

Impact Study

FINAL REPORT

A STUDY OF HOSPITAL EMERGENCY SERVICE
USE, CRISIS SERVICE DELIVERY AND
POLICE RESPONSE AFTER MENTAL HEALTH
SYSTEM ENHANCEMENTS

MAY 2010

PHASE I FINAL REPORT

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THE IMPACT STUDY

Principal Investigators

Janet, Durbin, PhD
Elizabeth Lin, PhD
Brian Rush, PhD*

Research Coordinators

Natalia Zaslavska, MPH
Anna Sarnocinska-Hart, MSc
Kathleen Thibault, MSW*
Brendon Smith, MPH*

Co-investigators and Advisory Committee

Tim Aubry
Michel Bédard
Theresa Claxton
Diane Doherty
Mirella Fata
Lindsey George
Elly Harder
Bonnie Kirsh
Jai Mills
Marion Quigley
Nancy Read
Paula Reaume-Zimmer
Heather Stuart
Jennifer Zosky

SEEI Coordinating Centre

Paula Goering, RN, PhD, Principal Investigator
Heather Bullock, MSc, Knowledge Exchange Manager

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* Involved in early study phases and preparation of midterm report.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	2
MAIN MESSAGES	4
EXECUTIVE SUMMARY	5
1 INTRODUCTION	8
1.1 Background	8
1.2 Study description	8
1.3 Study period	9
1.4 Report organization	9
2 KEY RESOURCES IN THE SYSTEM	10
Main findings	10
2.1 Where the new community mental health investments went	10
2.2 Bed and physician availability	13
3 USE OF HOSPITAL EMERGENCY SERVICES	14
Main findings	14
3.1 Background	15
3.2 Methods	16
3.3 Results for ER visit volume	16
3.4 Discussion	20
3.5 Results for early return to ER	22
3.6 Discussion	23
4 CRISIS SERVICES SURVEY	24
Main findings	24
4.1 Background	25
4.2 Methods	26
4.3 Results	27
4.3.1 Availability of crisis response in the province	27
4.3.2 Timeliness of response	29
4.3.3 In-referral	29
4.3.4 Post crisis follow-up response	30
4.4 Discussion	31
5 CRIMINAL-JUSTICE SYSTEM DIVERSION	34
Main findings	34
5.1 Background	35
5.2 Method and data collection	36
5.3 Results	37
5.4 Discussion	40
REFERENCE LIST	42
APPENDICES	45

M AIN MESSAGES

Visits to Ontario hospital emergency rooms (ER) for mental health conditions for persons 16 to 64 years increased from 116,000 visits in 2002 to 132,000 visits in 2007. This increase persisted even after accounting for population growth. ER visits were made by both the broader community of those with mental health needs as well persons with severe mental illness.

The new funding may have had impact on the two subgroups that were directly targeted by the new funding. The rate of increase in ER use for individuals with severe spectrum illness and young persons with psychosis was lower than for the overall population and for a comparison group of persons with substance use and non-severe spectrum mental disorders. Also, ER return rates decreased slightly, suggesting possible improvement in support for individuals, once contact with the system is made.

Efforts to support more integrated service delivery were evident on several fronts. Over the study period, police services reported a greater availability of training and formal protocols for dealing with people with mental illness as well as growing collaboration between themselves and mental health services and organizations.

Regarding crisis services, there was evidence across the province of use of practices to support timely access, diversion and post-crisis referral. In particular, like the police, crisis services clearly emphasize collaboration with other services and supports in their area. However, night-time crisis coverage is limited, as are connections with primary care organizations. The extent to which crisis practice changed over the study period was not measured.

There were modest changes in availability of other resources in the system that may have affected results. These included small decreases in psychiatric bed availability, particularly in specialty hospital beds, and modest, but geographically consistent, increases in GP availability. Variation across the province in availability of these and community mental health resources was considerable. These differences are among the many factors that may account for very different patterns of ER use across the province.

The IMPACT study is a good start for establishing baseline and highlighting areas that need further attention.



Colleen Levelton. Madawaska River View 2 (from Being Seen Exhibit,* 2006)

* Being Seen Exhibit is an annual exhibition for artists who have received services from the Centre for Addiction and Mental Health. It is organized by Workman Arts, an arts company in partnership with CAMH

BACKGROUND

Between 2004 and 2007, significant new funds were invested in the community mental health system. Through the Home Care Accord, the Ontario Ministry of Health and Long-Term Care allocated \$117 million for intensive case management, assertive community treatment, crisis intervention and early intervention. Through the Service Enhancement Initiative,¹ \$50 million was allocated for court support programs, intensive case management, crisis intervention, supportive housing and safe beds. Broadly speaking the expectation of the new funding was that an increase in community care capacity would lead to reduced demand on hospital (emergency room and inpatient) and legal services by persons with mental illness (i.e., diversion). The government also hoped that these funds would stimulate efforts to improve system function, in part through improved collaboration among mental health services, and between mental health and other sector services (i.e., criminal-justice sector).

To understand the impact of the new funding, the Ministry funded a suite of studies, called the Systems Enhancement Evaluation Initiative (SEEI), based in the Health Systems Research and Consulting Unit, CAMH, and led by Dr. Paula Goering.

This present study was designed to answer three broad questions:

1. What was the use of hospital emergency services for mental health conditions over the study period – by the adult population and by persons in specific subgroups?
2. What is the availability of crisis service across the system and how well are crisis services linked to other system services to support diversion from hospital and criminal justice service use?

¹ An inter-ministerial partnership that involved Ministries of Health and Long-Term Care, Community Safety and Corrections, Attorney General.

3. What was the volume of contacts between police services and persons with mental illness over the study period and what practices are used by police to support diversion?

METHOD

The questions were addressed using three strategies.

- Provincial administrative health data were analyzed to assess the volume of ER visits over the study period, and the rate of early return to the ER (within 30 days) after a contact is made. Use was examined for the overall Ontario population and for subgroups that were directly targeted by the new funding – individuals with severe spectrum illness and young persons with psychosis.
- A provincial survey of crisis programs was conducted to learn about program capacity and linkages to support crisis management in the least restrictive setting. Survey questions were based on the provincial crisis standards.
- Police services were surveyed to learn about their volume of contacts with persons with mental health concerns over the study period, including frequency of mental health act apprehensions. The survey also asked about the use of practices for management of these persons and for diversion where appropriate.

RESULTS

In 2007, 132,000 visits for mental health reasons were made to Ontario hospital ERs. Of these visits, 14% were made by persons with severe spectrum illness (SSI), 5% by young adults (16-35 years) with psychosis (YWP), and 24% by persons with substance use disorders and mental illness (excluding those with SSI). ER use was greater in 2007 than in 2002, when 116,000 ER visits were made. Visits increased by 13 %, and the number of



persons making these visits increased by 16%. The increase was not explained by population growth and was greater than for overall ER use for any condition. There was a small, but consistent, decrease in the rates of early return to the ER but the average number of annual ER visits, 1.5, remained unchanged. Thus, the study data do not generally show a reduced reliance by the population of Ontario on hospital emergency services for mental health concerns after a contact is made.

Several reasons could account for the increase in ER use at a time when community mental health resources were also increasing. First, much of the enhancement funding was allocated to specialized mental health services who serve persons with severe and persistent mental illness. This subgroup accounted for a relatively small portion of ER visits (about 21% in the present study). In addition, caseloads of community mental health programs with enhancement funding increased quickly. Therefore, they could not serve everyone in need nor meet all of the needs of those they did serve. Several SEEI studies showed a continuing unmet need for service among those with more severe mental illness. Hence continuing pressure on ER might have resulted from increased access by the broader community of those with mental health needs as well as some unmet need for persons with SMI.

There also were modest changes in availability of other resources in the system that may have affected results. These included small decreases in psychiatric bed availability, particularly in specialty hospital beds, and modest, but geographically consistent, increases in family physician availability. Variation across the province in availability of these and community mental health resources was considerable.

A portion of the new funds was targeted to crisis services. These services are expected to serve a broader population beyond those with severe and chronic mental illness. However, as indicated in the crisis program survey, crisis capacity in the system is quite variable across LHIN areas and much lower at night and on the weekend than during the day. More work is needed to understand who are using crisis services, what their outcomes are (including need to visit the ER), community awareness of these services, and whether capacity is perceived as adequate to manage crises in the least restrictive setting, especially at night.

The new funding may have had some impact on two subgroups that were directly targeted by the new funding. Increases in ER use by individuals with severe spectrum illness and young persons with psychosis were less steep (and more consistent with population growth) than the increase for the overall population and for a comparison, concurrent disorder group (substance use and non-SSI mental illness) who were minimally targeted by the new funding. Also, the data show a slight decrease in return visit rates for the SSI and YWP subgroups, both in the 30 days following a previous ER visit and over a year. We do not have data on community service use after ER discharge but linkages with community care may be occurring and protecting against return.

The survey of mental health crisis services in Ontario demonstrated many areas of alignment with provincial crisis standards. A range of crisis options is available in every LHIN, and organizations reported many linkages to support both access to crisis intervention and community follow-up. However, capacity varied across LHIN areas, and many programs did not provide night or evening coverage. Also, linkages between crisis services and primary care organizations were few, and only about half of hospital based teams had agreements



with community crisis services for shared client management or referral. These findings suggest a number of areas for follow-up investigation and action. In addition, the survey measures may, with further development, prove useful for identifying better practices and contribute to the refinement of crisis standards and related measurement in Ontario.

The police services reported over 40,000 contacts for mental health concerns in 2007 and over 16,000 Mental Health Act apprehensions, and these volumes had increased steadily since 2003. The increase may be due to better recognition by police or a change in how the contacts were reported. However it is also consistent with the population increase in ER visits and a continuing high level of need for mental health services. The survey was conducted because there is currently no standardized provincial process for reporting mental health encounters. As such, follow-up work is needed to assess the validity of these results and promote the larger issue of developing more systematic processes for collecting police-citizen mental health encounter data in the province.

Police services were also surveyed about practices for management of persons with mental health concerns, which often involve collaboration between police and mental health services. Results show that many police services provide training to front-line officers and dispatchers and the vast majority have at least one on-site diversion response in place. A number of these practices have been implemented since 2005, coinciding with the new community mental health funding but also with other provincial activities to support diversion. Actual application of diversion practices was reported to be lower, and fewer services had agreements for transfer of health care after the situation was stabilized. Also smaller area services were less active than large area services in almost all practices.

Follow-up police studies could assess when diversion practices are used and the factors that facilitate or inhibit their use; which diversion practices are most feasible to implement in areas with lower population density and larger geographic areas; and the reasons for contact and outcomes of encounters reported by police with persons with emotional disturbance. As noted, this work would be facilitated if system-wide standardized information gathering by police services was in place.

1 INTRODUCTION

1.1 BACKGROUND

In 2004-2005, the government of Ontario began investing significant new funds in the community mental health system. Through the Health Accord for Home Care federal initiative, the Ministry of Health and Long-Term Care ('the Ministry') allocated \$117 million during 2004-2007 for intensive case management (ICM), assertive community treatment, crisis intervention and Early Intervention. The Service Enhancement Initiative, an inter-ministerial partnership,² allocated \$50 million during 2005 and 2006 for court support programs, intensive case management, crisis intervention, supportive housing and safe beds. The aim of this funding was to help keep persons with mental illness out of the legal and corrections systems. Additional allocations targeted sector stabilization (base program funding increases) and new supportive housing units.

Broadly speaking the expectation of the new funding was that an increase in community care capacity would lead to reduced demand on hospital (emergency room and inpatient) and legal system involvement by persons with mental illness. The Ministry also hoped that these funds would stimulate efforts to improve system function, in part through improved collaboration among mental health services, and between mental health and other sector services (i.e., criminal-justice sector).

The Ministry also set aside research funds to evaluate the impact of the new investments. A suite of studies were funded, under the umbrella of the Systems Enhancement Evaluation Initiative (SEEI), based in the Health Systems Research and Consulting Unit, CAMH, and led by Dr. Paula Goering. Some of the studies addressed program level effects of funding enhancements; several addressed local area impacts; and a provincial knowledge exchange network was

formed (the Ontario mental health and addictions knowledge exchange network or OMHAKEN) (see www.ehealthontario.ca, Mental Health and Addictions Portal for more project information).

1.2 STUDY DESCRIPTION

The present 'Impact' study was the single initiative that focused on the provincial level effects of the new funding. The study assessed whether diversion was being achieved – that is, whether as the funding rolled out, fewer Ontarians with mental health concerns ended up using hospital services or in the criminal justice system (i.e., diversion). In addition, the study aimed to contribute evidence on the organization and delivery of services in Ontario in relation to the aim of integration. The study was expected to rely mainly on provincial administrative health data to study these effects.

The study has produced three reports – a baseline report that outlined the study framework and measures, and described the baseline system status (2002-2004) before the new funding began entering the system; a mid-term report to provide early intelligence on impact of new funds (baseline to 2006); and this final report (results up to 2008). The baseline and mid term reports can be found in the Mental Health and Addictions portal in www.ehealthontario.ca.

The questions addressed in this final report have evolved in response to the initial goals, the available data, and what was learned from the mid-term results. For example, a change in hospital reporting during the study period meant that we could not trend admission data past March 2006 so in this report we focus on hospital use related only to emergency room (ER) visits. The mid-term finding of increasing ER use for the Ontario

² Ministry of Health and Long-Term Care, Ministry of Community Safety and Correctional Services, Ministry of the Attorney General.

population led us to examine ER use by two subgroups of individuals – those with severe spectrum disorders and young people with psychosis – who were more likely to use (and hence benefit from) the services that received the enhancement funding. Difficulties getting province-wide, valid data on people with mental illness in the criminal justice system led us to focus specifically on police involvement with this population, through direct data collection. Building on the perspective that crisis services both support hospital diversion and entry to community care, we examined crisis programs as an important indicator of system function.

The present report is organized around three broad study questions.

1. What was the use of hospital emergency services for mental health conditions over the study period – by the adult population and by persons in specific subgroups?
2. What is the availability of crisis service across the system and how well are crisis services linked to other system services to support diversion from hospital and criminal justice service use?
3. What was the volume of contacts with police services by persons with mental illness over the study period and what practices are used by police to support diversion?

1.3 STUDY PERIOD

For the service use questions, the ‘study period’ corresponds to a period starting before the new funding was allocated up to the most recent year that data were available. Our focus is on change during this period. ER use is reported from FY02 to FY07 (i.e., to the end of March 2008). Data on police-citizen contacts are reported for 2003 to 2007 (i.e., based on calendar, not

fiscal, year). The results are reported in two ways: as raw numbers and as rates per 100,000 adult Ontarians. The raw numbers indicate actual use and demand while the rates take population growth into account.

For questions on program practices (police and crisis services), we report current status based on program feedback collected during 2008.

1.4 REPORT ORGANIZATION

In addition to addressing the above questions, the report describes change over the study period in funding levels and regional distribution of the funding. Also reported are changes in two other key system resources – psychiatric beds and physicians (family practitioners and psychiatrists) as availability of these resources can influence ER use.

Regarding organization of the report, Chapter 2 provides the funding and other resource information. Chapters 3 to 5 address each of the three study questions, reporting the main findings followed by the rationale, method, results and discussion.

2 KEY RESOURCES IN THE SYSTEM

MAIN FINDINGS

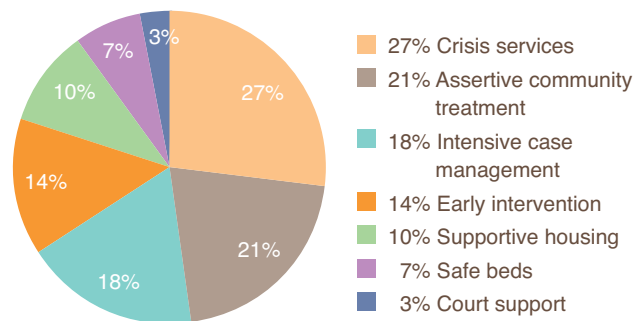
- From FY02 to FY07, the Ontario population increased from 12.1 to 12.8 million (6%), and the adult population (ages 16-64) increased from 8.1 to 8.7 million (8%).³
- During this same period, provincial community mental health funding increased from \$360 million to \$580 million (62%). Even with population growth, funding increased 53%, from \$29.60 to \$45.30 per capita.
- In broad terms the new funding was allocated to programs with two aims – outreach and engagement programs such as crisis and court support (37% of funding), and on-going support programs such as assertive community treatment and early intervention in psychosis for persons with early or chronic severe mental illness (63% of the funding).
- Percentage funding increases were somewhat greater in LHIN areas with lower per capita funding in FY02. Still, LHIN area funding varied widely in FY07, ranging from \$18.50 to \$124.80 per capita. Per capita rates were highest in the Northern and the Toronto Central LHINs, and lowest in the Greater Toronto Area LHINs.

