referral and whether or not the referral was appropriate. While it was not possible to analyse the effects of training participation on actual referrals, future research is needed to further explore the role outreach had in generating programme referrals from professionals and non-professionals and whether certain aspects of outreach are associated with appropriate referrals.

## Conclusions

Community outreach can be an effective strategy for identifying those at risk of mental illness and ensuring their referral to appropriate treatment programmes. This evaluation found evidence which supports the view that outreach efforts can reach priority groups, shape perceptions and create local networks that may result in referrals for specialty programmes and clinical research. Results also imply that relatively brief community engagement efforts can significantly increase the knowledge and awareness of the public about complex mental health issues.

Lessons learned from this research suggests several important activities that may be related to successful outreach including:

- identifying and targeting outreach efforts to priority populations likely to come into contact with those in need of prevention or treatment services;
- developing and disseminating consistent core messages that referrers need to know, e.g. how to identify a person at risk, how to make a referral;
- ensuring the credibility of educators and trainers involved in outreach;
- enhancing or assuring organizational capacity to deliver outreach activities with enough time to cover the core messages; and
- establishing benchmarks to monitor and promote progress.

The relevance of these evaluation findings extends to the broader public health and education sectors, particularly when early identification or detection of conditions has the potential to prevent or diminish progression of more serious illnesses.

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