

**Development and Implementation of an Electronic Practice Network for
Mental Health Surveillance in Canada ***

Final Report submitted to
Public Health Agency of Canada
May 12, 2008

On behalf of the Canadian Psychological Association

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* Production of this document has been made possible through a financial contribution of the Public Health Agency of Canada. The views expressed herein do not necessarily represent the views of the Public Health Agency of Canada.

Introduction

Psychologists are the country's largest specialized and regulated group of mental health care providers. Because of the growing trend toward psychological service provision in the private sector, health information databases do not contain comprehensive information about the professional activities of this important group of mental health service providers. The purpose of the current project was to develop a methodology to systematically collect information about the mental health services provided by Canadian psychologists and about the kinds of clients to whom they provide services.

As presented in the project's proposal, the objective of the project was to develop an electronic practice network that will capture information on the mental health needs of Canadians by enrolling a sample of the country's psychologists to supply information to a database and respond to a web-based practice survey. We proposed to do this by developing a database of demographic and practice data elements for clients and providers as well as a web-based, real-time sampling methodology to survey providers' professional practices.

As also noted in the project proposal, the questions that comprised the survey (demographic and practice-related questions of the psychologist participants and the demographic, clinical and treatment characteristics of a sampled client) were developed in an earlier project. In this project, we successfully

- wrote the code for the web-based surveys that delivered the questions,
- established the methodology to for the web-based administration of the surveys,
- recruited psychologist participants to complete the surveys,
- piloted the surveys for technology,
- delivered the surveys and analyzed their results, and
- collected feedback from the participants about their survey experience.

Survey Description and Development

As mentioned, the questions that comprised our web-based surveys were developed in an earlier project and can be found in Appendix A (see Surveys I and II). In this project we wrote the code to create the web-based survey into which the questions were incorporated. Survey I collected demographic and practice characteristics about the sampled psychologists (e.g., age and gender of the psychologists, length of time in practice) and their practices (e.g., types of service rendered, types of problems and diagnoses for which service is provided, age groups of clients to whom they provide service). Survey II asked the participating psychologists to respond to questions regarding the demographic and clinical characteristics of a randomly selected client (e.g., demographic characteristics of a randomly sampled client, type of problem presented, type of intervention delivered).

Administration of the Surveys

In August 2007, in preparation for conducting the web-based surveys, we contacted the provincial bodies that regulate psychologists in Canada to inform them of the nature and purpose of the surveys and to ask them to disseminate a request for participation among their members. As indicated in this request, we sought 50-100 registered psychologists and psychological associates[†] to complete Surveys I and II. The regulatory bodies were contacted via email with a project description which was then forwarded to their respective members with a request for participation also using email communication. (See Appendix B for the text of all email communication with participants).

Over the following weeks and months, 139 psychologists and psychological associates responded to the email invitations sent by their regulatory bodies by emailing us to indicate their interest in participating in the project. Prior to sending out email instructions to all 139 volunteers about how to complete the surveys, we piloted the web-based surveys among a small number to ensure the technology; to ensure that the web-based survey was navigable and able to be completed.

During the period February 1, 2008 through March 10, 2008, the 139 potential participants were sent, via email, more detailed information about the project's methodology, a request for their participation as well as instructions about how to access the surveys. As detailed in the email instructions, participants accessed Survey I by following a link that brought them directly to the Survey. The preface and instructions that were delivered to participants as soon as they accessed the link to begin completing the Surveys are also found in Appendix A.

In addition to the demographic and practice characteristic questions, Survey I asked participants to indicate their practice hours (i.e. the days and times during which they typically saw clients). The request for participants to complete Survey II was sent out at a randomly selected time that fell within the practice times they reported. Psychologists were instructed to base their answers to Survey II questions on the client they saw closest to a stipulated randomly selected time that fell within their practice hours. As mentioned in the project proposal, this methodology, called 'real-time sampling,' was developed by the Practice Directorate of the American Psychological Association (APA) and adapted by us in consultation with the APA. Real-time sampling has the advantage of having a participant provide practice data about a randomly, rather than participant selected, client and thereby better ensure a representative instance of their clinical activity and client population.

