Implementation, evaluation, and application of an electronic practice network for mental health surveillance in Canada[1]

Executive Summary[2]

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Table of Contents

Executive Summary………2
Survey 1: Demographic and practice characteristics of regulated psychology
practitioners…………………………………………………………………………..3
Summary of Survey 1 results….……………………………………………………………………………………..3
Survey 2: Survey of clients of mental health services………………………………………………………8
Summary of Survey 2 results…………………………………………………………………………………..8
Focus groups with Canadian psychology practitioners.……………………………………………………10
Survey 3: Survey of child and youth clients………………………………………………………………………11
Summary of Survey 3 results……………………………………………….………………………………12
Survey 4: Clients diagnosed with a chronic condition...……………………………..........................15
Summary of Survey 4 results..…………………………………………………………………………………16
Conclusions and future directions……………………………………………………………………………19

EXECUTIVE SUMMARY

The electronic practice network is an initiative of the Canadian Psychological Association (CPA) with the intent to collect information about the mental health issues and disorders that Canadians bring to psychologists and the psychological services rendered to them. More specifically, the network allowed us to collect information about the practice and demographic characteristics of Canadian psychology practitioners as well as about the demographic and clinical characteristics of the clients they assess and treat. This initiative has been funded by the **Public Health Agency of Canada (PHAC)**.

Psychologists are the country's largest, regulated group of specialized mental health providers. The professional activity of psychologists and psychological associates is key to a complete understanding of the mental health needs and services in Canada. Accordingly, the network supplements current knowledge about the mental health of Canadians by expanding data sources for chronic disease surveillance and by improving the planning, coordination, and evaluation of chronic disease systems.

There were five phases of the project accomplished over two years:

- **Phase 1:** Administration of Survey 1—a web-based survey of the demographic and practice characteristics of regulated psychology practitioners.

- **Phase 2:** Administration of Survey 2 (two waves)—a web-based survey on the demographics and mental health characteristics of a randomly selected client.

- **Phase 3:** Focus groups with regulated psychology practitioners to inform the content of two additional targeted web-based surveys (e.g., sentinel issues arising in practice, wait times, specific groups of clients, etc…).

- **Phase 4/5:** Develop and implement two additional targeted web-based surveys. Survey 3 was a web-based survey on the demographics and mental health characteristics of randomly selected child or youth clients. Survey 4, the final survey of this project, was a web-based survey on the demographics, mental health, and certain physical health characteristics of adult clients who had been diagnosed with either cardiovascular disease or diabetes.

Survey 1: Demographic and practice characteristics of regulated psychology practitioners

Survey 1 was designed to provide information on the demographics (e.g., age, gender, degree, area of specialization in psychology) and the practice characteristics (e.g., practice setting, types of services provided, client age groups) of Canadian psychology practitioners. Practitioners were recruited through the provincial and territorial regulatory bodies that regulate and license psychology practitioners in Canada. Over 1000 practitioners expressed interest in participating in this project. The number of practitioners from each jurisdiction who completed the survey was proportional to the total number of practitioners in each jurisdiction. Participants completed a brief online survey and were remunerated for doing so.

Summary of Survey 1 results

The findings from the first phase of this project provide a detailed picture of psychological practice in Canada. A large number of psychology practitioners participated in the

study (*N* = 538), with three-quarters of the participants being women. More than one-half of participants were practicing at the doctoral level. The majority of practitioners in clinical and neuropsychology psychology had Doctoral degrees, whereas the majority of counselling and school psychologists had Masters degrees. The mean age of the sample (approximately 44 years old) was somewhat lower than the mean age in the pilot sample (48 years old; Cohen, Hunsley, Westmacott, & Flear, 2008), and lower than the estimated national average age of licensed psychologists which is approximately 50 years of age (Canadian Institute for Health Information, 2008). Male practitioners were significantly older than female practitioners; which is consistent with a growing trend of an increasingly female workforce in psychology as in other health professions (CIHI, 2008). The study may have over-represented younger practitioners who were interested in participating in the surveillance surveys because over one-half of participants had only been in autonomous practice for less than 10 years.

The majority of registered practitioners in Canada are established in Ontario and Quebec; therefore, a greater number of participants in those provinces were selected to ensure proportionate representation in the survey. Surveyed practitioners in Quebec and in the eastern provinces were more likely to have Masters degrees, whereas those in the western provinces and in Ontario were more likely to have Doctoral degrees. Similar to the findings from the pilot study, participants provided an array of therapeutic interventions. Although most indicated that they used cognitive behavioural interventions, many participants also indicated that they employed a variety of other interventions such as interpersonal, psychodynamic, humanistic, family systems, and other theoretical orientations.