2.1 WHERE THE NEW COMMUNITY MENTAL HEALTH INVESTMENTS WENT

In total, between FY04 and FY07, community mental health (CMH) program funding from the Ministry of Health and Long-Term Care was planned to increase by over 50%. As indicated earlier, \$117 million was allocated through the ACCORD initiative for intensive case management (ICM), assertive community treatment (ACT), crisis intervention and Early Intervention (EI). The Service Enhancement Initiative, an inter-ministerial partnership, allocated \$50 million for court support programs, ICM, crisis intervention, supportive housing and safe beds.

Figure 2.1 shows the planned distribution of new funding by program type. The funded programs broadly addressed two aims. The crisis, safe bed and court support programs (37% of new funding) provided outreach and engagement. The ICM/ACT/EI and housing programs (63%) provided longer-term support to persons with severe (early or chronic) mental illness.

FIGURE 2.1: ACCORD AND SERVICE ENHANCEMENT FUNDING ALLOCATIONS BY PROGRAM TYPE



Data on annual MOHLTC allocations to provincial health organizations for delivery of community mental health services were obtained from the Community Mental Health Programs Budgets and Inventory (CMHPBI).⁴ Funding was assigned to a LHIN based on the location of the organization’s corporate office. This assignment does not align totally with service catchment areas since some organizations have satellite locations and provide care in more than one LHIN.

From FY02 to FY07, funding for CMH services increased from \$360 million to \$580 million, a 62%

³ For LHIN population data (total and adult) see Appendix 1.

⁴ This database contained annual budget submissions from community mental health agencies, but is no longer maintained by the Ministry. Community mental health organizations now report some of this information through the Web Enabled Reporting System (WERS).

increase, and per capita CMH funding rose from \$29.64 to \$45.31⁵ (a slightly lower increase of 53% due to a 6% growth in the Ontario population over this period). All LHINs experienced an increase, with actual increases ranging from \$8.77 to \$40.27, and percentage increases from 23% to 128% (Table 2.1).

TABLE 2.1: PER CAPITA* COMMUNITY MENTAL HEALTH FUNDING FY02 AND FY07

LHIN Name of LHIN	FY02	FY07	Actual change	% change
Ontario	29.64	45.31	15.67	53
1 Erie St Clair	27.00	42.14	15.15	56
2 South West	34.44	49.24	14.80	43
3 Waterloo/Wellington	18.04	30.87	12.84	71
4 HNHB	17.81	33.51	15.70	88
5 Central West	15.28	34.77	19.49	128
6 Mississauga Halton	9.76	18.54	8.77	90
7 Toronto Central	74.07	90.97	16.89	23
8 Central	19.88	33.92	14.03	71
9 Central East	14.85	27.42	12.56	85
10 South East	46.11	65.16	19.05	41
11 Champlain	27.99	48.03	20.04	72
12 N. Simcoe/Muskoka	25.72	49.90	24.19	94
13 North East	58.13	83.97	25.84	44
14 North West	84.51	124.78	40.27	48

Source: Community Mental Health Programs Budgets and Inventory, MOHLTC (2008).

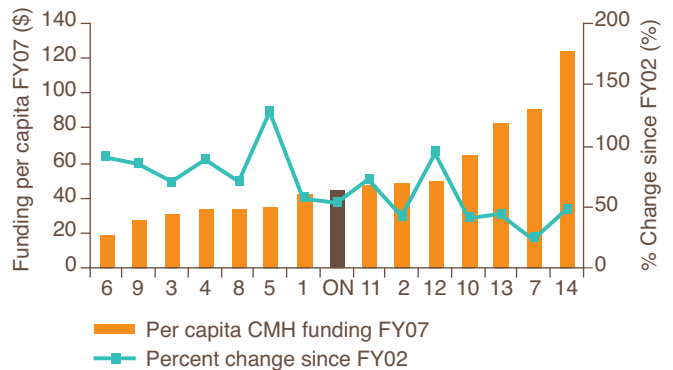
* Based on total population (all ages).

One question of interest was how these allocations affected regional variation in funding levels. As indicated in Table 2.1, per capita annual funding varied widely across LHIN areas. The Ministry made some progress in its aim to address regional differences by providing proportionately greater increases in funding to LHINs with lower base rates (Figure 2.2). Still, funding

variation by LHIN areas remained substantial in FY07 and showed a clear geographical pattern (Figure 2.3). The highest per capita rates (\$84-\$125) occurred in the two northern and the Toronto Central LHINs while the lowest rates (\$20-\$34) occurred in the LHINs surrounding Toronto. Appendix 2 reports funding and population change from FY02 to FY07 by LHIN.

This study cannot comment on the appropriateness of the variation in funding. Ontario is exploring development of a health based allocation model, but challenges have been identified when applying this model to the mental health sector – such as assessing need for service, and ensuring that funding is adequate to support competitive salaries, implementation of program standards, information technology and integration activities. Geography is also a major service delivery cost, particularly in the North. For more information see ‘Brief to the Ministry of Health and Long-Term Care on the proposed Health Based Allocation Model (HBAM) Funding Formula for LHINs with respect to the Mental Health & Addictions Sector’, prepared by a Ontario provincial partnership of mental health and addictions organizations (Addictions Ontario, CMHA, & CAMH, 2008).

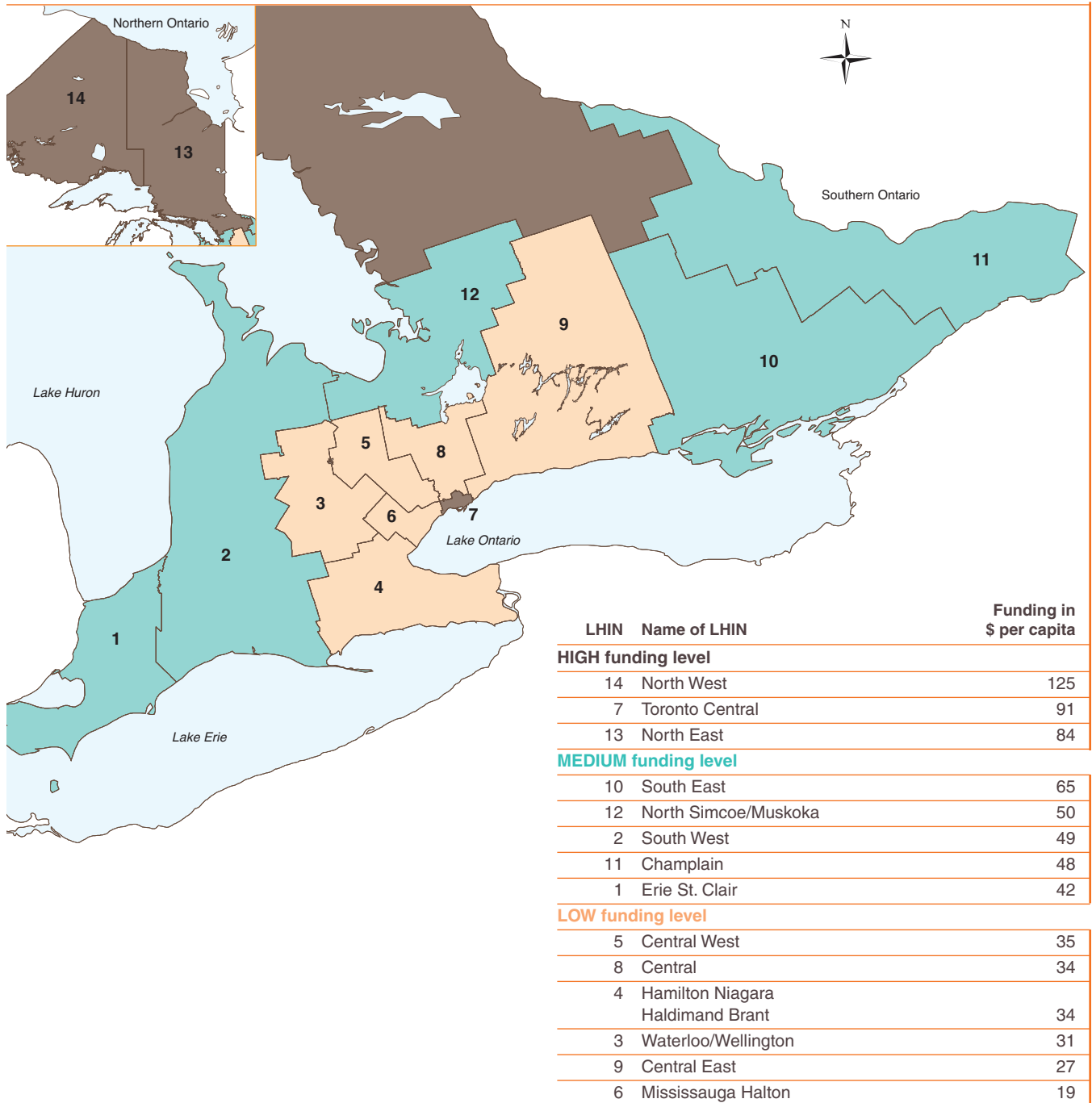
FIGURE 2.2: PER CAPITA CMH FUNDING BY LHIN – FY07 AND PERCENT CHANGE SINCE FY02



Source: Community Mental Health Programs Budgets and Inventory, MOHLTC, 2008.

5 By way of comparison the province of New Brunswick reported per capita CMH expenditure of \$42.67 for FY06-FY07 (New Brunswick Department of Health, 2008) and Alberta reported \$84.37 for 2007-2008 (Alberta Mental Health Board, 2008). However direct comparisons are difficult due to variations in what is included in the community envelope (e.g., Ontario delivers some community services through hospital global budgets).

FIGURE 2.3: PER CAPITA CMH FUNDING BY LHIN FOR FY07



Source: Community Mental Health Programs Budgets and Inventory, MOHLTC, 2008.

2.2 BED AND PHYSICIAN AVAILABILITY

This section reports the availability of psychiatric beds and physicians across the province over the study period. There is a widely held perception that bed reductions are related to increased ER use (Lamb & Bachrach, 2001; National Alliance on Mental Illness, 2004), and studies have linked access to primary care and ER use for both mental health and other health reasons (Kalucy, Thomas, & King, 2005; Haggerty, Roberge, Pineault, Larouche, & Touati, 2007; Petersen, Burstin, O’Neil, Orav, & Brennan, 1998) so changes in these resources were important to be aware of when considering the impact of the new funding.

Bed data were obtained from the Ministry of Health and Long-Term Care Health Data Branch, Daily Census Summary. Physician full-time-equivalent (FTEs) estimates were taken from Ontario Physician Human Resources Data Centre based on Ontario Health Insurance Plan (OHIP) claims data, with some effort to take alternate payment plans into account.⁶ Beds were assigned to a LHIN based on the location of the hospital’s corporate office, and physicians were assigned based on the address of their primary practice. Similar to the CMH funding, these assignments do not align totally with service catchment areas. Many hospital corporations provide

care at multiple sites, and neither hospitals nor physicians are limited to serving the residents of only one LHIN.

Beds: In FY07, there were 4,364 psychiatric beds in Ontario. Of these, almost half (1,920) were located in acute care Schedule 1 hospitals with the remaining 2,444 in specialty facilities. In total there were 34 beds per 100,000 population, comprised of 15 acute and 19 specialty beds.⁷ Between FY02 and FY07, the total number of beds in the province as reported in the Daily census Summary decreased by 210, equivalent to 4 per 100,000 population (Table 2.2).⁸ Most of the decline occurred in acute and long-term beds, while forensic bed numbers increased.

Physicians: In FY07, there were 11,057 full-time equivalent (FTE) general practitioners (GPs) and 1,865 psychiatrists, corresponding to 86.4 and 14.6 FTEs per 100,000 population. Between FY02 and FY07, the number of GPs increased by 1195 (12%), or 5 per 100,000 population while the number of psychiatrists per 100,000 population remained virtually the same (increase of 0.2 per 100,000 population).

Bed and physician availability varied widely across LHINs. While this variability may have had some impact on the changes in ER use over the study period, there were no direct one-to-one relationships. Appendices 3 and 4 show bed and physician availability by LHIN – 2002 to 2007.

TABLE 2.2: BED AVAILABILITY FY02 AND FY07

Year	Total	Acute	Specialty				
			Total	Long-Term	Forensic	Crisis Unit	Addiction
FY02	4,574	2,070	2,504	1,709	602	92	101
FY07	4,364	1,920	2,444	1,583	726	53	82

Source: Health Data Branch, Daily Census Summary, *MOHLTC*, 2008.

⁶ Information was incomplete on how APP funded work was taken into account in these estimates.

⁷ Beds were grouped as specialty or acute based on type (functional centre) as reported to the Ministry, not based on setting. Specialty beds include: Addiction, Child, Forensic, Crisis, Long-term.

⁸ We were not able to validate whether this change reflected a real drop in mental health bed availability or variation in facility reporting.

3 USE OF HOSPITAL EMERGENCY SERVICES

MAIN FINDINGS

This chapter reports use of ER for mental health conditions between FY02 and FY07, as new funding entered the community mental health system. Use was measured for the whole population, and for three cohorts – persons with severe spectrum illness (SSI) and young with psychosis (YWP) who were more likely to use programs that received new funding, and a separate comparison group of individuals with non-severe mental illness and comorbid substance use problems (CD group), who were minimally targeted by the new funding. Both ER visit volume (a population-based measure) and return to the ER (a service-based measure) were reported.

Main findings were:

Trends in population ER use did not support expectations:

- Mental health ER visits increased by 13%, and the number of individuals making these visits grew by 16%. Only some of this change was due to the growth in the Ontario population.
- These increases were greater than for ER use in general and were consistent across most LHINs.
- Early return to the ER (within 30 days of a previous ER visit) declined but the average number of annual visits per person (1.5) remained constant. Thus, the risk of repeated ER use did not decrease but the period of time between ER visits lengthened.
- Decreases in early return rates occurred in nearly all the LHINs, but there was a two-fold difference between the highest (20%) and lowest (10%) rates.

Trends in ER use for the subgroups targeted by the new funding were more consistent with expectations:

- The SSI and YWP cohorts accounted for only 14% and 5% of ER users with mental health concerns; the CD group accounted for 24% of users.
- ER use increased for the SSI and YWP cohorts, but the rate of increase was lower than for all persons making mental health visits and for the comparison CD group.
- Repeated ER visits – both within 30 days of a previous visit and within one year – declined for the SSI and YWP cohorts, and the decrease was greater than for the comparison CD group or for all mental health visits.

There are a number of possible explanations for why the new funding did not affect overall population ER use:

- Funding mainly targeted services for a specific subgroup of individuals with severe and chronic mental illness, yet these individuals comprise only a portion of all ER users (13-14%).
- Factors other than mental health system function affect ER use such as access to primary care and community social stressors.
- The emergency room is a well known, 24/7 resource and shifting users to alternative care options takes time.

3.1 BACKGROUND

Epidemiologic studies from Canada and other jurisdictions consistently show that emergency room (ER) use for mental health conditions has been increasing since the 1990s (Alberta Mental Health Board, 2008; Kalucy et al., 2005; Larkin, Claassen, Emond, Pelletier, & Camargo, 2005). This increase is commonly suggested to result from deinstitutionalization combined with inadequate resources to support individuals with mental health conditions in the community (Catalano, McConnell, Forster, McFarland, & Thornton, 2003; Morgan, Korten, & Jablensky, 2006; Larkin et al., 2005; Kalucy et al., 2005). Thus ER use is often interpreted as a gauge of the function and effectiveness of other parts of the mental health care system (Haggerty et al., 2007; Wingerson, Russo, Ries, Dagadakis, & Roy-Byrne, 2001; Catalano et al., 2003).