A week following the first email in which participants were directed to complete Survey I, participants were sent a second email, thanking those who had in fact completed Survey I and reminding those who had not yet completed Survey I about how to access the survey. Those who participated in Survey I then automatically received an invitation to participate in Survey II. Instructions about how and when to participate in Survey II were emailed to participants in the following days, and as mentioned, at a randomly chosen time within participants' self-reported practice hours. Participants had a 48-hour window to complete Survey II in which they reported on

[†] Note that in some Canadian jurisdictions there are two registered titles in psychology: Psychologist at the doctoral level and Psychological Associate at the Master's level. Both registered titles allow for the autonomous practice of psychology.

the last client to whom they provided services before the arrival of the email. As mentioned, copies of all emails sent to the survey participants are found in Appendix B.

Survey Results

Survey I

A total of 80 registered psychologists and psychological associates participated in Survey I. Responses were obtained from psychologists and psychological associates in British Columbia, Alberta, Saskatchewan, Ontario, Quebec, and Prince Edward Island. The mean age of the participants was 48 years (SD = 10; Range = 31-71). Fifty-five of the participants were women (68.8%), 25 were men (18.8%). Sixty-five of the participants were registered with a doctoral degree and 15 with a master's degree. In terms of the area of psychology in which participants received their highest degree, they included clinical (N=38, 47.5%), school/educational (N=11, 13.8%), counseling (N=9, 11.2%), experimental (N=9, 11.2%), clinical neuropsychology (N=7, 8.8%), and other applied psychology (N=5, 6.3%). The length of time in which participants had been in autonomous practice varied: 22 (27.5%) had 5 years or less, 20 (25.0%) had 6-10 years, 6 (7.5%) had 11-15 years, 8 (10.0%) had 16-20 years, and 24 (30.0%) had 20 years or more experience in autonomous practice.

A series of questions were asked about general characteristics of the participants' practices, including the context in which they provided psychological services, their hours of work, the average weekly number of clients/clients to whom they provided services, the age range of clients/clients to they provided services, the types of presenting problems for which they provided services, and the manner in which clients/clients pay for psychological services.

Percentage of participants working in various practice contexts

- Exclusively within a publicly funded institution: 18 (22.5%)
- Primarily within a publicly funded institution and some private practice: 27 (33.8%)
- Equally public and private practice: 4 (5.0%)
- Primarily private practice and some service within a publicly funded institution: 9 (11.2%)
- Exclusively private practice: 22 (27.5%)
- Number of hours spent in practice
- Less than half time: 5 (6.2%)
- Half-time: 5 (6.2%)
- Full-time (35 + hrs per wk): 70 (87.5%)
- Number of clients seen per week: M = 14.8; SD = 9.1

Percentage of participants providing services to different aged clients/clients

- Children: 43 (53.8%)
- Adolescents: 52 (65.0%)
- Young adults: 66 (82.5%)
- Adults: 60 (75.0%)
- Older adults: 38 (47.5%)

Percentage of participants providing services for clients/clients with various presenting problems

- Mood disorders: 68 (85.0%)
- Anxiety disorders: 74 (92.5%)
- Personality disorders: 40 (50.0%)
- Psychosis: 16 (20.0%)
- Eating disorders: 23 (28.8%)
- Sleep disorders: 22 (27.5%)
- Somatoform disorders: 26 (32.5%)
- Sexual disorders: 12 (15.0%)
- Substance use disorders: 33 (41.2%)
- Intrapersonal issues: 67 (83.8%)
- Interpersonal issues: 60 (75.0%)
- Vocational issues: 21 (26.2%)
- Learning problems: 43 (53.8%)
- Cognitive functioning (adulthood): 26 (32.5%)
- Cognitive functioning (childhood): 33 (41.2%)
- Psychological problems (childhood): 49 (61.2%)
- Managing health, injury, illness: 37 (46.2%)
- Sexual abuse/trauma: 44 (55.0%)
- Adjustment to stressors: 52 (65.0%)

Fifteen participants also reported providing services for a number of other issues, including childhood disorders (behaviour disorders, developmental disorders), brain injuries, and legal/forensic issues.

Payment for psychological services (total for each participant was equal to 100%)

- Services provided within a publicly funded institution (e.g., hospital, school, correctional facility): $M = 52.1\%$, $SD = 43.5\%$
- Services paid directly by workers' compensation board: $M = 3.8\%$, $SD = 8.2\%$
- Services paid directly by other insurer or program (e.g. motor vehicle accident insurance): $M = 11.6\%$, $SD = 21.4\%$
- Services paid directly by employer through an employee assistance program: $M = 4.2\%$, $SD = 10.5\%$
- Client pays for services directly, with no extended health insurance reimbursement: $M = 9.5\%$, $SD = 15.4\%$
- Client pays for services directly, all or most is then reimbursed by extended health insurance: $M = 16.3\%$, $SD = 22.5\%$
- Client receives pro-bono services: $M = 2.5\%$, $SD = 4.6\%$

The nature of participants' service activities was addressed with a number of questions including the percentage of time spent in general professional activities, the specific psychological services provided, and the theoretical orientations informing their services.

Percentage of time spent in professional activities (total for each participant was equal to 100%) M; SD; Minimum; Maximum

- Assessment: 30.5; 24.4; 0; 90
- Intervention: 36.6; 27.9; 0; 98
- Consultation: 12.9; 13.3; 0; 70
- Teaching: 7.7; 12.3; 0; 65
- Research: 4.6; 8.9; 0; 35
- Other: 7.7; 16.0; 0; 90

Provision of specific psychological services

- Assessment (mood, behavioural, personality): 67 (83.8%)
- Assessment (intellectual): 52 (65.0%)
- Assessment (neuropsychological): 16 (20.0%)
- Assessment (vocational): 8 (10.0%)
- Individual therapy: 64 (80.0%)
- Family therapy: 27 (33.8%)
- Couple therapy: 28 (35.0%)
- Group therapy: 16 (20.0%)
- Organizational/program consultation: 30 (37.5%)
- Clinical/counseling consultation: 61 (76.2%)

Recipients of participants' consultation services (n = 70)

- Health organizations: 44 (55.0%)
- Corporate sector: 11 (13.8%)
- Educational institutions: 37 (46.2%)
- Correctional institutions: 10 (12.5%)
- Legal system: 22 (27.5%)
- Community agencies: 43 (53.8%)

Twenty-one participants also reported providing consultation services for a number of other agencies, including government agencies and other health care providers.

Participants' theoretical orientation (total exceeds 100% as participants were able to endorse more than one option)

- Cognitive-behavioural: 67 (83.8%)
- Family systems: 24 (30.0%)
- Interpersonal: 22 (27.5%)
- Psychodynamic: 19 (23.8%)
- Humanistic/experiential: 18 (22.5%)

Additionally, 6 participants explicitly described themselves as having an eclectic or integrative orientation (i.e., incorporating two or more orientations), and 11 included additional orientations that were not one of the five available options (e.g., hypnosis, feminist, developmental).

Survey II

A total of 58 participants took part in Survey II (72.5% of the Survey I sample). This survey focused on the types of clients and services provided by psychologists and psychological associates. To this end, participants were asked to provide details about the client most recently seen prior to receiving the web link (via email) to complete Survey II.

Participants were asked a number of questions regarding the sociodemographic characteristics of the client upon which they reported. The mean age of clients reported on was 32.4 years ($SD = 16.6$; $Range = 4 - 73$). Thirty of the clients were men (52%) and 28 were women (48%).

Marital status:

- Married: 15 (25.9%)
- Common law: 5 (8.6%)
- Widowed: 1 (1.7%)
- Separated: 1 (1.7%)
- Divorced: 6 (10.3%)
- Single and never married: 30 (51.7%)

Sexual orientation (as reported by the client):

- Heterosexual: 43 (74.1%)
- Gay/lesbian: 2 (3.4%)
- Bisexual: 2 (3.4%)
- Unknown: 11 (19.0%)

Ethnicity:

- White: 49 (84.5%)
- Aboriginal: 6 (10.3%)
- Arab: 2 (3.4%)
- South Asian: 1 (1.7%)

Language spoken at home:

- English: 50 (86.2%)
- French: 5 (8.6%)
- First Nations language: 2 (3.4%)
- Polish: 1 (1.7%)

Language in which the psychological service is provided:

- English: 53 (91.4%)
- French: 5 (8.6%)

Was the client born in Canada or did the client move to Canada?

- Born in Canada: 53 (91.4%)
- Immigrant: 5 (8.6%)

Living arrangements:

- Private residence: 51 (87.9%)
- Residential care: 3 (5.2%)
- Institutional setting: 2 (3.4%)
- Foster care: 2 (3.4%)

Educational attainment:

- Grade 8 or lower: 14 (24.1%)
- Some high school: 9 (15.5%)
- High school diploma: 11 (19.0%)
- College certificate or diploma: 6 (10.3%)
- Trades certificate or diploma: 1 (1.7%)
- Some undergraduate: 4 (6.9%)
- Undergraduate degree: 6 (10.3%)
- Graduate or professional degree: 6 (10.3%)
- Unknown: 1 (1.7%)

Is the client employed?