Studies have demonstrated the effectiveness of community mental health crisis and specialty services in reducing consumer reliance on hospital services. In the Ontario CMHEI studies, ER use declined for individuals enrolled in both ACT and intensive case management (Goering et al., 2004). Studies in other jurisdictions have similarly shown a role for ACT, ICM, early intervention in reducing hospital admissions and ER visits (Ziguras & Stuart, 2000; Marshall & Lockwood, 1998; Malla et al., 2002). In the present SEEI suite, Dewa (Dewa et al., 2008a; Dewa et al., 2008b) found reduced ER use by individuals using court support and early intervention programs. Connection with community care after an ER contact has also been associated with increased community tenure (Bruffaerts, Sabbe, & Demyttenaere, 2005). Regarding crisis services, studies consistently demonstrate a link between community based crisis care (usually with mobile capacity) and reduced admissions (Glover, Arts, & Babu, 2006; Hugo, Smout, & Bannister, 2002; Scott, 2000; Tacchi, Joseph, & Scott, 2003). A relationship between mobile crisis and

reduced police apprehensions to the ER has also been shown (Scott, 2000).

In sum, evidence is sufficiently promising to suggest that the increase in community mental health capacity afforded by the new funding would lead to a reduction in emergency room use for mental health conditions in Ontario. This was an aim of the new funding and the outcome that was tested in the present study.

We report two indicators of use of ER services for mental health concerns (volume of visits, and early return to ER after a previous ER visit), asking three questions:

1. Was there any change at the provincial level between FY02 and FY07?
2. Was the change consistent for LHINs across the province?
3. Was the change consistent for specific subgroups of individuals with mental illness?

Volume of visits is a population-based measure of ER use across the Ontario population. It is reported in terms of both the number of visits and the number of persons making these visits. All data are reported both as raw numbers to indicate actual burden on the ER, and then as rates per 100,000 (100K) adult population to assess whether the change in use exceeded what would naturally occur as a result of population growth.

In contrast, early return to the ER is a service-based measure of our ability to support individuals, once connected with the health system. It is reported as the percentage of all visits which are followed by another visit (to any ER) within 30 days. Also reported is the average number of visits per person per year to the ER so we can assess whether individuals experience fewer returns overall or just in the immediate period following the initial ER visit.

3

For the third question, we examined ER use for two subgroups directly targeted by the new funding – individuals with serious spectrum illness, and young persons with psychosis, and compared their result to use by another cohort that was minimally targeted – individuals with concurrent disorders but without SSI (CD).

3.2 METHODS

Defining a Mental Health Related ER Visit

The definition for a mental health-related visit was based on the age and broad diagnostic groups that are primarily served by the programs to which the new funding was flowed.⁹ The main diagnostic exclusion was dementia. Visits to the ER were defined as mental health related if they were made by persons:

- Age 16-64 years;
- With Main Problem¹⁰ for ER visit = psychotic spectrum disorder, mood disorder (mania, bipolar and depression), anxiety disorder, eating disorder, personality disorder;
- With Main Problem for ER visit = substance abuse or developmental disorder, if the person also had a co-morbid mental disorder¹⁰ as previously listed.

For the LHIN area analyses, ER visits were assigned to a LHIN based on the person's residence. Since this information is gathered at every ER encounter, it is felt to be reasonably accurate.

⁹ See Appendix 5 for included diagnostic codes.

¹⁰ Main Problem is the primary reason for the ER visit as defined in the NACRS database.

¹¹ Comorbid conditions are any diagnoses, conditions, or problems other than the Main Problem identified with an ER visit in the NACRS database.

¹² Denominator was the total 16-64 Ontario population.

Data sources

Mental health ED use indicators were calculated using existing provincial health databases. Data sources for the indicators included the National Ambulatory Care Reporting System (NACRS) for emergency room data and census data. In addition, the hospital discharge abstract (DAD), Ontario Mental Health Reporting System (OMHRS) and Ontario Health Insurance Plan (OHIP) data were used to define the three mental health cohorts. (Appendix 6 describes each data source).

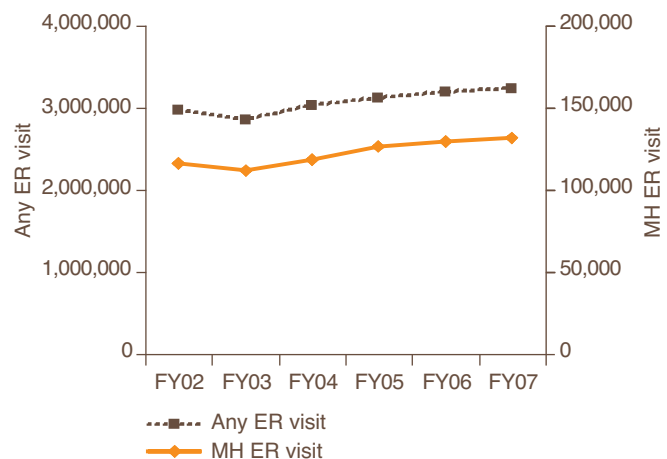
3.3 RESULTS FOR ER VISIT VOLUME

NUMBER OF ER VISITS FOR MENTAL HEALTH CONDITIONS (16-64 YEARS)

Provincial trends

As indicated in Figure 3.1, in FY07 nearly 132,000 mental health visits were made, an increase of 13% from the 116,000 visits in FY02. Adjusting for population growth,¹² the rate still increased by 5% (not shown). This increase was greater than for ER visits for any reason, which rose by 9% over the study period and by

FIGURE 3.1: ER VISITS FOR ANY REASON AND FOR MENTAL HEALTH REASONS (FY02 TO FY07)



only 0.7% when adjusting for population growth¹³ (not shown). In 2007, visits for mental health conditions accounted for 4.1% of all ER visits for individuals aged 16-64 years. This falls in line with rates reported for other jurisdictions which range from 2.1 to 6.5%.¹⁴

This same trend was evident for the number of persons making visits (Table 3.1). In FY07, 89,422 adult Ontarians used the ER for mental health conditions compared to 77,346 in FY02, an increase of 16%. When adjusted for population growth, the rate increased by 7%. The total number of adult Ontarians making ER visits for any reason also increased (1.7 to 1.8 million or 7%), but the population adjusted rate actually decreased slightly (0.6%).

TABLE 3.1: PERSONS* MAKING ER VISITS FOR ANY REASON AND FOR MENTAL HEALTH REASONS (FY02 TO FY07)

Year	Adult Ontarians making ER visit for			
	MH reason		Any reason	
	Number	Per 100K adult population	Number	Per 100K adult population
FY02	77,346	954	1,706,759	21,052
FY03	75,105	911	1,641,926	19,919
FY04	80,469	962	1,730,699	20,686
FY05	85,476	1,007	1,773,813	20,905
FY06	88,115	1,023	1,806,382	20,978
FY07	89,422	1,023	1,829,821	20,928
% change**	+16	+7	+7	-0.6

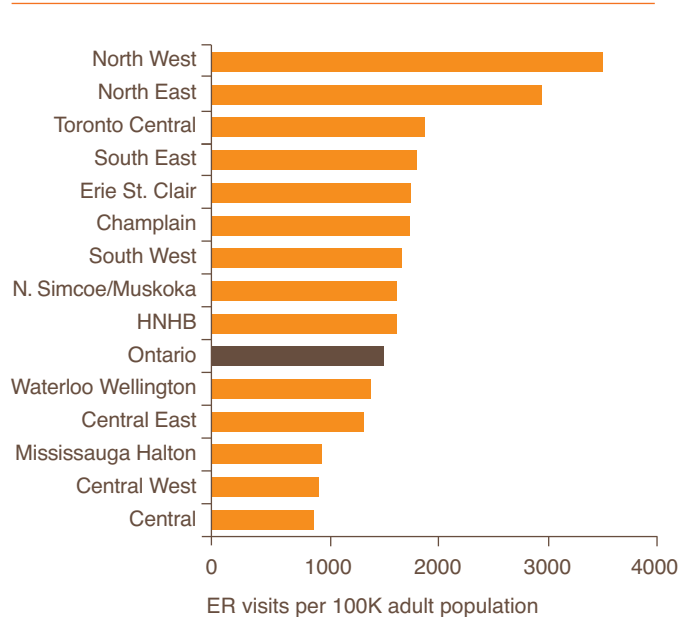
* Appendix 7 shows results at the visit (rather than the person) level.

** Between FY02 and FY07: Change = (FY07-FY02)/FY02*100.

LHIN trends

The substantial variation in ER visits for mental health conditions across the LHINs documented in the mid-term report continued in FY07. The pattern of a heavier use of emergency mental health services in northern Ontario persisted (Figure 3.2) where the visit rate (per 100,000 adult population) continued to be 3.5 to 4 times higher than for LHINs with the lowest rates. Higher rates in the North have been demonstrated for non mental health ER use as well. One explanation relates to availability of primary care. One study reported higher rates of ER use in rural than in urban areas due, in part, to rural primary care physicians spending more time out of office working in hospital ER and inpatient services (Haggerty et al., 2007).

FIGURE 3.2: ER VISIT RATE BY LHIN FOR FY07



13 Denominator was the total 16-64 Ontario population.

14 (Larkin et al., 2005) reported 5.4% during 1992-2001 in a US national study; (MOHLTC, 2008) reported 3.6% 2006-2007 in an Ontario study of mental health and self harm visits for all ages and mental health conditions; (Kalucy et al., 2005) reported 3.5-5.3% (2002-2003) – for one hospital ED in Adelaide, Australia; Kalucy also reviewed literature where rates of 2.1% to 6.5% were reported.

3

Similar to the provincial result, mental health ER visits and persons making these visits increased over the study period in most LHINs. Visits per 100,000 adult population increased in 10 out of the 14 LHINs, with the largest change (an increase of over 300 visits/100,000 population) occurring in Waterloo Wellington (Figure 3.3). Similarly the rate of persons making these visits increased in 10 of the 14 LHINs (Table 3.2).

FIGURE 3.3: CHANGE IN ER VISIT RATE BY LHIN (FY02 TO FY07)

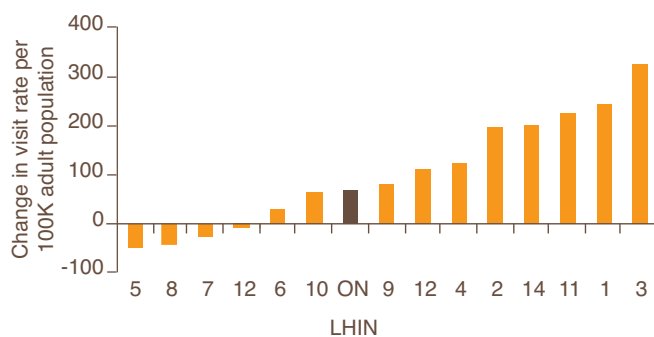


TABLE 3.2: PERSONS MAKING ER VISITS FOR MENTAL HEALTH CONDITIONS BY LHIN (FY02 AND FY07)

LHIN Name of LHIN	Persons making visits*		Average # visits	
	FY02	FY07	FY02	FY07
Ontario	954	1,023	1.5	1.5
1 Erie St. Clair	1,022	1,166	1.5	1.5
2 South West	1,001	1,178	1.5	1.4
3 Waterloo Wellington	799	1,009	1.3	1.4
4 HNHB	1,011	1,092	1.5	1.5
5 Central West	663	673	1.4	1.3
6 Mississauga Halton	654	666	1.4	1.4
7 Toronto Central	1,080	1,129	1.8	1.7
8 Central	633	612	1.4	1.4
9 Central East	840	931	1.5	1.4
10 South East	1,146	1,267	1.5	1.4
11 Champlain	1,007	1,111	1.5	1.6
12 N. Simcoe/Muskoka	1,160	1,160	1.4	1.4
13 North East	1,809	1,956	1.6	1.5
14 North West	1,911	2,173	1.7	1.6

* Per 100K adult population

Appendix 8 shows person and visit results by LHIN for FY02 and FY07.

Figure 3.3 and Table 3.2 can be used to assess if the increase or decrease in visit rate in each LHIN was due to a change in number of persons visiting the ER, the number of visits per person, or both. For example, the decrease in visit rate for LHIN 8 was due to a decrease in the number of users since the number of visits per user remained the same. The decreases in visits in LHIN 5 and 7 were due to the decrease in the average number of visits per person since there was an increase in the number of users.

Similarly, increases in the rates of visits for the other LHINs were due to:

- increases in both the number of users and average visits per user (e.g., LHIN 3 and 11)
- an increase in the number of users (e.g., LHIN 1)
- an increase in the number of users despite a decrease in the average number of visits per user (e.g., LHIN 2, LHIN 14).

Cohort trends

Defining the cohorts

While overall use of ER for mental health conditions increased, we also monitored use by subgroups of individuals who were more likely to be affected by the new funding. Intensive support programs such as ACT and ICM mainly serve individuals with severe mental illness (primarily those with psychotic spectrum, bipolar, and major depressive disorders) while EI programs serve individuals experiencing their first psychotic episode. We used administrative data to define two cohorts that would roughly correspond to the individuals served by these programs.

Individuals with serious spectrum illness (SSI)¹⁵ included those who had:

- a) at least one health care episode for a primary diagnosis of major depressive, bipolar, or psychotic illness
- b) or at least four health care episodes for primary diagnoses of a milder (acute, transient, or nonspecific) form of these illnesses
- c) in each of two consecutive fiscal years.

Young people with psychosis were defined as those aged 16 to 34 who had at least one health care episode where they received a primary diagnosis of a psychotic disorder within a fiscal year. While there was clear overlap between the YWP and SSI cohorts, we felt it important to examine this group separately because of the funding allocated for early intervention programs.

The health care episodes used to define these cohorts included inpatient admissions, physician visits and ER visits, and diagnostic information was taken from hospital discharge data (DAD and OMHRS), physician billings data (OHIP), and ER data (NACRS). We used this approach because of concerns that using only the ER data might undercount potential cohort members.

As a comparison, we defined a cohort of individuals who also had complex problems but were less likely to be affected by the new funding.¹⁶ This cohort included all individuals who had at least one diagnosis of mental health plus any diagnosis of a substance-related disorder in the same fiscal year – i.e., concurrent disorders (CD) – but excluded any individuals defined as SSI to

allow a clean comparison. Following the same method for the SSI and YWP cohorts, we drew on information from hospital discharge, physician billing, and ER visit databases.

Cohort analyses were conducted at the provincial level but not at the LHIN level.

Results

In FY02, individuals with SSI accounted for 22% of ER visits for mental health reasons and 13% of persons making ER visits (Table 3.3). The YWP group accounted for 6% of visits and 5% of persons. The CD group accounted for 25% of visits and 20% of persons.

The number of mental health ER visits increased over the study period for all three groups. The rate of increase was lower for the SSI and YWP groups (8% and 10% respectively) compared with the CD comparison group (25%) and all users (13%). This was due to a smaller increase in number of persons making visits and slightly fewer visits per person. When adjusted for population growth, the SSI and YWP visit rate per 100,000 adult population showed little or no increase while the CD rate increased 16% (Table 3.4). Appendix 9 shows annual actual use per subgroup from FY02 to FY07.

15 The classic definition of serious mental illness incorporates the three dimensions of diagnosis, duration, and disability (Schinnar, Rothbard, Kanter, & Jung, 1990). However, the administrative data can only provide diagnosis. Consequently, we have used the label 'serious spectrum illness'.

16 Persons with concurrent disorders were a priority population for the second year of the Service Enhancement initiative and last two years of the Accord initiative. In total, allocations of \$6 million were made to programs to serve this group.