- Full-time: 16 (27.6%)
- Part-time: 8 (13.8%)
- No: 34 (58.6%)

Is the client a student?

- Full-time: 22 (37.9%)
- Part-time: 5 (8.6%)
- No: 31 (53.8%)

A series of questions were asked about the clinical characteristics of the client. These included the presence of risk factors for mental health problems, general health status and presence of any chronic illnesses, substance use problems, and the nature of the presenting problems and diagnoses.

Early or identifiable risk factors for mental health problems (total exceeds 100% as participants were able to endorse more than one risk factor)

- Parental mental disorder or family history of mental health problem: 27 (46.6%)
- Marital problems: 17 (29.3%)
- Bereavement during childhood: 9 (15.5%)
- Mobility (i.e., frequent moves): 12 (20.7%)
- Failure to graduate high school: 2 (3.4%)
- Physical or sexual abuse as a child: 22 (37.9%)
- Removal from family by child welfare authorities: 11 (19.0%)
- Unknown: 4 (6.9%)
- No risk factors: 12 (20.7%)

Client's appraisal of own health status:

- Poor: 7 (12.1%)
- Fair: 16 (27.6%)
- Good: 14 (24.1%)
- Very good: 13 (22.4%)
- Excellent: 2 (3.4%)
- Unknown: 6 (10.3%)

Does the client report problems related to a chronic disease, disorder or condition? (total exceeds 100% as participants were able to endorse more than one option):

- Neurological functions: 10 (17.2%)
- Mental functions: 9 (15.5%)
- Gross/fine motor functions: 11 (19.0%)
- Visual functions: 1 (1.7%)
- Auditory functions: 1 (1.7%)
- Speech/language functions: 3 (5.2%)
- Gastrointestinal functions: 2 (3.4%)
- Endocrinological functions: 2 (3.4%)
- Cardiological functions: 4 (6.9%)
- Respiratory functions: 4 (6.9%)
- Immunological functions: 0
- Unknown: 2 (3.4%)
- No chronic disease: 27 (46.6%)

Presenting problem (total exceeds 100% as participants were able to endorse more than one option):

- Mood disorders: 22 (37.9%)
- Anxiety disorders: 25 (43.1%)
- Personality disorders: 12 (20.7%)
- Psychosis: 0
- Eating disorders: 3 (5.2%)
- Sleep disorders: 4 (6.9%)
- Somatoform disorders: 2 (3.4%)
- Sexual disorders: 2 (3.4%)
- Substance use: 7 (12.1%)
- Intrapersonal issues: 31 (53.4%)
- Interpersonal issues: 25 (43.1%)
- Vocational issues: 9 (15.5%)
- Learning problems: 13 (22.4%)
- Cognitive functioning (adulthood): 4 (6.9%)
- Cognitive functioning (childhood): 4 (6.9%)
- Psychosocial problems (childhood): 10 (17.2%)
- Managing health, injury, illness: 9 (15.5%)
- Sexual abuse/trauma: 10 (17.2%)
- Adjustment to stressors: 15 (25.9%)

Seven participants reported that their clients had other presenting problems, such as childhood disorders (behaviour disorders, developmental disorders) or brain injuries.

Is there a substance use problem or disorder which is not the presenting problem but is concomitant with it?

- No: 47 (81.0%)
- Yes: 9 (15.5%)
- Unknown: 2 (3.4%)

Prior to starting treatment, to what extent was the client's daily functioning negatively affected by his or her presenting problem(s):

- Not at all: 1 (1.7%)
- A little: 2 (3.4%)
- Moderately: 23 (39.7%)
- Severely: 32 (55.2%)

Does the client meet criteria for any DSM-IV diagnoses?

- Yes: 39 (67.2%)
- No: 10 (17.2%)

Primary DSM-IV Diagnosis (N = 38):

- Disorder usually first diagnosed in infancy, childhood, or adolescence: 12
- Delirium, dementia, and amnesic and other cognitive disorder: 1
- Mental disorder due to a general medical condition: 1
- Mood disorder: 11
- Anxiety disorder: 9
- Somatoform disorder: 1
- Dissociative disorder: 1
- Eating disorder: 1
- Adjustment disorder: 1

Secondary DSM-IV Diagnosis (n = 24):

- Disorder usually first diagnosed in infancy, childhood, or adolescence: 5
- Substance-related disorder: 2
- Mood disorder: 3
- Anxiety disorder: 9
- Somatoform disorder: 1
- Dissociative disorder: 1
- Sleep disorder: 1
- Personality disorder: 2

Participants also indicated that 12 clients received a third diagnosis and that 4 clients received a fourth diagnosis.