TABLE 3.3: ER VISITS FOR MENTAL HEALTH CONDITIONS BY SUBGROUP (FY02 AND FY07)

ER user group	Visits <i>n</i> (%)		% change FY02-FY07*	Average # visits	
	FY02	FY07		FY02	FY07
Visits made by					
All persons	116,149 (100)	131,604 (100)	+13		
CD group	28,860 (25)	35,980 (27)	+25		
YWP	6,714 (6)	7,375 (6)	+10		
SSI group	25,192 (22)	27,080 (21)	+8		
Persons making visits					
All persons	77,346 (100)	89,422 (100)	+16	1.5	1.5
CD group	16,535 (20)	20,937 (24)	+27	1.7	1.7
YWP	4,177 (5)	4,833 (5)	+16	1.6	1.5
SSI group	10,881 (13)	12,545 (14)	+15	2.3	2.2

* (FY07-FY02)/FY02*100%

TABLE 3.4: ER VISIT RATE PER 100K ADULT POPULATION BY SUBGROUP (FY02 TO FY07)

Fiscal year	Cohort						All users	
	SSI		YWP		CD		Persons*	Visits
	Persons*	Visits	Persons*	Visits	Persons*	Visits		
FY02	134	311	52	83	204	356	954	1,433
FY03	124	278	52	80	202	355	911	1,353
FY04	131	286	55	85	219	379	962	1,419
FY05	137	300	57	87	233	402	1,007	1,486
FY06	143	307	57	87	235	403	1,023	1,502
FY07	144	311	55	84	240	412	1,023	1,505
% change*	+ 7	0	+ 7	+ 2	+18	+ 16	+ 7	+ 5

* Adult population

** (FY07-FY02)/FY02*100%

3.4 DISCUSSION

These results show an increase in ER use for mental health conditions over the study period that exceeded population growth and exceeded the increase in overall ER use. There are several potential explanations for this result.

One pertains to how the money was spent and the expected impact. About half of the new funding was targeted to ACT, ICM and EI. The Ministry estimated that this funding would translate into treatment spaces

for about 4,300 more persons. This compares with 77,000 Ontarians using the ER for mental health reasons in 2002, and raises the question of how much impact the funding should be expected to have.

Second, and related to this, several studies have shown that the population presenting to the ER in psychiatric crisis is different from those being served by specialized CMH services. This broader population is more likely to have poor coping abilities, risk of self harm, frail housing situations, and drug misuse problems. Diagnostically,

depression and personality disorders are common (Hartford, Carey, & Mendonca, 2006; Cassar, Hodgkiss, Ramirez, & Williams, 2002). As Cassar et al. (2002) noted “the prevailing ideology has been that enhanced community mental health services will reduce presentations to ED departments. However it is very clear that community teams serve a very different population to ED departments, being specifically aimed at those with severe, enduring mental illness.” (p. 135) Crisis services received a portion of the new funding and, as demonstrated by Krupa (2009) in another SEEI study, may serve a broader population. Follow-up studies can examine who these programs serve, relative to those who are putting pressure on the ER.

Third, despite significant new funding into the CMH system, capacity may still be inadequate. Other SEEI studies found that, while program capacity increased over the study period, there was still considerable unmet need for service in the system (Aubry et al., 2009; Dewa et al., 2008a; Stuart, Krupa, & Koler, 2008).

Fourth, many factors affect ER use beyond the mental health system. Access to primary health care has already been noted. At the community level, social stressors such as unemployment and poor housing can elevate use (Catalano et al., 2003). It is also thought that efforts to de-stigmatize and normalize mental challenges may be increasing the willingness to admit to problems and seek help (Larkin et al., 2005; Kalucy et al., 2005), and this may apply in Ontario.

Finally it must be noted that changing patterns of ER use is a very large challenge. As Larkin (2005) and Knott (2007) noted, ERs are a well known resource that provide 24 hour, universally accessible health care. Awareness of alternatives takes time to build in the general community and among health/social service

organizations. Under stress, ERs may become the ‘default’ option, even when individuals are using other services and potentially have other options.

By following ER use for selected subgroups who were more likely to be affected by the new funding (e.g., individuals with severe spectrum illness and young persons with psychosis), we tried to measure an outcome that was more closely linked to the intervention. However, since we were measuring ER use by all persons with SSI and all young persons with psychosis, not just those using community services, the link between the intervention (the new funding) and the outcome (ER use) was still weak. Nevertheless, the fact that the increase in ER use was greater for persons not in these two groups, especially those with substance disorders, raises the possibility that the new funding had some impact on the two subgroups that were directly targeted.

Based on these findings, potential areas for future research/action are:

- Identify characteristics of individuals who present to ER including personal, clinical and social risk factors
- Describe pathways to the ER, including extent of contacts with police, community MH crisis services, other community mental health services, and primary care
- Assess public awareness of community-based crisis programs.

3

3.5 RESULTS FOR EARLY RETURN TO ER

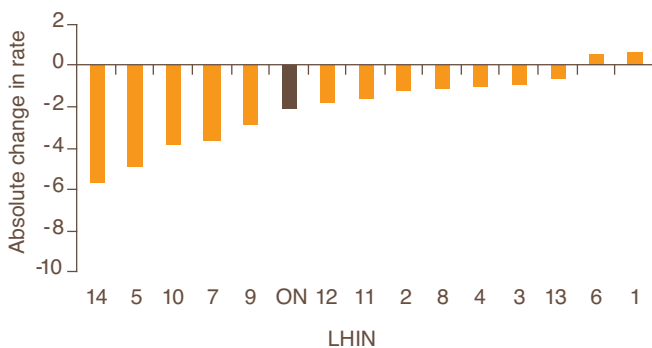
Early return to the ER after a previous ER visit is a service-based measure of our ability to support individuals, once they are connected with the health system. Lower rates of early return were hypothesized with increased community care capacity.

Provincial and LHIN results

This indicator measures the number of visits to the ER for mental health conditions that are followed within 30 days by another visit to an ER in any Ontario hospital for mental health conditions. The episode is assigned to a LHIN based on the residence of the patient at the return visit (not the location of the emergency room).

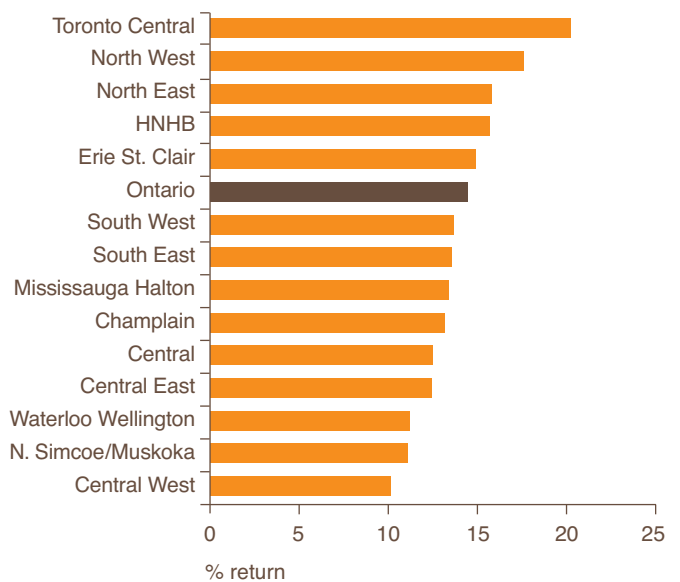
Between FY02 and FY07, the provincial early return rate dropped 2.2%, from 16.6 to 14.4%. Rates decreased in all but two LHINs (Figure 3.5). The largest changes occurred in the North West and Central West where the rates dropped by 6 and 5 actual percentage points, respectively. However, as reported previously, the average number of ER visits per person per year – at 1.5 – did not change (see Table 3.2), suggesting that individuals are less likely to return to the ER within 30 days but not within the year.

FIGURE 3.5: CHANGE IN RATE OF EARLY RETURN TO ER AFTER PREVIOUS ER VISIT BY LHIN (FY02 TO FY07)



Regional early return rates in FY07 varied widely (between 10 and 20%) (Figure 3.6). The highest rates were in Toronto and the two northern LHINs and the lowest in the Waterloo Wellington, North Simcoe/Muskoka, and Central West LHIN areas.

FIGURE 3.6: RATE OF EARLY RETURN TO ER AFTER PREVIOUS ER VISIT BY LHIN (FY07)

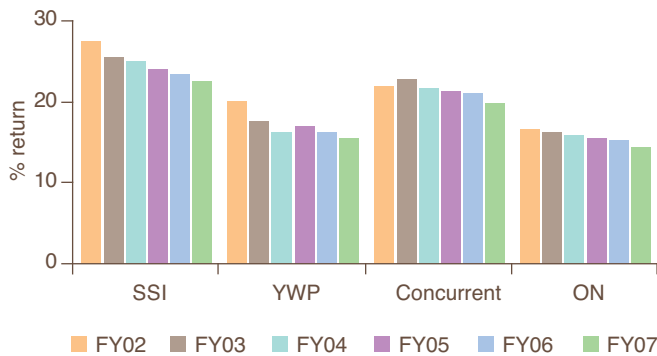


Cohort results

As indicated in Figure 3.7, the SSI cohort had the highest early return rate in FY02 (27%). Between FY02 and FY07, early return rate dropped by 5 percentage points for the SSI and YWP cohorts. In addition, as shown previously, the average visits per year dropped slightly from 2.3 to 2.2 (SSI) and from 1.6 to 1.5 (YWP).

The rate for individuals with CD dropped by 2.1 percentage points, a change more consistent with the overall provincial change of 2.2, and annual visit rates were constant at 1.7. This suggests more success in reducing ER return for the two targeted cohorts, than for the CD subgroup.

FIGURE 3.7: RATE OF EARLY RETURN TO ER AFTER PREVIOUS ER VISIT BY COHORT (FY02 TO FY07)



3.6 DISCUSSION

Rates of early return were higher for individuals with SSI and concurrent disorder. This is consistent with the literature on high frequency ER users where both substance use and psychotic disorders are associated with an increase risk of a return visit (Ledoux & Minner, 2006; Pasic, Russo, & Roy-Byrne, 2005).

Early return rates declined across the study period, but for the two cohorts more directly targeted by the new funding, the decreases were somewhat greater than the decreases for either the CD comparison or the province as a whole. In addition while the annual number of visits was stable for the province as a whole (at 1.5 visits) and the CD subgroup (at 1.7 visits) it declined for the SSI and YWP subgroups. Thus, the study data do not show a general reduction in reliance on hospital emergency services for mental health concerns after a contact is made but do show a slight decrease specifically for the SSI and YWP subgroups. We do not have data on community service use after ER discharge but it is possible that linkages with community care are occurring and protecting against early return.



Connie Yee. Pure Luck. (from Being Seen Exhibit, 2006)

4 CRISIS SERVICES SURVEY

MAIN FINDINGS

Mental health crisis delivery in Ontario was assessed through a province-wide survey. Organizations provided feedback on five types of crisis service – community-based telephone hotlines, walk-in, mobile and safe bed services, and hospital-based crisis services. Questions centered on staffing capacity and on linkages to accept referrals and for follow-up care, consistent with the Ontario crisis standards. Responses were received from 110 organizations.

Results indicated that the full range of crisis services is available in every LHIN.¹⁷ Hospitals as well as community organizations provided mental health crisis response, but funding is largely through the community mental health type envelope.

Linkages were frequent in a number of areas:

- Telephone triage was included in most crisis programs.
- Mobile crisis services frequently had agreements with hospital and police services to accept referrals.
- Almost all crisis services had agreements for post crisis referral to case management services (standard and short-term), and 50-70% had agreements to access housing services.

Less frequently implemented or available were:

- Linkages between crisis services and primary care organizations, for in-referral or follow-up care.
- Only about half of hospital based teams had agreements with community crisis services for shared client management or referral, and fewer had agreements with police for rapid transfer of care.
- Over one third of community crisis programs did not have agreements to access emergency medical or psychiatric consultation.

Most programs reported rapid response times once a contact was made, consistent with the standards. However, many programs did not operate at night or on the weekend. Night staffing levels on weekdays were about one third of the day capacity. Staffing levels (day and night) varied considerably across LHINs.

Overall, these results indicate a good alignment with crisis standards. However, areas of lower implementation that suggest further follow-up related to the:

1. Low frequency of agreements between crisis services and primary care
2. Availability of crises services at night
3. Variation in hospital arrangements with community crisis workers.
4. Adequacy of crisis capacity, given the continuing pressure on ER, especially from persons not identified as having severe spectrum mental illness.

In addition, further work can assess the utility of these data for identifying better practices and may contribute to efforts to refine crisis standards and related measurement in Ontario.

¹⁷ Every crisis service was available in every LHIN, although not necessarily providing full LHIN coverage.

4.1 BACKGROUND

Of the \$167 million in new allocations, about 33% (\$55 million) was earmarked for crisis services. Mental health crisis service delivery has evolved over the last several decades from a hospital emergency room decision to admit or discharge to a continuum of options that respond to the severity and location of the crisis, may provide support over several days, and facilitate access to follow-up care.

Community-based crisis systems include various combinations of telephone hotlines, mobile services, crisis beds and walk-in urgent care clinics. Management of the crisis in the least restrictive setting is the main goal. Crisis services typically build on existing resources (for example, adding capacity for urgent response to a psychiatric day clinic, adding night service hours to an existing evening program) and may share staff with other programs in the organizations – e.g., case management. Thus it is often stated that the configuration and capacity of crisis services depends on what else is available in a system. This may explain why benchmarks are difficult to find.¹⁸

Numerous studies have demonstrated the effectiveness of community based crisis services for reducing hospital admission. Some studies have compared community-based and hospital-based crisis services (Guo, Biegel, Johnsen, & Dyches, 2001; Hugo et al., 2002). Others have compared systems of care before and after community-based crisis services were implemented (Tacchi et al., 2003; Glover et al., 2006). Collaboration between police and mobile crisis services has been associated with reductions in arrest rates as well as inpatient admissions (Scott, 2000).

Psychiatric crisis teams in the hospital emergency rooms have also been associated with lower admission rates, and typically provide a range of service options that include brief support and referral to follow-up care (Lambert, 1995; Vingilis et al., 2007). ER teams may include community crisis service workers to facilitate post-crisis referral.

Despite variations in implementation, consistent features of crisis response systems include ‘after hours’ service, mobile capacity, availability of psychiatric consultation and provision of short term support. Referral of individuals to follow-up services is common, such that crisis services are often described as ‘gateways’ into the mental health system (Hugo et al., 2002; Hatfield, Spurrell, & Perry, 2000). One conceptualization characterized crisis services as the hub of a wheel, with the spokes representing bi-directional links with other system resources (Lee, Renaud, & Hills, 2003).

Both community and hospital based crisis services are present in Ontario. However minimal information is available on their implementation. The present component of the Impact study was conducted to better understand the organization and delivery of crisis services in Ontario. Specifically, we conducted a provincial survey to understand what crisis services are available, how accessible they are and what connections they have with other parts of the system. Since Ontario has crisis standards to support crisis implementation in the province, the content of the survey was aligned with the Ontario Crisis Response Service Standards (Government of Ontario, 2005), focusing on items pertaining to timely access and post crisis access to care.

¹⁸ One exception is England, which has made implementation of community-based crisis resolution teams a priority, and set a target of 335 teams (England NHS, 2000).

4

Specifically, the survey collected data pertaining to the following standards:

- The crisis service system should include a range of response options, including telephone crisis response, walk-in services, mobile crisis outreach, crisis residential services, and psychiatric emergency/ medical crisis services.
- Crisis response (CR) should be available on a 24 hour basis.
- CR should be provided to an individual in crisis as soon as possible. Benchmarks for timely access for the different response options are provided.
- CR services should have written protocols in place to ensure immediate access to medical intervention.
- CR services should have written protocols in place to provide referral and transition to post-crisis services, based on consumer articulated needs.

Not examined in the study survey were crisis program practices related to other performance domains addressed in the standards – e.g., service effectiveness and safety, and staff competencies. In addition, the survey did not seek input about individual experiences regarding the delivery or use of services (e.g., staff, clients, families or other stakeholder perspectives).

In sum, the goals of the crisis program survey centered on the following questions:

1. What is the availability of crisis services in the province?
2. To what extent do the organization and delivery of crisis services support timely access and management in the least restrictive setting?
3. To what extent do crisis services have practices in place to support referral to post crisis follow-up services?

4.2 METHODS

Based on program information obtained from Mental Health Service Information Ontario (see Appendix 6) and stakeholder feedback, a list was compiled of all MOHLTC funded mental health organizations in the province that provided any one of the five crisis response services listed in the standards. Also added to the list were Distress Centers which are a major provider of telephone crisis response. In total 152 organizations were identified.¹⁹

The survey asked similar questions for each of the five service types.²⁰ Having a separate section for each service type meant that organizations could report information for all of the crisis services they provide in one survey. The questions addressed: hours of operation during day, evening and night shifts; average response times; staffing levels per shift; whether the service had written agreements to accept referrals and to make post-crisis follow-up referrals; the frequency of use of these written agreements; and access to emergency medical consultation. In addition, services indicated their program funding source (i.e., hospital or community mental health fund).