Participants were asked a series of questions about the psychological services provided to the client, other mental health services the client is receiving or is referred for, and any medication the client is taking.

Including the session just completed with the client, participants indicated that clients had received an average of 16.6 sessions of psychological services ($SD = 23.6$; $Range = 1 - 100$). Participants anticipated providing an average of 10.6 additional sessions of services to the clients ($SD = 12.8$; $Range = 0 - 56$).

Since beginning services, how much change is there in the client's presenting problem(s)?

- Deterioration: 3 (5.2%)
- No change: 18 (31.0%)
- Improved: 27 (46.6%)
- Greatly improved: 9 (15.5%)
- Recovered: 1 (1.7%)

In what type of setting or organization is the service provided to the client?

- Private practice setting (individual practice): 20 (34.5%)
- Private practice setting (group practice): 9 (15.5%)
- Public health care organization (e.g., hospital): 17 (29.3%)
- Correctional facility: 1 (1.7%)
- School setting: 5 (8.6%)
- University/college counseling center or clinic: 3 (5.2%)
- Community or street outreach programme: 3 (5.2%)

How was the service to client paid for?

- Services received within a publicly funded institution: 26 (44.8%)
- Paid for directly by workers' compensation board: 3 (5.2%)
- Paid for directly by other insurer or program: 7 (12.1%)
- Paid for directly by employer: 3 (5.2%)
- Paid for services directly, with no extended health insurance reimbursement: 13 (22.4%)
- Paid for services directly, all or some reimbursed by extended health insurance: 4 (6.9%)
- Received pro-bono services: 2 (3.4%)

What service(s) were provided to the client during this session? (Total exceeds 100% because participants could indicate more than one service)

- Assessment (psychometric testing of mood, behaviour, personality): 21 (36.2%)
- Assessment (intellectual): 12 (20.7%)
- Assessment (neuropsychological): 5 (8.6%)
- Assessment (vocational): 2 (3.4%)
- Cognitive-behavioural therapy: 27 (46.6%)
- Interpersonal therapy: 11 (19.0%)
- Psychodynamic therapy: 7 (12.1%)
- Experiential/humanistic therapy: 7 (12.1%)

- Family systems therapy: 4 (6.9%)

A number of other service activities were reported, including academic/educational skills training, psychoeducational counseling, couple treatment, and play therapy.

The psychological services to this client were provided in:

- A major urban centre: 36 (62.1%)
- Suburb of a major urban centre: 3 (5.2%)
- A smaller city or town: 16 (27.6%)
- A rural setting: 3 (5.2%)

The client was referred to the service by:

- Self: 7 (12.1%)
- Other client: 1 (1.7%)
- Family member: 6 (10.3%)
- Psychologist: 4 (6.9%)
- Psychiatrist: 4 (6.9%)
- Physician: 9 (15.5%)
- Other health care professional: 15 (25.9%)
- Educational system: 7 (12.1%)
- Legal system: 5 (8.6%)

Is the client receiving another health service for the same presenting problem?

- No: 34 (58.6%)
- Yes: 24 (41.4%)

From whom is the client receiving these services? (N = 24, but total exceeds this because some clients are receiving services from multiple health professionals. First percentage in parentheses is the percentage of those who were receiving another service, N=24, who received that particular service. The second number in parentheses is the percentage of the entire sample, N=58, who received that particular service.)

- Psychiatrist: 15 (62.5%, 26%)
- Family practitioner: 15 (62.5%, 26%)
- Nurse practitioner: 1 (4.2%, 2%)
- Psychologist: 3 (12.5%, 5%)
- Counselor: 6 (25.0%, 10%)
- Other: 6 (25.0%, 10%)

The “Other” category included services such as in home clinical supports, physical therapy, and speech and language services.

Is the client receiving psychotropic medication?