Survey items were developed and finalized through a review of the Ontario standards (Government of Ontario, 2005) and other crisis service standards (e.g.,

¹⁹ While crisis support is provided by other community mental health services (e.g., ACT, housing supports), the present survey only measured crisis delivery through dedicated functional centres.

²⁰ Telephone: provides triage, information and referral over the telephone, and assesses need for immediate face-to-face intervention (excluded warm lines); Community-based crisis service (walk-in): provides face-to-face crisis response in a community setting. Services include assessment, stabilization, brief treatment and referral; Mobile: provides rapid face-to-face response wherever the crisis is occurring. Services include assessment, stabilization and linkage; Community crisis/safe beds: provides short-term support (up to 30 days) in a non-hospital 24 hour supervised setting. Services include stabilization, assessment, treatment planning and linkage; Hospital-based service: provides immediate intervention to individuals in mental health crisis, often within a hospital medical emergency department. Services include assessment, stabilization, medical clearance and referral programs to serve this group.

Technical Assistance Collaborative, 2005), a research literature scan, and several rounds of feedback from stakeholders working at the program, local system and provincial levels. The survey was mounted on the web, and data collection occurred during November 2008 to February 2009. Of the 152 organizations invited to complete a survey, 16 indicated that they are not current providers of crisis service. Of the remaining 136, 110 responded (81%). See Appendix 10 for response rates per LHIN area.

4.3 RESULTS

4.3.1 Availability of crisis response in the province

Among the 110 organizations that responded to the survey, 61 provided telephone services, 48 provided walk-in services, 37 provided mobile responses, 35 operated safe bed programs and 47 operated hospital based crisis teams. Both hospital and community organizations delivered these services (Table 4.1), although hospitals were more likely to operate hospital based crisis teams whereas community organizations were more likely to provide community based telephone, walk-in and safe bed services. Both types of organizations operated mobile crisis response. Most services (with the exception of hospital crisis teams) were funded through the community mental health and addictions services fund, even when provided by hospitals.

Every crisis service was provided by at least one organization in every LHIN. However, a small number of sub-LHIN areas were not part of any crisis service catchment area.²¹ Less than full LHIN coverage was more likely for mobile and walk-in crisis services, and in rural/remote geographic areas.

²¹ Respondents indicated sub-LHIN catchment areas from a list that was defined with LHIN stakeholders during survey development and aligns with Ministry defined sub-LHIN planning areas.

TABLE 4.1: CRISIS SERVICE DELIVERY IN ONTARIO BY ORGANIZATION TYPE

Service type	Total (n)	Community sector n (%)	Hospital sector n (%)
Telephone	61	40 (66)	21 (34)
Walk-in	48	33 (69)	15 (31)
Mobile	37	19 (51)	18 (49)
Safe beds	35	26 (72)	9 (25)
Hospital-based	47	7 (15)	40 (85)

Consistent with the literature, many organizations provided more than one type of crisis service. With the exception of Distress Centers, telephone was almost always combined with at least one face-to-face service. Most organizations that operated a mobile team also offered another face-to-face crisis service. About half of organizations that operated a hospital-based crisis team also offered a community based face-to-face crisis service.

To better understand 24 hour availability, we calculated the number of organizations that provided day, evening and night service for each crisis service. As indicated in Table 4.2, many telephone and safe bed programs provide coverage across all three shifts. Mobile teams and hospital based services provided service in the day and evening but fewer were available at night – both during the weekdays and on the weekends. Walk-in programs had more standard service hours, with only about half or fewer providing evening or night service during the weekdays, or any service on the weekends.

TABLE 4.2: PERCENT OF CRISIS SERVICES PROVIDING DAY, EVENING, AND NIGHT SERVICE

Crisis service	N	Weekday (%)			Weekend (%)		
		Day	Evening	Night	Day	Evening	Night
Telephone	61	97	90	80	90	90	82
Walk-in	48	90	54	25	44	44	23
Mobile	37	100	97	41	86	84	38
Safe beds	35	94	92	80	89	89	78
Hospital-based	47	96	91	60	89	89	60

4

FTE estimates provided another perspective on capacity. Table 4.3 and Figure 4.1 provide a ‘snap shot’ estimate of weekday FTE capacity at two points in time – day and night. Telephone and face-to-face service capacity are reported separately. Due to the challenge of allocating FTEs among individual services when staff work in more than one service, the total FTE estimates – for community-based and hospital-based crisis services – were most accurate. How these FTEs were distributed across specific services (e.g., telephone, walk-in, mobile, safe bed) were more approximate estimates.

At a single point in time during the day in Ontario there are about 64 FTEs in the province answering crisis telephone calls²² and 260 FTE staff providing face-to-face crisis response, including 86 in hospital based and 174 in community based services. These 260 staff translates into 3 FTEs per 100,000 adult population –

1 FTE (hospital-based) and 2 FTEs (community based). LHINs vary in face-to-face capacity, from 0.6 FTEs per 100,000 adults in LHIN 6 to 5.7 FTEs in LHIN 10. (See Appendix 11 for more LHIN results.)

At night system capacity drops by about two thirds. There are 35 FTEs answering crisis telephone calls, and 92 FTE staff providing face-to-face crisis response, including 37 in hospital-based and 55 in community-based services. These 92 staff translate into 1.5 FTEs per 100,000 adult population – 0.4 FTEs (hospital-based) and 1.1 FTEs (community based).

Regarding crisis beds, organizations reported a total of 185 safe beds, ranging from 4 to 22 per LHIN. Average length of stay was less than 10 days for almost all programs.

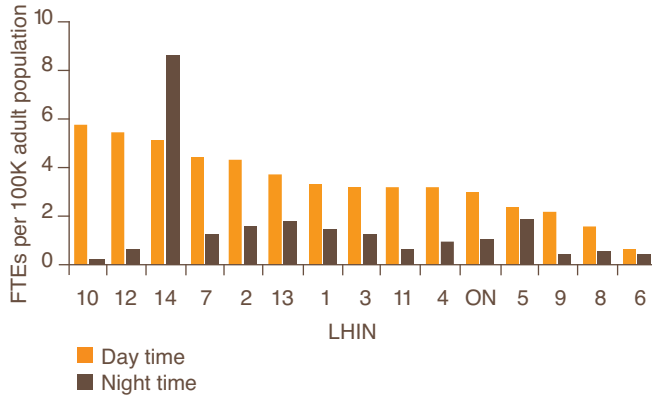
TABLE 4.3: CRISIS SERVICE CAPACITY SNAPSHOT – WEEK DAY AND WEEK NIGHT FTES

Capacity	Face-to-face crisis services													
	Telephone		Community								Hospital-based		Total	
			Walk-in		Mobile		Safe beds		Total					
FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	
FTE estimates by crisis service type – Day time (during 6 am - 6 pm)														
Total FTEs	63.7	0.7	69.3	0.8	57	0.7	47.4	0.5	173.7	2.0	86.4	1.0	260.1	3.0
<i>FTEs per LHIN</i>														
Average	4.5	0.8	4.9	1.0	4.1	0.8	3.4	0.6	12.4	2.4	6.2	1.0	18.6	3.4
LHIN range	0.8-8.6	0.2-1.9	0-15	0-3.0	0-11.2	0-2.5	0.5-10.6	0.1-1.2	3.3-22.0	0.4-5.6	0.5-13.0	0.15-2.8	4.9-35.0	0.6-5.7
FTE estimates by crisis service type – Night time (during midnight - 6 am)														
Total FTEs	35.1	0.4	9	0.1	18.4	0.2	27.8	0.3	55.3	1.1	37.1	0.4	92.3	1.5
<i>FTEs per LHIN</i>														
Average	2.5	0.5	0.7	0.2	1.3	0.5	2	0.4	3.95	1.1	2.7	0.4	6.6	1.5
LHIN range	1-4	0.1-1.1	0-3	0-1.9	0-8.4	0-5.3	0-5	0-0.8	0.6-12.7	0.1-8.0	0.1-6.0	0.1-1.1	0.8-13.7	0.3-13.6

* Per 100,000 adults

²² Telephone response is augmented by a large number of volunteer workers connected with the 12 distress centers in the province.

FIGURE 4.1: LHIN VARIATION IN FACE-TO-FACE CRISIS SERVICE FTES – WEEK DAY AND WEEK NIGHT



Note: The LHIN 14 rate is based on 13.7 FTE crisis staff (12.7 in community based and 1.0 in hospital based services) serving an adult LHIN population of 156,000 people.

4.3.2 Timeliness of response

We also asked services about timeliness of response once a call was received, based on the provincial standard guidelines when available. Most organizations reported that they met the benchmark response time (see Table 4.4) for at least 75% of calls. However responses may have been estimated rather than based on actual call data.

TABLE 4.4: SURVEY QUESTIONS ON RESPONSE TIME

Telephone	What proportion of calls is served within 15 minutes by a worker (not an answering machine)?
Walk-in	What proportion of calls has (1) a first contact with staff within 90 minutes, (2) a face-to-face contact within 24 hours or less?
Mobile	What proportion of calls has a face-to-face contact with staff within 3 hours?

4.3.3 In-referral

Community services were asked about in-referral agreements to facilitate diversion from more restrictive and resource-intensive forms of care (including hospitals and police). Specifically, for each of three types of community crisis services (walk-in, mobile, safe bed), we asked whether programs had formal written agreements in place to accept referrals from police, ER and primary care. As Table 4.5 indicates, mobile programs were most likely to be connected with police and emergency rooms. Fewer walk-in and safe bed programs had these agreements. Regarding primary care (community health centers or family health teams), few services had referral arrangements in place, suggesting less connection between crisis response and primary care.²³

Also reported in Table 4.5 is the portion of services with agreements to access emergency medical or psychiatric consultation for clients, again to possibly avoid a visit to the ER. Two-thirds of mobile and walk-in programs had agreements in place, but the rate was lower for safe bed programs.

TABLE 4.5: PERCENTAGE OF CRISIS SERVICES WITH FORMAL AGREEMENTS TO ACCEPT REFERRALS OR ACCESS EMERGENCY MEDICAL CONSULTATION

Community crisis service	Referral source (row %)				Medical consultation (row %)
	Police	ER	CHCs*	FHTs*	
Mobile (n=37)	81	67	22	11	68
Walk-in (n=48)	46	65	33	26	67
Safe beds (n=35)	43	54	17	11	46

* Community health centres and family health teams.

²³ Tacchi (2003) described a service to streamline assessment of individuals presenting in mental health crisis to GP offices. Referral rates increased over time and GPs reported satisfaction with quick response and good feedback. Admissions to hospital for acute crisis appeared to decrease.

4

Regarding hospital-based crisis services, 30% had formal agreements with police for rapid transfer of care. Once individuals arrive at the ER, hospital-based crisis teams reported a range of practices to reduce likelihood of admission. Of the 47 hospital teams in our survey:

- 50% reported having access to observation and treatment beds in the emergency department for short-term monitoring
- 53% had agreements with community crisis workers to provide crisis management on the hospital site, and
- 58% had agreements for referral to community crisis services.

Finally, we asked telephone crisis services whether they had agreements in place to make referrals to walk-in and mobile teams, should callers require a higher level of crisis support (again to possibly avoid an ER visit). Telephone crisis services were quite well connected, with

67% having agreements with walk-in services and 72% with mobile teams to accept referrals.

4.3.4 Post crisis follow-up response

Crisis programs were asked about access, either in their own organization or through formal written agreements with other organizations,²⁴ to a selection of services and supports to provide follow-up care to clients after the crisis. The follow-up services included case management, time limited case management (up to 8 to 10 weeks), housing services, peer support, and primary health care organizations (community health centers and family health teams – CHCs and FHTs).

As Table 4.6 indicates, most crisis services (community and hospital based) reported having access to regular and time limited case management; 50-70% had access to housing services; about half had access to peer organizations; and fewer reported access to primary care

TABLE 4.6: PERCENTAGE OF CRISIS SERVICES WITH ARRANGEMENTS TO ACCESS FOLLOW-UP CARE AFTER THE CRISIS

Crisis service	Type of arrangement	Follow-up service types* (row %) ^{***}					
		CM	TL CM	Housing	Peer	CHC	FHT
Walk-in (n=48)	Total	89	76	61	50	35	22
	Via written agreement	35	22	26	33	22	15
	In own org	54	54	35	17	13	7
Mobile (n=37)	Total	86	83	71	54	23	14
	Via written agreement	44	33	31	43	17	9
	In own org	42	50	40	11	6	6
Safe beds (n=35)	Total	83	72	73	50	22	9
	Via written agreement	42	31	31	33	11	6
	In own org	42	42	42	17	11	3
Hospital-based (n=47)	Total	75	78	53	NA**	13	35
	Via written agreement	31	38	33	NA	9	22
	In own org	44	40	20	NA	4	13

* CM = case management; TL = time limited; CHC = community health centre; FHT = family health team

** Hospitals were not asked about agreements for follow-up peer support.

*** Number of responding organizations slightly varies for reporting follow up care agreements.

24 In a small number of cases, these formal written agreements were actually with another program within their own organization.

organizations. For case management and housing, much of this access was within the organization while access to peer and primary care organizations was mainly through external formal agreements. Not surprisingly, having a program within the organization makes a difference in terms of reported access.

Programs who reported having access to each of the six services types were also asked how often they referred clients (not shown). Referrals to time limited case management were made most often – on a weekly basis or more. Referrals to other community programs – case management, housing and peer support – were more likely to occur on a monthly basis. In addition hospitals frequently made referrals to urgent care clinics (72% of hospitals made referrals weekly or more often).

4.4 DISCUSSION

This survey provided a bird’s eye view of crisis service organization and delivery in Ontario, including information on alignment of service delivery with provincial crisis standards. Results indicated the full range of crisis options available in the system, with both hospital and community organizations involved in delivery. Every crisis service was provided in every LHIN although, in some LHINs, mobile and walk-in services were not available to a small number of local areas (usually more rural). Many organizations offered multiple crisis services and shared staff among them. This created the potential for seamless movement of clients between different types of crisis support and continuity of staffing, although this benefit was not directly investigated.

In keeping with the hub and spoke model of crisis delivery and consistent with the Ontario standards, organizations reported many linkages to support

both access to crisis intervention and community follow-up. Telephone triage was included in most programs. Mobile services frequently had agreements with hospital and police service to accept referrals. Regarding follow-up care, almost all crisis services had agreements to access case management services (standard and short-term), and 50-70% had agreements to access housing services.

Less frequent were linkages between crisis services and primary care organizations, for in-referral or follow-up care. In addition, only about half of hospital based teams had agreements with community crisis services for shared client management or referral, and only 30% had agreements with police for rapid transfer of care. Over one third of community crisis programs did not have agreements to access emergency medical or psychiatric consultation.

Most programs reported rapid response times once a contact was made, consistent with the standards. However, many programs did not operate at night or on the weekend. For those programs that did operate at night, staffing levels were about one third of the day capacity.

Overall, these results indicate a crisis system with a range of options and many linkages to support access and follow-up care. For the most part, there is good alignment with crisis standards, as well as some areas of lower implementation.

4

These findings suggest a number of areas for follow-up investigation:

- i) Few crisis services have agreements with primary care organizations, to accept referrals or for follow-up care. Studies in other settings have demonstrated a benefit for such agreements (Whittle & Mitchell, 1997; Bonyng, Lee, & Thurber, 2005; Tacchi et al., 2003). Follow-up work in Ontario could explore reasons for the low frequency of agreements, and the feasibility and utility of improved linkages. Better or promising practice arrangements could be profiled.
- ii) Crisis capacity is considerably lower at night. We know that night management is a challenge. Glover et al (2006) reported that admission rates decreased most when crisis teams provided 24/7 coverage. Also, extended hours are valued by consumers (Tacchi et al., 2003; Commission for Health Improvement of England, 2003). However, demand is variable at night and programs may have to deal with significant periods of inactivity. Mobile programs face difficulties related to travel and safety, particularly in rural areas (Tacchi et al., 2003), and are typically not offered after midnight. Follow-up studies could profile approaches for providing night coverage in Ontario. They could also explore the consequences of lower staffing at night – in particular, whether crisis occurrence at night is more likely to lead to contact with the police or an ER visit, the length of time in the ER, and risk of admission.

Only about half of hospital-based crisis services reported arrangements with community crisis and other services for client management, and fewer reported agreements with police. System studies could examine the impact of this variation on crisis management and outcome – e.g., triage processes, time in the ER, risk of admission, follow-up referrals, and staff and consumer satisfaction. Vingilis et al. (2007) provide a good example to build on.²⁵

- iii) Benchmarks to assess appropriateness of crisis service capacity are difficult to locate, and may be of limited utility given that crisis delivery is dependent on other resources in the system (e.g., availability of ACT and primary care). However, with ER use for mental health reasons increasing, and much of this pressure coming from a non SSI population, it is important to understand who are using crisis services – hospital and community based, community awareness of these services and referral sources, pathways to service, rural area access, and perceptions of resource adequacy. Krupa et al. (2009) provide a good example to build on.²⁶
- iv) The present survey reported a number of measures to characterize crisis delivery. Follow-up studies could assess whether these indicators are associated with better practices. Using these indicators as a baseline, studies can also evaluate changes in practice and, more importantly, whether the changes have an actual impact on client experiences and outcomes. Together this body of work can contribute to efforts to refine crisis standards and related measurement in Ontario.

25 Vingilis et al. (2007) found that many ER visitors arrive in psychosocial crisis, and assessed an intervention to triage these visitors to community crisis service.

26 Krupa et al. (2009) demonstrated a change in user profile when mobile capacity was added to a predominantly walk-in crisis service and referral sources were expanded.

In summary, future research/action could address:

- Reasons for the low frequency of agreements between primary care organizations and crisis services, and the feasibility and potential benefit of improved linkages.
- Approaches for providing night crisis coverage, and the consequences of lower staffing at night on outcome.
- Impact of variation in crisis management in the ER on client experience and outcome.
- Adequacy of system community crisis capacity, given the rise in mental health ER visits, especially from persons not identified as having severe spectrum mental illness.



Anne Davidson. Slow Down Please. (from Being Seen Exhibit, 2006)



CRIMINAL-JUSTICE SYSTEM DIVERSION

MAIN FINDINGS

Police practices to support management of persons with mental health concerns, and volume of contacts with these persons over a five year period were assessed through a province-wide survey of police services. Responses were received from 37 out of 62 municipal services and the OPP. Overall, participating services served 92% of population in the province. Results were reported for the province, for larger area (greater than 100,000 population) and smaller area services.

In 2007 police reported over 40,000 citizen encounters that involved mental illness/emotional disturbance, and over 16,000 apprehensions under the Mental Health Act (involuntary transfer to hospital ER). Rates per 100,000 population increased over the study period (2003 to 2007), and were similar for larger area and smaller area services.

This survey was conducted because there is no standardized central data source in Ontario on police encounters with persons with mental health concerns. While most police services were able to provide data on mental health-related contacts, an important quality issue relates to when and how these contacts are identified and reported. Consequently, these data are best interpreted as broad estimates that require further validation.

Many police services provided training to front-line staff and dispatchers. The vast majority had at least one on-site diversion response in place, with collaboration with mental health mobile teams being the most common. However, application of these practices was reported to be lower, both in the number of staff actually trained and the portion of contacts where on-site responses were used. Also, fewer services reported agreements for transfer of care once the situation was stabilized. Finally, smaller area services were less likely than larger area services to implement these diversion practices.

A number of police services have implemented diversion practices since 2005. While this increase coincides with the new community mental health funding, a link cannot be made as other provincial initiatives such as formation of collaborative human service and justice coordinating committees were occurring during this time.

Based on these findings, potential areas for future research/action are:

- Assess when diversion practices are used, and the factors that facilitate or inhibit their use.
- Investigate diversion practices that are most feasible to implement in areas with lower population density and larger geographic areas.
- Describe the reason for contact and outcome of encounters reported by police with persons with emotional disturbance.
- Explore police reporting practices and standards, with the longer term aim of developing system-wide standardized information gathering.

5.1 BACKGROUND

As noted earlier, one aim of the new community mental health funding was to improve system capacity to divert persons with mental illness from the criminal-justice system where appropriate. However, lack of provincial databases on police and court activity, and lack of standardized reliable methods for identifying persons with mental illness in police, court and jail databases has made performance measurement related to diversion particularly challenging (Durbin, Lin, Rush, Thibault, & Smith, 2007).²⁷ Consequently, this study relied on direct data collection to obtain information on the role and activities of police services.

Police are the first point of contact with the criminal justice system and are assuming an increasing role as first time responders for persons with mental health concerns (Cotton, 2004). Estimates of the extent of their involvement are quite variable. A 1999 US study (Deane, Steadman, Borum, Veysey, & Morrissey, 1999) of jurisdictions with 100,000 people or more estimated that 7% of police contacts involved mental illness. Crocker, Hartford, & Heslop (2009) applied rigorous criteria to a police service administrative database and estimated that about 3% of interactions involved persons with serious mental illness in a mid sized Ontario city. A Vancouver study (Wilson-Bates & Chu, 2008), using front-line officer data collection, found that 31% of police-attended calls during a two week period involved mental illness. While these estimates are wide ranging, even the lower estimate of contact volume represents substantial police time. These contacts have been suggested as resulting from a lack of adequate community mental health resources. In an Ontario police services survey, over one third of police

respondents agreed that ‘if mental health services were adequate, police would not have to deal with the mentally ill (Cotton, 2004).

Police have considerable discretion in how to manage contacts with persons with mental illness. They can influence whether the individual should enter the criminal justice system or be referred to the mental health system. This latter management approach is known as pre-arrest diversion. The underlying philosophy of diversion is that the offending behavior of many persons with mental disorder is more appropriately and effectively dealt with through treatment and support rather than through traditional criminal justice interventions (Livingston, 2008).

Over the last several decades, various strategies have been identified to help police recognize and manage citizen encounters that involve mental illness (Livingston, 2008; Hartford et al., 2006; Council of State Governments USA, 2002). These pertain to training, on-scene response and follow-up decisions. Implementation of these strategies often involves collaboration with mental health professionals (Livingston, 2008) who may assist with training, co-respond with police officers when a mental health call comes in or be available for consultation to officers at the site and provide follow-up care when appropriate. A portion of the new community mental health funding was allocated directly to services for persons at risk of contact with the law. In addition, a stronger community mental health system could be expected to be better positioned to collaborate with police to support diversion.

In this context, several questions emerged about the impact of the new funding:

- With more capacity in community mental health services and some of the new service funding specifically targeting persons with legal problems or at risk of legal involvement, was there a decrease in

²⁷ The Impact Study Midterm Report provides more information on data quality issues and potential diversion indicators that could not be measured – sentenced jail admissions with mental illness and fitness assessment volume.

5

volume of police contacts that involved mental illness or emotional disturbance?

- Given the provincial policy emphasis on diversion and increasing amount of information available on diversion practices, to what extent have police implemented diversion practices and was there a change during the study period?
- Given the emphasis of the new funding on improving system function (within and across sectors), did collaboration between police and mental health services increase over the study period?
- Given that a number of studies have suggested that police services in smaller communities with fewer local mental health resources and larger distances to navigate may need to be more creative in how diversion supports are implemented, did large area and small area services differ in either the volume of contacts or implementation of diversion practices over the study period?

5.2 METHOD AND DATA COLLECTION

To address these questions, the study team directly surveyed police services in the province. For the mid-term study report (Durbin et al., 2007), we conducted an initial survey of municipal police services in Ontario and found that police services were willing to participate and able to report the data.

Building on this work, a second round of surveying was conducted for the present report. This survey included both municipal and Ontario Provincial Police (OPP) services, and collected information on implementation of practices to support diversion as well as on contacts with persons with emotional disturbance.

The survey consisted of two sections. The first (completed by staff in the information/data department) requested aggregated data on the yearly volumes (between 2003 and 2007 calendar years) for three indicators of police-citizen encounters that involved mental illness:

- Calls that were received and cleared that involved people with mental illnesses (PMI)²⁸
- Calls that were received and cleared that involved suicide threats, attempts, jumps, or completed suicides
- Number of Mental Health Act (MHA)²⁹ apprehensions

The second section (completed by staff in the community services department) asked about practices for managing contacts with persons with emotional disturbance. These included the availability of written guidelines and information support systems, staff training (beyond that offered by the Ontario Police College), on-site responses, and post-contact transfer of care. For each practice we asked when it was implemented and how often it was used. In addition, feedback was sought on overall perception of change in the 3 years after the new funding started to flow. The survey content drew on the literature on diversion practices and was refined through several rounds of feedback from mental health and police stakeholders.

²⁸ The calls reported in this category are based on officer judgment rather than confirmed psychiatric diagnoses.

²⁹ Under the Ontario Mental Health Act if, on a reasonable grounds the officer believes that a person is suffering from emotional disturbance or mental illness the officer may apprehend and bring the person to a medical facility (psychiatric, if possible) for examination by a physician. During the apprehension the officer must adhere to the procedure set out in the Act and retain custody of the person until the facility is able to take him or her (Walma & West, 2001; Service Ontario, 1990).

On-site responses assessed:

- A specialized officer at the site (officer with extra mental health training)
- A joint response by an officer and a mental health professional at the site
- An agreement with a mental health mobile crisis team to assist at the site if requested
- On-site access to telephone consultation with mental health professionals

Data collection occurred during November 2008 to February 2009. The team was fortunate to have the support of the Ontario Association of Chiefs of Police as well as Operational Policy and Strategic Planning Bureau of Ontario Provincial Police for this process.

Survey Participation: Out of 68 municipal services in Ontario invited to participate, 37 completed the survey including 14 large area services and 23 small area services. Large area services were more likely to participate, with the result that the 37 participating services served 92% of the municipal police catchment population in Ontario. The OPP central office provided data for 75 detachments serving a combined population of 2.2 million Ontarians. Overall, participating services served 92% of population in the province (Table 5.1). Given that police catchment and LHIN catchment areas do not align, only provincial level results are reported.

TABLE 5.1: POLICE SERVICE PARTICIPATION RATES

Jurisdiction	Total number of services	Completed survey number (%)	% of jurisdiction population covered
Municipal	68	37 (54)	92
Large-area	17	14 (82)	93
Small-area	51	23 (45)	65
Provincial: OPP	83	75 (90)*	99
Total	142	112 (63)	92

* Central office staff provided data for 75 OPP detachments. The detachments did not respond individually and no information was collected on practices for managing contacts.

5.3 RESULTS

Police-citizen encounters

We requested aggregate annual data for three indicators. Over the study period the number of services able to provide these data increased. For 2007, most services could report contact with People with Mental Illness and suicide related contacts; fewer could report occurrence of MHA apprehensions.

As indicated in Table 5.2, encounters between police and Ontarians that involved mental illness are frequent. In 2007, over 40,000 encounters were reported and over 16,000 MHA apprehensions. Police also reported almost 12,000 suicide-related contacts.

TABLE 5.2: VOLUME OF POLICE-CITIZEN ENCOUNTERS THAT INVOLVED MENTAL ILLNESS IN 2007

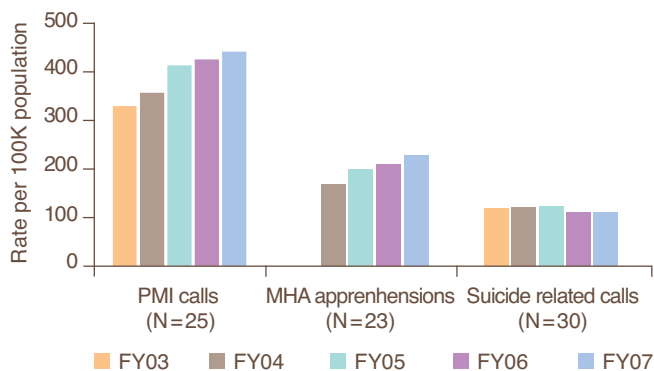
	Number of encounters	Population coverage of reporting services	Rate (per 100K population)*
Contacts with PMI			
Municipal police services (n=33)	34,248	9.3 M	368
OPP detachments (n=75)	5,984	2.2 M	269
Total (n=108)	40,232	11.5 M	349
Suicide-related contacts			
Municipal police services (n=35)	8,996	8.6 M	105
OPP detachments (n=75)	2,624	2.2 M	118
Total (n=110)	11,620	10.8 M	108
MHA apprehensions			
Municipal police services (n=27)	16,021	7.8 M	205
OPP detachments (n=75)	NA	NA	NA
Total (n=102)	16,021	7.8 M	205

* Based on total population.

5

Over the study period (2003 to 2007), the number of contacts increased. Figure 5.1 depicts the results for those services that could provide data for all five years.³⁰ After controlling for population growth, demand increased with rates per 100,000 population rising from 287 (2003) to 397 (2007) for mental health calls and from 172 (2004) to 232 (2007) for MHA apprehensions. The rate of suicide-related calls was relatively stable (116 in 2003 versus 114 in 2007). When we compared these rates for large area and small area services, we found no differences.

FIGURE 5.1: POLICE-CITIZEN MENTAL HEALTH ENCOUNTERS FOR MUNICIPAL SERVICES – POPULATION ADJUSTED RATES 2003-2007*



* MHA apprehension results are only reported for 2004-2007 because of missing data from one source in 2003.

Practice implementation and change over the study period

Table 5.3 summarizes the extent to which services used various diversion practices. Rates are reported first for all services in the sample and then for large- and small-area services.

Results indicated that many services had practices in place to support diversion. Most services provided some training to front line officers (84%)³¹ and about half provided training to dispatchers. Fewer provided intensive mental health training to a subgroup of ‘specialized’ front-line officers. For all three groups, training was more likely to be provided by large than by small-area services. Among the services that provided training, the portion of current staff trained was 70% for dispatchers, 59% for front-line staff and 27% for specialty staff (not shown). Regarding guideline availability, most services, whether from large or small population areas, had written guidelines to assist officers responding to contacts where mental illness might be involved, but fewer had similar guidelines for dispatchers. There were almost no differences between large-area and small-area services.

Regarding on-site response, most common were arrangements with mobile mental health teams to assist at the site (62%) and with mental health specialists for on-site consultation (57%). About half of services had joint response (police and mental health) arrangements. Reliance on specialized officer response was less common (30% of services). Overall, 81% of the sample had implemented at least one of these four responses.

Across all response types, implementation rates were higher for large-area services, especially the specialized officer response, which very few small-area services provided. All large-area services have implemented at

³⁰ Police services reported data by calendar year rather than fiscal year.
³¹ In addition to Police College training for new recruits.

TABLE 5.3: MUNICIPAL POLICE PRACTICES FOR MANAGING ENCOUNTERS FOR MENTAL ILLNESS 2008

Practice	Rate of implementation (% services)		
	All services N=37	Large-area services N=14	Small-area services N=23
Training			
Dispatchers	57	79	43
Front-line officers	84	100	74
Specialized officers	35	71	13
On site responses			
Mobile	62	86	48
Telephone	57	79	43
Joint	49	86	26
Specialized officers	30	64	9
At least one on-site response	81	100	70
Post event referral agreement			
Hospital emergency service	35	36	35
Community crisis service	30	43	22
Withdrawal management service	19	29	13
Information system data			
Previous contacts	97	100	96
Outcome of encounter	41	57	30
Officer time	54	71	43
Written guidelines			
For dispatchers	76	79	74
For front-line officers	95	100	91

least one of these responses compared with 70% of small-area services.

However, actual use of any of these on-site responses was fairly low. When services with on-site response arrangements in place were asked how often the response was used, about half said they implemented the response in less than 25% of encounters. Use of specialized officer response was even lower.

In addition, relatively few services had formal agreements in place for post-event transfer of care to hospital emergency services (35%), community crisis services (30%) or withdrawal management programs (19%). Large-area services were more likely than small area

services to have agreements with community crisis and withdrawal management services, but not with hospital emergencies.

Regarding information system support, the number of services able to provide the survey data increased over the study period. When asked about availability of other data items in their system, most said they could report data on previous contacts but fewer tracked outcomes or staff time spent on the encounter. There were clear differences between the large-area and small-area services in their ability to access this information.

5

Table 5.4 reports police perception of collaboration with mental health services and of ability to manage mental health related encounters compared with 3 years ago (2008 vs. 2005). Respondents perceived that support and involvement with mental health organizations had increased as had ability to manage mental health related encounters. However, time managing these calls was also perceived to have increased.