- No: 31 (53.4%)
- Yes: 25 (43.1%)
- Unknown: 2 (3.4%)

Type of psychotropic medication(s) (N = 25, but total exceeds this because some clients are receiving multiple medications. First percentage in parentheses is the percentage of those who were receiving psychotropic medication, N=25, who received that particular medication. The second number in parentheses is the percentage of the entire sample, N=58, who received that particular medication.)

- Antidepressant: 19 (76.0%, 33%)
- Anxiolytic: 8 (32.0%, 14%)
- Antipsychotic: 3 (12.0%, 5%)
- Stimulant: 6 (24.0%, 10%)
- Hypnotic: 3 (12.0%, 5%)
- Mood stabilizer: 4 (16.0%, 7%)
- Unknown: 1 (4.0%, 2%)

Who prescribed the medication (N = 25):

- Psychiatrist: 15 (60.0%)
- Family physician or general practitioner: 9 (36.0%)
- Other medical specialist: 1 (4.0%)

Is the client receiving medication for a health problem which is related to the presenting problem? (e.g., receiving psychological services for managing chronic pain and taking pain medication)

- Yes: 15 (25.9%)
- No: 41 (70.7%)
- Unknown: 2 (3.4%)

Is the client receiving medication for a health problem unrelated to the presenting problem? (e.g., receiving psychological services for depression and taking antihypertensive medication)

- Yes: 14 (24.1%)
- No: 37 (63.8%)
- Unknown: 7 (12.1%)

Have you initiated referrals for the client for the following services? (Some clients received more than one referral):

- Treatment for substance use problems: 2
- Treatment for other mental health problem: 12
- Psychological assessment: 3
- Child/family services: 4
- Social services: 2
- Medical evaluation: 9
- Other medical service: 6 Self-help service: 9

Summary of Survey Results

A total of 80 registered psychologists and psychological associates responded to the first survey. Approximately two-thirds of participants were women, and the mean age of participants was 48 years. This average may be somewhat younger than the national average age estimated to be about 52 years for licensed psychologists. Approximately half of the participants had been registered for less than 10 years (and hence may account for the somewhat younger than expected sample), with another 30% being registered for over 20 years. This finding is consistent with the expectation that participants are more likely to be younger (less than 10 years in practice) or older (over 20 years) since middle-aged practitioners at the height of work and family demands may be less likely to participate in activities like completing surveys. That said, consultations with the Practice Directorate of the APA who has a very well developed web-based practice surveillance programme suggests that survey participants are largely characteristic of the population of licensed psychologists.

Most participants were engaged in full-time work and, importantly, over three-quarters engaged in at least some private fee-for-service provision of psychological services; slightly less than half of participants spent at least 50% of their time in providing psychological services in the private sector. On average, participants reported providing services (including assessment and intervention services) to 15 clients per week. It may be important to note from Survey I that psychologists reported spending almost as much time doing assessment (30.5%) as intervention (36.6%) and that assessments are usually conducted several hours or days at a time hence limiting the number of clients that can be seen in one week.

In terms of the nature of the clientele of the participants, over three-quarters reported providing services to adults. Although fewer participants reported services to youth and older adults, the majority did provide services to child and adolescents and slightly less than half provided services to older adults. Consistent with their prevalence in the general population, mood and anxiety disorders were the most common diagnoses for which services were provided with anxiety disorders somewhat more represented than depression and again consistent with estimates. Roughly one-third of participants provided services for diagnoses such as substance abuse disorders and somatoform disorders, with slightly fewer participants providing services for eating disorders and sleep disorders. Notably, half of all participants reported providing services for personality disorders and one-fifth worked with clients with psychotic disorders. With respect to other conditions, over half of participants provided services for dealing with stress and trauma, and only slightly fewer reported working with issues related to adjustment to illness and injury. Approximately half of the participants provided services for learning problems and over a third provided services for problems in cognitive functioning.

Participants reported providing a broad range of psychological services, with assessment and intervention services being the most commonly reported. Although individual treatment was provided by over three-quarters of participants, family therapy and couple therapy were also provided by at least a third of participants. Both clinical and organizational consultation was frequently provided; health and educational consulting were more common than consultation with the legal system or the corporate sector. A mix of payment systems was evident. Slightly more than half of all services were paid for within the publicly funded sector; many services were paid for by private coverage. Finally, consistent with previous surveys of psychologists, most participants demonstrated an eclectic theoretical orientation by virtue of endorsing more than one orientation.

Regardless of whether it informed a participant's eclectic approach or was the sole orientation used, the cognitive-behavioural orientation was by far the most common—it was endorsed by 4 out of 5 participants.