TABLE 5.4: POLICE PERCEPTIONS REGARDING PRACTICE CHANGES SINCE 2005*

Mental health-related issue/practice	More (%)	Same (%)	Less (%)
Participation in area MH initiatives	70	30	0
Support from MH services	57	38	5
Officer ability to manage situations that involve mental illness	54	46	0
Officer time managing situations that involve mental illness	41	43	16

* Based on one key informant for each police service.

5.4 DISCUSSION

One aim of the survey was to identify extent of police practices to support management of persons with mental health concerns. Implementation of these practices is an indication of police support for diversion and also of collaboration between police and mental health services, since most of the assessed practices require some level of mental health partnership. Another was to monitor volume of police-citizens contacts for mental health concerns from 2003 to 2007, the period during which new community mental health system funding enhanced capacity – overall and specifically to serve those at risk of legal system contact.

The results were encouraging. Many police services provided training to front-line staff and dispatchers. The vast majority had at least one on-site diversion response in place, with collaboration with mental health mobile teams being most common.

A number of these practices had been implemented since 2005, coinciding to the entry of new funding. Respondents also perceived that support from mental health services had increased since 2005. This period was also characterized by strong policy support in the province for diversion and the widespread implementation of collaborative human service and justice coordinating committees. Based on the study methodology, no link can be made between the new funding and practice changes. Still the money may have provided additional motivation and practical resources for moving forward on this policy issue.

Despite wide adoption of diversion practices by police services, application of these practices was reported to be lower, both in the number of trained staff and the portion of contacts with persons with mental illness where on-site responses were used. A number of factors may influence the use of on-site responses, such as timely availability of specialized officer or mobile mental health team, officer awareness of options, and assessment of need (incidents may not be perceived as requiring mental health expertise or may be resolved quickly on-site). Understanding the factors that influence on-site management decision is beyond the scope of the study but an important area for follow-up inquiry.

Few police services (20-35%) reported having agreements for transfer of citizen care with hospital emergency services, community crisis or withdrawal management services. Similarly, in the study crisis survey (reported in the previous chapter), only 30% of hospital psychiatric crisis services had arrangements with police for in-referral. Lack of follow-up options (especially for rapid transfer) can be a deterrent to diversion (Wilson-Bates & Chu, 2008) and a safety concern, if officers spend long periods of time in the emergency room rather than in the community (Forchuk, Jensen, Martin, & Csiernik, 2008). Gotlib (2007) has described several Ontario hospital emergency

department initiatives that have reduced average wait times for police to an hour or less.

While the rate of police contacts with persons with mental health concerns was as high for small-area as for large-area services, fewer small area services provided diversion practices and had agreements in place for follow-up care. It would be important to see how this difference affects outcomes – for example, arrest rates or time in the ER if a transfer of care is required.

The police services reported over 40,000 contacts with PMI in 2007 and over 16,000 MHA apprehensions, and these volumes had increased steadily since 2003. The increase may be due to better recognition by officers of mental health issues or a change in how the contacts were reported. However it is also consistent with the population increase in ER visits and the unmet need that this increase may represent. As noted in Chapter 2, some of the pressure on the ER may be coming from individuals not typically served in specialized mental health programs. In addition, unmet need for specialized mental health services was identified in other SEEI studies (Stuart, Krupa, & Koller, 2008; Dewa et al., 2008a; Dewa et al., 2008b). Since the police services provided only aggregated data for this study, we were not able to describe who comes in contact with the police and the reasons for the contact.

This survey was conducted because there is no standardized data source in Ontario on police (municipal police and the OPP) encounters with persons with mental health concerns. While most police services were able to provide data on mental health-related contacts, an important quality issue relates to how police actually report these contacts. Hartford and colleagues (2005) developed an algorithm to identify police encounters with persons with severe mental illness using administrative data in addition to officer judgment. However, Wilson-Bates (2008) supports using subjective police identification of cases as it is this opinion that

guides their actions. We were not able to conduct inter-rater quality checks or validity checks on the information collected in our survey. Consequently, these data are best interpreted as broad estimates. Follow-up work could assess the validity of these results. These quality concerns also raise the larger need for more systematic processes for collecting police-citizen mental health encounter data in the province.

Based on these findings, potential areas for future research/action are:

- Assess when diversion practices are used, and the factors that facilitate or inhibit their use.
- Investigate diversion practices that are most feasible to implement in areas with lower population density and larger geographic areas.
- Describe the reasons for contact and outcomes of encounters reported by police with persons with emotional disturbance.
- Explore police reporting practices and standards, with the longer term aim of developing system-wide standardized information gathering.



Jan Swinburne, Grande. (from Being Seen Exhibit, 2006)



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APPENDICES

1	Ontario total and adult population by LHIN – FY02 and FY07	46
2	Per capita community mental health funding – FY02 and FY07	47
3	Psychiatric beds 2002 to 2007	48
4	Physician availability 2002 to 2007	50
5	Definition of mental health ER visit	52
6	Administrative data sources	53
7	ER visits for any reason and for mental health reasons – FY02 to FY07	54
8	ER visits for mental health reasons by LHIN – FY02 and FY07	55
9	ER visits for mental health reasons by subgroup – FY02 to FY07	56
10	Crisis survey response rates by LHIN	57
11	Week day and week night crisis service staffing by LHIN	58
12	List of acronyms used (alphabetical order)	59



ONTARIO TOTAL AND ADULT POPULATION BY LHIN – FY02 AND FY07

LHIN	Name of LHIN	Total population			Adult population		
		FY02	FY07	% change	FY02	FY07	% change
	Ontario	12,102,041	12,803,862	6	8,107,384	8,743,336	8
1	Erie St Clair	639,971	645,637	1	421,370	439,814	4
2	South West	914,077	935,438	2	595,610	625,880	5
3	Waterloo/Wellington	669,479	714,187	7	448,714	490,775	9
4	HNHB	1,331,683	1,376,334	3	869,117	924,739	6
5	Central West	680,903	800,143	18	466,873	545,414	17
6	Mississauga Halton	971,883	1,116,068	15	668,225	768,049	15
7	Toronto Central	1,153,026	1,168,279	1	789,261	803,722	2
8	Cental	1,463,944	1,636,063	12	1,003,189	1,143,786	14
9	Central East	1,424,333	1,499,949	5	950,433	1,021,971	8
10	South East	475,426	481,039	1	310,080	323,105	4
11	Champlain	1,160,424	1,195,041	3	787,488	827,895	5
12	N. Simcoe/Muskoka	400,475	434,619	9	258,955	294,163	14
13	North East	573,004	565,944	-1	378,100	374,764	-1
14	North West	243,413	235,121	-3	159,969	159,259	0

Source: Census of Canada, 2006.



PER CAPITA COMMUNITY MENTAL HEALTH FUNDING – FY02 AND FY07

LHIN	Name of LHIN	Actual		Funding % change	Population			
		FY02	FY07		change	FY02	FY07	% change
	Ontario	29.64	45.31	15.67	53	12,102,041	12,803,862	5.8
1	Erie St Clair	27.00	42.14	15.15	56	639,971	645,637	0.9
2	South West	34.44	49.24	14.80	43	914,077	935,438	2.3
3	Waterloo/Wellington	18.04	30.87	12.84	71	669,479	714,187	6.7
4	HNHB	17.81	33.51	15.70	88	1,331,683	1,376,334	3.4
5	Central West	15.28	34.77	19.49	128	680,903	800,143	17.5
6	Mississauga Halton	9.76	18.54	8.77	90	971,883	1,116,068	14.8
7	Toronto Central	74.07	90.97	16.89	23	1,153,026	1,168,279	1.3
8	Central	19.88	33.92	14.03	71	1,463,944	1,636,063	11.8
9	Central East	14.85	27.42	12.56	85	1,424,333	1,499,949	5.3
10	South East	46.11	65.16	19.05	41	475,426	481,039	1.2
11	Champlain	27.99	48.03	20.04	72	1,160,424	1,195,041	3.0
12	N. Simcoe/Muskoka	25.72	49.90	24.19	94	400,475	434,619	8.5
13	North East	58.13	83.97	25.84	44	573,004	565,944	-1.2
14	North West	84.51	124.78	40.27	48	243,413	235,121	-3.4

Source: Community Mental Health Programs Budgets and Inventory. MOHLTC, 2008.

3

PSYCHIATRIC BEDS 2002 TO 2007

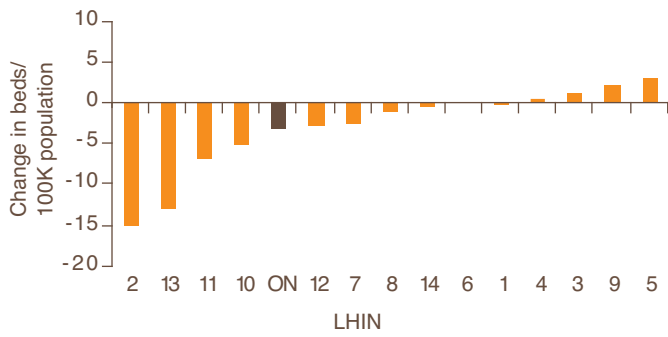
3A PSYCHIATRIC BEDS BY LHIN – 2002 TO 2007

LHIN	Name of LHIN	2002 Psychiatric Beds			2003 Psychiatric Beds			2004 Psychiatric Beds		
		Acute	Specialty	Total	Acute	Specialty	Total	Acute	Specialty	Total
	Ontario	2,070	2,504	4,574	2,030	2,568	4,598	1,985	2,545	4,530
1	Erie St Clair	112	12	124	110	13	123	112	12	124
2	South West	162	565	727	159	555	714	153	551	704
3	Waterloo/Wellington	44	0	44	54	0	54	55	0	55
4	HNHB	227	136	363	188	180	368	178	175	353
5	Central West	84	0	84	87	0	87	84	0	84
6	Mississauga Halton	90	0	90	89	0	89	91	0	91
7	Toronto Central	289	511	800	297	537	834	261	485	746
8	Cental	156	0	156	149	0	149	153	0	153
9	Central East	198	250	448	197	245	442	209	278	487
10	South East	62	220	282	63	220	283	62	220	282
11	Champlain	343	225	568	342	225	567	338	233	571
12	N. Simcoe/Muskoka	63	241	304	63	236	299	58	232	290
13	North East	170	255	425	161	265	426	160	265	425
14	North West	70	89	159	71	92	163	71	94	165

LHIN	Name of LHIN	2005 Psychiatric Beds			2006 Psychiatric Beds			2007 Psychiatric Beds		
		Acute	Specialty	Total	Acute	Specialty	Total	Acute	Specialty	Total
	Ontario	2,035	2,394	4,429	1,951	2,344	4,295	1,920	2,444	4,364
1	Erie St Clair	111	12	123	112	13	125	113	14	127
2	South West	213	454	667	148	476	624	151	449	600
3	Waterloo/Wellington	55	0	55	55	0	55	55	0	55
4	HNHB	191	184	375	193	185	378	193	187	380
5	Central West	86	0	86	75	0	75	121	0	121
6	Mississauga Halton	91	0	91	99	0	99	102	0	102
7	Toronto Central	260	489	749	271	500	771	275	503	778
8	Cental	152	0	152	152	0	152	155	0	155
9	Central East	208	280	488	209	281	490	214	288	502
10	South East	62	204	266	62	198	260	62	198	260
11	Champlain	339	208	547	305	192	497	200	300	500
12	N. Simcoe/Muskoka	56	235	291	63	241	304	70	247	317
13	North East	160	231	391	158	162	320	153	162	315
14	North West	51	97	148	49	96	145	56	96	152

Source: Health Data Branch, Daily Census Summary, MOHLTC, 2008.

3B CHANGE IN PSYCHIATRIC BED AVAILABILITY BY LHIN – FY02 AND FY07





PHYSICIAN AVAILABILITY 2002 TO 2007

4A FTE PSYCHIATRISTS AND GENERAL PRACTITIONERS BY LHIN – 2002 TO 2007

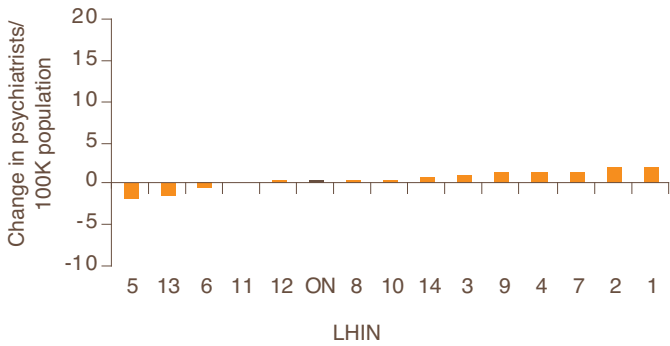
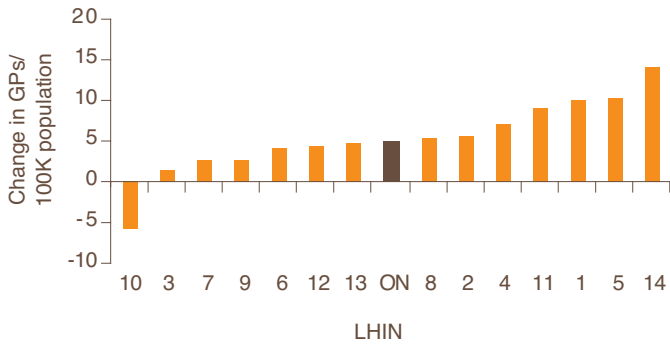
LHIN	Name of LHIN	2002 FTEs			2003 FTEs			2004 FTEs		
		GPs	Psychiatrists	Total	GPs	Psychiatrists	Total	GPs	Psychiatrists	Total
	Ontario	9,862	1,734	11,596	10,159	1,772	11,931	10,222	1,769	11,990
1	Erie St Clair	408	30	438	441	32	473	440	35	475
2	South West	693	114	808	714	112	825	709	109	819
3	Waterloo/Wellington	473	48	521	489	51	541	445	52	497
4	HNHB	944	129	1,072	986	122	1,108	967	137	1,104
5	Central West	432	41	473	443	40	483	484	42	526
6	Mississauga Halton	744	79	823	782	85	867	800	83	883
7	Toronto Central	1,422	638	2,059	1,445	665	2,110	1,424	645	2,068
8	Cental	1,198	146	1,344	1,239	145	1,384	1,325	155	1,479
9	Central East	1,057	85	1,142	1,055	92	1,147	1,086	97	1,183
10	South East	440	65	505	444	69	513	440	74	515
11	Champlain	1,021	265	1,286	1,029	270	1,299	1,067	269	1,336
12	N. Simcoe/Muskoka	343	33	376	363	30	393	364	28	392
13	North East	484	46	529	505	43	549	468	33	501
14	North West	203	19	221	222	17		204	9	212

LHIN	Name of LHIN	2005 FTEs			2006 FTEs			2007 FTEs		
		GPs	Psychiatrists	Total	GPs	Psychiatrists	Total	GPs	Psychiatrists	Total
	Ontario	10,519	1,784	12,304	10,745	1,833	12,578	11,057	1,865	12,922
1	Erie St Clair	457	38	495	460	41	502	475	42	518
2	South West	734	113	847	737	129	866	761	134	895
3	Waterloo/Wellington	490	53	543	502	50	552	515	58	572
4	HNHB	1,006	140	1,147	1,043	143	1,186	1,072	151	1,223
5	Central West	511	40	551	551	38	589	590	31	620
6	Mississauga Halton	843	83	926	890	85	975	900	84	983
7	Toronto Central	1,435	646	2,081	1,341	634	1,975	1,469	662	2,130
8	Cental	1,351	163	1,514	1,414	176	1,590	1,425	168	1,594
9	Central East	1,101	99	1,201	1,144	111	1,255	1,151	106	1,257
10	South East	432	72	504	432	66	497	417	67	484
11	Champlain	1,093	265	1,359	1,125	270	1,396	1,160	272	1,432
12	N. Simcoe/Muskoka	367	27	394	393	36	430	390	36	426
13	North East	494	32	526	495	35	530	504	36	540
14	North West	205	10	215	218	17	235	229	19	248

Source: Ontario Physician Human Resources Data Centre, 2008.