Slightly less than three-quarters of participants who completed Survey I (demographic and practice characteristics of the psychologist) went on to complete Survey II (demographic, practice and treatment characteristics of a randomly sampled client). Nevertheless, the information provided by the 58 psychologists and psychological associates gives some information about a randomly selected group of clients receiving psychological services in Canada.

The entire age range was evident in the information provided by participants, with the average age of clients being 32 years. Over half of the clients were single or never married, a number that might seem high but also reflects the presence of child and adolescent clients thereby suggesting that future surveys might ask about the marital status of only adult clients. Most clients were born in Canada, white, and heterosexual, with approximately equal numbers of females and males.

The roughly equal number of male and female clients may not represent the population of clients, who tend to be more female than male. The ratio in our sample may be related to the clinical problems presented (e.g., there are more boys with ADHD and autism) – a possibility we can examine in subsequent surveys. Likewise, the limited scope of this survey means that we cannot determine whether the relative infrequency of immigrant clients, non-White clients, and homosexual clients is an accurate reflection of those who receive psychological services. Most clients spoke English at home and received services in English—this is probably largely a reflection of the few survey francophone participants from the province of Quebec. (We had received the participation of the regulatory body of psychologists in Quebec and the request for participation was sent out to francophone psychologists in that province. As mentioned in the project proposal, we had hoped to recruit 1/3 of our sample from Quebec. Unfortunately, this was not possible in the current project, but will need to be addressed in any subsequent projects.) A range of educational achievement was evident, again reflecting the presence of child and adolescent clients in the sample. Two-thirds of clients were receiving their services within the vicinity of a major urban centre. Whether this finding reflects the tendency of urban clients to be more likely to seek services or the fact that urban service is more readily available can also be explored in future surveys.

Approximately half of the clients had some type of chronic disease, disorder, or condition. Consistent with this, only half of clients described their health status as good or better. Three-quarters of clients had at least one risk factor for mental health problems in their backgrounds, with family history of mental health problems and childhood physical or sexual abuse being the most common. Mood and anxiety disorders were the most frequently reported mental disorders, with approximately one-quarter having a substance abuse problem or disorder.

On average, clients had received 16 sessions of psychological service, with an average of another 10 sessions anticipated by the participants. Two-thirds of clients were rated as having some level of improvement since beginning psychological services. Consistent with the data from the first survey, half of clients were receiving their services in a private practice setting and approximately half were having the services paid for by a source other than the public system. Also consistent with the data from the first survey, the services clients received during the session completed just prior

to the second survey included both assessment and intervention services. It is clear that, for many clients, both assessment and intervention services were provided in same session, probably indicating the use of assessment activities to monitor and evaluate the impact of the intervention services.

Clients were referred for psychological services by a number of sources, with over half being referred by health care professionals. Two out of five clients were also receiving health care services from another professional for the same presenting problems being addressed by the psychological services; in the majority of these cases these concurrent services were being provided by a medical practitioner. This is consistent with the finding that approximately two out of five clients were receiving psychotropic medication (most commonly antidepressants, anxiolytics, and stimulants) and that one-quarter of clients were taking medication specifically for the problems being addressed by the psychological services. One-quarter of clients were also taking medication for problems unrelated to those for which psychological services were sought. It might be interesting to establish in future surveys whether samples of clients receiving psychological services are any more physically ill (e.g. took more medication, had more concurrent diagnosis) than the general population.

Finally, referrals by the psychologists and psychological associates to address other client problems were common, with referrals for additional services to address mental health concerns being the most common.

Participant Feedback about Survey Experience

Following participants completion of Surveys I and II, they were sent an email asking them to email back their responses to the following questions:

- The survey's web-based format and delivery was
 - 1 (poor)
 - 2
 - 3 (good)
 - 4
 - 5 (excellent)
- The questions in Survey I (about your practice) were relevant and comprehensive
 - Yes
 - No
- The questions in Survey II (about your randomly selected client) were relevant and comprehensive
 - Yes
 - No
- Please specify anything about either survey or its administration that you would add, change, delete or clarify.

With these brief, straightforward post-survey questions, it was our intent to maximize the likelihood that we would receive feedback, which we anticipated would be more likely if the feedback questions were brief and easily answered via reply email. Twenty-nine of the 58 participants who completed Surveys I and II, responded to our feedback questions. The average rating on question one was 3.9 out of 5, indicating that, on average, participants thought the survey was very good. Twenty-six of the 29 said that the questions in Survey I were relevant and comprehensive and 23 of the 29 said that the questions in Survey II were relevant and comprehensive.

The narrative responses to question 4 called for expanding the diagnostic and risk factor menu (N=1) and expanding the practice area menu (N=1). Two participants indicated that the client that they were seeing or activity engaged in at the randomly sampled time was not, in fact, an individual client but rather was a third party (e.g., lawyer, a set of records to review, a student under supervision). One participant made a similar comment that the survey did not include the full range of practice activities in which practitioners are engaged. One respondent suggested that we include a way to indicate that an unemployed client is, in fact, unemployed because he or she is off on disability. Two participants thought the questions were more geared to adult rather than child clients, one of whom thought the questions were more relevant to practice in private settings rather than public settings. One participant thought the questions were more geared to services rendered to individuals rather than couples, families or groups. Several of the participants commended us on the surveillance initiative.

The narrative feedback was very useful and will lead us to review survey questions, principally to ensure that a fuller menu of diagnostic, risk factor and practice areas is included in Survey II and to ensure that questions are clearly applicable to child clients as well as couple/family/group clients. We will also review the survey questions with a view to considering whether alternate forms are necessary (e.g., surveys specifically tailored for psychologists who work with specific client groups). We will also need to consider whether we only want psychologists to respond with respect to client activities engaged in at the randomly selected time or if we want them to report any professional activity which may not involve direct contact with a client (e.g., meeting with a lawyer, supervising a student): the former focuses our inquiry on service to clients whereas the latter gives us a fuller picture of the activities of psychologist participants.

Conclusions and Future Directions

The objectives and expected outcomes of this project were fully met. We created a database for an electronic, web-based mental health surveillance survey of psychologists which included the development of electronic web-based surveys. The surveys were piloted for technology and we were assured that they were fully navigable and user-friendly. The surveys were piloted to collect practice data. We had hoped to collect data from 50 to 100 psychologists who would enrol in the database (i.e., complete Survey I) and then provide demographic, clinical and practice data about a randomly sampled client (complete Survey II). We were successful in recruiting 80 psychologists to complete Survey I, 58 of who completed Survey II. The data from both Surveys I and II was analyzed and this report is a full accounting of findings at each stage of the project.

As the largest group of regulated and specialized mental health service providers, psychologists play key roles in meeting the mental health needs of Canadians. This web-based

electronic survey affords us a methodology to capture the practice activity of psychologists – activity which takes place increasingly outside the public sector and, hence, has not been fully captured by public databases (e.g., CIHI).

Future work with this successfully developed web-based surveillance tool will include establishing the representativeness of samples recruited using this methodology. How many participants must be recruited to ensure a representative sample of psychologists and to ensure a representative sample of time-sampled clients? Establishing the representativeness of samples will be a prerequisite to the interpretative significance of the data we collect from them. That said, the findings from the current project generally appear to corroborate what is known about mental health and, thereby, lend validity to the results. The predominant problems brought to psychologists are anxiety and depression, and we know that these disorders are the most likely to be experienced by the 20% of Canadians who will experience a mental health problem in their lifetimes. That said, psychologists appear to be seeing a range of clients for a broad range of presenting problems. Interventions by psychologists are likely to be evidence-based in that the predominant treatment modality used is cognitive-behavioral. Our pilot findings also suggest that interventions are on average longer than those typically reimbursed by third party insurers.

Feedback from the current sample of participants will guide our review and revision of survey questions to enhance their relevance and comprehensiveness. We will need to examine any systematic reasons for attrition (e.g., why did the ¼ of the sample who completed Survey I did not complete Survey II) and to direct further efforts to recruit among participants in Quebec – this latter because many of the country’s psychologists practice in that province.

The methodology of future work with this surveillance tool should also enable us to look at its reliability (e.g., having participants complete the surveys twice at separate intervals) as well as benchmark its findings against other databases with relevance to psychological services and the characteristics of those who receive these services (e.g., CIHI, Canadian Community Health Surveys). In addition, we can customize and focus other surveys in order to examine specific client populations or practice patterns. Further work can help us to address such factors as concurrent health conditions and their relationship to the mental health problems people bring to psychologists and the interactions between mental health problem or diagnosis, concurrent health conditions, medication usage and treatment outcome.