Note: FTE = full-time equivalent

4B CHANGE IN PHYSICIAN AVAILABILITY BY LHIN – FY02 AND FY07





DEFINITION OF MENTAL HEALTH ER VISIT¹

- Main diagnosis = category 1 code as indicated below (mental health): OR,
- Main diagnosis = category 2 code (addiction) AND pre-admission co-morbidity diagnoses include at least one category 1 code (mental health diagnosis); OR,
- Main diagnosis = category 3 code (developmental) AND pre-admission co-morbidity diagnoses include at least one category 1 code (mental health diagnosis).

CATEGORY 1 – MENTAL DISORDERS

ICD-10 Chapter V: Mental and behavioural disorders codes		
ICD-9 CM	ICD-9 CM	Diagnoses
F20-F29	295.0 - 295.9, 297.0 - 297.3, 297.8, 297.9, 298.3, 298.4, 298.8, 298.9	Schizophrenia, schizotypal and delusional disorders
F30-F39	296.0 - 296.9, 298.0, 300.4, 301.1, 311	Mood (affect) disorders – mania, bipolar, depression
F40-F43	300.0, 300.2, 300.3, 308.3, 308.9	Neurotic, stress-related – anxiety disorders, OCD, PTSD (NOT associative and somatoform)
F50	307.1, 307.5,	Eating disorders
F60-F62	301.0, 301.2 - 301.9	Personality disorders – specific, mixed, enduring

CATEGORY 2 – ADDICTION DISORDERS

ICD-10 Chapter V: Mental and behavioural disorders codes		
ICD-9 CM	ICD-9 CM	Diagnoses
F10-F19	291.0 - 291.3, 291.8 - 292.2, 292.8, 292.9, 294.0, 303, 304.0 - 305.9	Behavioral disorders due to psychoactive substance use – alcohol, drugs
F63.0	312.3	Impulse disorder – pathological gambling

CATEGORY 3 – DEVELOPMENTAL DISORDERS

ICD-10 Chapter V: Mental and behavioural disorders codes		
ICD-9 CM	ICD-9 CM	Diagnoses
F70-F79	317, 318.0 - 318.2, 319	Mental retardation
F84	299.0, 299.1, 299.8, 330.8	Pervasive developmental disorders – autism, Rett's & Asperger's syndrome

¹ As applied to the National Ambulatory Care Reporting System (NACRS)



ADMINISTRATIVE DATA SOURCES

CENSUS

Every five years, Statistics Canada conducts a census. It is a statistical portrait of the country, containing information on demographic, social and economic characteristics of its population. *Impact study* is based on the 2006 Census.

COMMUNITY MENTAL HEALTH PROGRAMS BUDGETS AND INVENTORY

The **Community Mental Health Programs Budgets and Inventory (CMHPBI)** system manages the Operating Plan processes for the transfer payments for community mental health programs. This database contained annual budget submissions from community mental health agencies, but is no longer maintained by the Ministry. Community mental health organizations now report some of this information through the Web Enabled Reporting System (WERS).

DAILY CENSUS SUMMARY, HEALTH DATA BRANCH, MOHLTC

Daily Census Summary, Health Data Branch, MOHLTC contains statistical data of both clinical and financial nature used for planning, managing, funding and monitoring the system of institutional and community based hospitals, mental health, and long-term care health care programs for Ontario, in collaboration with regional offices and other divisions within the Ministry of Health and Long-Term Care.

DISCHARGE ABSTRACT DATABASE

Discharge Abstract Database (DAD) contains demographic, administrative and clinical data for hospital discharges: acute inpatient, day surgery, chronic, and rehabilitation. CIHI receives data directly from participating hospitals in every province and territory except Quebec. Information collected in the DAD is used in the creation of parts of other databases. DAD in Ontario now contains only Acute Care. All other care types are now reported in their own systems.

MENTAL HEALTH SERVICE INFORMATION ONTARIO

Mental Health Service Information Ontario (MHSIO), operated by *ConnexOntario* Health Services Information, is an electronic registry of mental health services funded by the Ministry of Health and Long-Term and is accessible by the public and professionals for referral and planning. Organizations submit standardized information for each of their services, with service categories/types aligned with MIS standards. One of the categories, used in the *Impact Study*, is crisis intervention. *ConnexOntario* is funded by the MOHLTC.

NATIONAL AMBULATORY CARE REPORTING SYSTEM

National Ambulatory Care Reporting System (NACRS) includes data for all hospital-based and community-based ambulatory care. These include surgical day/night care, outpatient clinics and emergency departments. Most of the data comes from Ontario, although other provinces submit as well. Currently, data submission to NACRS has been mandated in Ontario for Emergency Rooms (ER), Surgical day/night care, Dialysis, Cardiac Catheterization and Oncology (including all regional cancer centers).

ONTARIO HEALTH INSURANCE PLAN (OHIP) DATABASE

Ontario Health Insurance Plan (OHIP) Database provides information on physician fee-for-service claims paid for services provided to Ontario residents. For each record, the database contains patient and physician identifiers (anonymized and then encrypted), a code for the service provided, date of service, associated diagnosis, and fee paid.

ONTARIO MENTAL HEALTH REPORTING SYSTEM

Ontario Mental Health Reporting System (OMHRS) is a reporting system of the Canadian Institute for Health information (CIHI) that collects, analyzes and reports on information submitted to CIHI about individuals admitted to designated adult mental health beds in Ontario.

The comprehensive set of data collected by OMHRS is based on the Resident Assessment Instrument-Mental Health (RAI-MH)[®] and includes information about mental and physical health, social support and service use. Hospitals collect and submit information to CIHI when an individual is admitted, discharged, has a significant change in health status and every three months for individuals who stay longer than three months.

THE ONTARIO PHYSICIAN WORKFORCE DATABASE

The Ontario Physician Workforce Database (OPWD) is a collaborative effort of the Ministry of Health and Long-Term Care, the Ontario Physician Human Resources Data Centre at McMaster University (OPHRDC), and the Institute for Clinical Evaluative Sciences. The OPWD maintains demographic information together with workload activity measures on all physicians in active practice in Ontario. For development of the OPWD, nominative data files are transferred to ICES where a measure of full-time equivalent (FTE) of clinical activity is appended. Recalculated annually, this FTE is based in most instances on OHIP billing activity, but measures to account for non-fee for service activity are also included. The file is returned to OPHRDC where inconsistencies are reconciled and reports prepared. OPHRDC does not receive annual billing data during this process.



ER VISITS FOR ANY REASON AND FOR MENTAL HEALTH REASONS – FY02 TO FY07

Number of ER visits for

Year	MH reason		Any reason	
	#	Per 100K adult population	#	Per 100K adult population
FY02	116,149	1433	2,973,469	36,676
FY03	111,539	1353	2,855,039	34,637
FY04	118,722	1419	3,029,670	36,212
FY05	126,117	1,486	3,119,315	36,762
FY06	129,352	1,502	3,191,402	37,063
FY07	131,604	1,505	3,230,337	36,946
% change (FY02-FY07)*	+ 13.3	+ 5.1	+ 8.6	+ 0.7

* FY07-FY02/FY02*100

Source: National Ambulatory Care Reporting System, *CIHI*, FY02-FY07



ER VISITS FOR MENTAL HEALTH REASONS BY LHIN – FY02 AND FY07

Per 100K adult population

LHIN	Name of LHIN	Number of people			Number of visits		
		FY02	FY07	Actual change	FY02	FY07	Actual change
	Ontario	954	1,023	69	1,433	1,505	73
1	Erie St. Clair	1,022	1,166	144	1,500	1,748	248
2	South West	1,001	1,178	177	1,465	1,663	198
3	Waterloo Wellington	799	1,009	210	1,062	1,390	328
4	HNHB	1,011	1,092	81	1,482	1,607	125
5	Central West	663	673	11	952	908	-44
6	Mississauga Halton	654	666	13	890	921	31
7	Toronto Central	1,080	1,129	49	1,895	1,873	-23
8	Central	633	612	-21	898	858	-40
9	Central East	840	931	90	1,235	1,317	82
10	South East	1,146	1,267	121	1,728	1,795	67
11	Champlain	1,007	1,111	105	1,498	1,726	228
12	N. Simcoe Muskoka	1,160	1,160	0	1,617	1,608	-9
13	North East	1,809	1,956	147	2,840	2,955	115
14	North West	1,911	2,173	262	3,293	3,497	204

Source: National Ambulatory Care Reporting System, *CIHI*, FY02-FY07



ER VISITS FOR MENTAL HEALTH REASONS BY SUBGROUP – FY02 TO FY07

Fiscal year	Subgroup							
	SSI # of		YWP # of		Concurrent # of		Total population	
	Individuals	Visits	Individuals	Visits	Individuals	Visits	Individuals	Visits
FY02	10,881	25,192	4,177	6,714	16,535	28,860	77,346	116,149
FY03	10,218	22,941	4,274	6,580	16,620	29,259	75,105	111,539
FY04	10,919	23,981	4,583	7,103	18,335	31,715	80,469	118,722
FY05	11,623	25,487	4,854	7,353	19,752	34,072	85,476	126,117
FY06	12,300	26,421	4,884	7,533	20,235	34,673	88,115	129,352
FY07	12,545	27,080	4,833	7,375	20,937	35,980	89,422	131,604
% change (FY02-FY07)	+ 15	+ 8	+ 16	+ 10	+ 27	+ 25	+ 16	+ 13

Source: National Ambulatory Care Reporting System, *CIHI*, FY02-FY07

10

CRISIS SURVEY RESPONSE RATES BY LHIN

LHIN	Name of LHIN	Initially identified	Eligible to participate*		Participation rate	
			N	%	N	%
	Ontario	152	136	89	110	81
1	Erie St. Clair	7	7	100	7	100
2	South West	18	15	83	13	87
3	Waterloo Wellington	9	9	100	6	67
4	HNHB	11	10	91	10	100
5	Central West	7	6	86	6	100
6	Mississauga Halton	8	7	88	6	86
7	Toronto Central	15	13	87	10	77
8	Central	12	11	92	8	73
9	Central East	13	12	92	9	75
10	South East	7	7	100	6	86
11	Champlain	10	9	90	8	89
12	N. Simcoe Muskoka	10	10	100	6	60
13	North East	12	12	100	9	75
14	North West	9	8	89	6	75

* Currently provide crisis services



WEEK DAY AND WEEK NIGHT CRISIS SERVICE STAFFING BY LHIN

11A DAY FTES

FACE TO FACE services														
Area	Telephone		Community walk-in		Community mobile		Community safe beds		Total		Hospital based		Total Face to Face services	
	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*
Ontario	63.7	0.73	69.3	0.79	57.0	0.65	47.4	0.54	173.7	1.99	86.4	0.99	260.1	2.97
Median	4.8	0.8	2.9	0.8	3.6	0.6	3.1	0.5	11.7	2.2	6.9	1.0	16.5	3.2
1	4.3	1.0	2.8	0.6	3.6	0.8	2.3	0.5	8.7	2.0	5.7	1.3	14.4	3.3
2	6.9	1.1	14.3	2.3	4.7	0.7	1.0	0.2	19.9	3.2	6.9	1.1	26.8	4.3
3	1.5	0.3	7.0	1.4	0.5	0.1	4.0	0.8	11.5	2.3	4.0	0.8	15.5	3.2
4	8.6	0.9	3.0	0.3	2.7	0.3	10.6	1.1	16.3	1.8	12.6	1.4	28.9	3.1
5	4.0	0.7	1.0	0.2	0.0	0.0	5.0	0.9	6.0	1.1	7.0	1.3	13.0	2.4
6	2.1	0.3	0.0	0.0	1.3	0.2	2.0	0.3	3.3	0.4	1.7	0.2	4.9	0.6
7	8.0	1.0	15.0	1.9	4.0	0.5	3.0	0.4	22.0	2.7	13.0	1.6	35.0	4.4
8	3.9	0.3	0.5	0.0	5.9	0.5	3.4	0.3	9.7	0.8	7.5	0.7	17.2	1.5
9	5.7	0.6	2.8	0.3	6.7	0.7	5.8	0.6	15.2	1.5	7.0	0.7	22.2	2.2
10	0.8	0.2	9.6	3.0	8.1	2.5	0.5	0.1	18.1	5.6	0.5	0.2	18.6	5.7
11	5.9	0.7	2.9	0.4	11.2	1.3	3.2	0.4	17.3	2.1	8.8	1.1	26.0	3.1
12	5.6	1.9	2.9	1.0	3.6	1.2	1.0	0.3	7.5	2.5	8.4	2.8	15.8	5.4
13	5.2	1.4	5.2	1.4	2.2	0.6	4.4	1.2	11.8	3.1	2.0	0.5	13.8	3.7
14	1.3	0.8	2.5	1.6	2.8	1.8	1.3	0.8	6.6	4.1	1.5	0.9	8.1	5.1

Source: Study Crisis Survey

11B NIGHT FTES

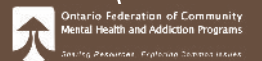
FACE TO FACE services														
Area	Telephone		Community walk-in		Community mobile		Community safe beds		Total		Hospital based		Total Face to Face services	
	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*	FTEs	Rate*
Ontario	35.1	0.40	9.0	0.10	18.4	0.21	27.8	0.32	55.24	0.63	37.1	0.42	92.3	1.06
Median	2.7	0.4	0.5	0.0	0.7	0.1	1.7	0.3	3.5	0.5	2.2	0.4	6.3	1.1
1	3.3	0.74	1.0	0.23	0.7	0.15	1.3	0.30	3.00	0.68	3.5	0.78	6.5	1.47
2	3.7	0.58	0.5	0.09	2.5	0.40	4.4	0.70	7.44	1.19	2.3	0.37	9.8	1.56
3	1.0	0.20	1.0	0.20	2.0	0.41	1.0	0.20	4.00	0.82	2.0	0.41	6.0	1.22
4	3.7	0.40	0.0	0.00	0.3	0.04	5.1	0.55	5.46	0.59	3.5	0.38	9.0	0.97
5	4.0	0.73	0.0	0.00	0.0	0.00	4.0	0.73	4.00	0.73	6.0	1.10	10.0	1.83
6	1.1	0.14	0.0	0.00	0.0	0.00	2.0	0.26	2.00	0.26	1.1	0.14	3.1	0.40
7	3.0	0.37		0.00	2.0	0.25	2.0	0.25	4.00	0.50	6.0	0.75	10.0	1.24
8	2.4	0.21	0.0	0.00	1.0	0.09	0.4	0.04	1.43	0.13	4.7	0.41	6.1	0.54
9	3.6	0.35	0.6	0.06	0.0	0.00	2.3	0.23	2.90	0.28	1.0	0.10	3.9	0.38
10	1.1	0.34	0.1	0.03	0.1	0.03	0.5	0.14	0.65	0.20	0.1	0.04	0.8	0.24
11	1.8	0.21	0.8	0.09	0.8	0.09	0.0	0.00	1.50	0.18	3.8	0.45	5.3	0.63
12	1.2	0.39	0.0	0.00	0.7	0.22	0.5	0.17	1.16	0.39	0.7	0.22	1.8	0.62
13	4.0	1.07	2.0	0.53	0.0	0.00	3.0	0.80	5.00	1.33	1.5	0.40	6.5	1.73
14	1.3	0.82	3.0	1.88	8.4	5.27	1.3	0.82	12.70	7.97	1.0	0.63	13.7	8.60

Source: Study Crisis Survey

12

LIST OF ACRONYMS USED (ALPHABETICAL ORDER)

ACT	Assertive community treatment
CAMH	Centre for Addiction and Mental Health
CD	Concurrent disorder (cohort)
CHC	Community health centre
CMH	Community mental health
CMHEI	Community Mental Health Evaluation initiative
DAD	Discharge Abstract Database
EI	Early intervention
ER	Emergency room
FHT	Family health team
FTE	Full time equivalent
FY	Fiscal year
GP	General practitioner
GTA	Greater Toronto area
HBAM	Health based allocation model
ICM	Intensive case management
LHIN	Local health integration network
MHA	Mental Health Act
MOHLTC	Ministry of Health and Long-Term Care (Ontario)
NACRS	National Ambulatory Care Reporting System
OHIP	Ontario health insurance plan
OMHAKEN	Ontario mental health and addictions knowledge exchange network
OMHRS	Ontario Mental Health Reporting System
OPP	Ontario provincial police
PMI	People with mental illnesses
SEEI	System Enhancement Evaluation Initiative
SSI	Severe mental illness (cohort)
YWP	Youth with psychosis (cohort)



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