The large majority of participants were in full-time practice, with some participants noting that they worked slightly fewer hours than full-time, but more than half-time. Importantly, approximately three-quarters of psychology practitioners engaged in at least some private practice. Participants with Masters degrees were more likely to be in private practice than public practice, but no differences in type of practice were found for Doctoral practitioners. Of those providing at least some services in private practice settings, approximately one-quarter were in exclusively private practice, whereas approximately one-third of participants were primarily in public practice with some private practice. Additionally, private practitioners were more likely to have a degree in clinical or counselling psychology, and public practitioners were more likely to have their degree in neuropsychology or school psychology. On average, participants were reportedly providing services to 14 clients per week. Practitioners with Doctoral degrees provided services to fewer clients per week than did practitioners with Masters degrees, but differences in types of setting and professional activities must be kept in mind when interpreting this difference, not surprisingly, given the time-intensive nature of their services (e.g., a neuropsychological assessment can take up to several days of testing and interviews).

Participants reported providing a broad range of psychological services, with mood and behaviour assessment, individual therapy, and clinical and/or counselling consultation being the most commonly reported services. Slightly more than one-half of practitioners provided services related to intellectual functioning. Of the practitioners providing various assessments (e.g., for mood and behaviour, intellectual functioning, neuropsychological), individual and group therapy, and organizational or program consultation, more had Doctoral degrees.

Similarly, more participants in public practice were providing assessments for intellectual functioning, group therapy, and undertaking organizational or program consultation. Participants in private practice were more likely to be providing various types of therapy (e.g., individual, couple) and vocational assessment.

Participants spent a large portion of their professional time in intervention and approximately one-quarter of their time in assessment. Practitioners with Doctoral degrees, however, spent much more of their professional time in assessment than Masters practitioners did, whereas practitioners with Masters degrees spent more time in intervention than did Doctoral practitioners. Also, neuropsychologists spent more time in assessment and less time in intervention than did the other practitioners. This finding explains why neuropsychologists see fewer clients per week; assessments generally take far greater time to complete than other professional activities. Additionally, more practitioners in private practice spent more of their professional time in intervention than did public practitioners.

Practitioners reported that psychological services were more often covered via a publicly funded institution (48% of the time), whereas approximately 33% of the services were paid directly by the clients with most or no reimbursement from insurance. This funding is tied to venue of practice because the services of psychologists in private practice are never publicly funded, whereas psychological services provided within publicly funded institutions generally are publicly funded. Participants provided a wide range of consultation services, with much of their focus on healthcare organizations and educational institutions. Participants in public practice were more likely to be consulting within healthcare organizations, educational institutions, and the legal system, whereas participants in private practice were more likely

consulting with the corporate sector. Practitioners also reported providing services to a range of clients. The majority of participants indicated that they provided services to young adults (aged 18-25) and adults (aged 26-59), whereas approximately one-half of participants indicated that they provided services to children under 12 and older adults (over 60 years of age).

Consistent with prevalence data in the general population, treatment of mood and anxiety disorders were the most commonly reported services provided by psychologists. Treatment for intrapersonal and interpersonal issues was also a very commonly reported service provided by respondents. Approximately one-half of psychological practitioners indicated that they provided services for addressing personality disorders, learning problems, psychological and psychosocial functioning problems of childhood, difficulties managing health, injury, and illness, and sexual abuse and trauma. This is consistent with the data from the pilot project. Additionally, roughly one-third of practitioners reported providing services for vocational issues, cognitive functioning problems of childhood, eating disorders, sleep disorders, somatoform disorders, and substance abuse disorders. Fewer participants reported providing services to clients presenting with the other disorders listed (e.g., psychosis, sexual disorders, etc.). More practitioners with Doctoral degrees than those with Masters degrees provided services to clients presenting with interpersonal issues. Additionally, more private practitioners than public practitioners provided services to clients presenting with mood and anxiety disorders, intrapersonal and interpersonal issues, vocational issues, managing their health, injuries, and illnesses, adjustment to life stressors, somatoform disorders, and sexual abuse and trauma. In contrast, public practitioners were more likely than private practitioners

to provide services to clients presenting with psychological problems of childhood, cognitive functioning problems of childhood, and learning problems.

Survey 2: Survey of clients of mental health services

Survey 2 was designed to provide information on the demographics (e.g., age, gender, ethnicity, language, marital status, etc.) and the mental health characteristics (e.g., risk factors, presenting problems, number of sessions attended, types of service provided, etc.) of the clients of Canadian psychology practitioners. The goals of the present project also included establishing the representativeness of samples recruited using the real-time sampling methodology. Bootstrapping procedures were employed to determine the appropriate number of participants required to complete additional surveys. Based on these bootstrapping analyses, a subsample size of 150 participants was randomly selected from the Survey 1 dataset to complete Survey 2. One hundred and forty participants completed Survey 2 (about a randomly selected client) on two occasions.

Summary of Survey 2 results

Most of the variables analyzed were significantly correlated across the two administrations. The majority of the variables were not significantly different from each other using one of the following statistical analyses: dependent *t*-test, Wilcoxon signed-rank test, or McNemar change test. Given the size of these correlations and the fact that one-third of the variables did not correlate significantly across administrations, consistency in the two waves of data would best be described as moderate. This is not unexpected, as participants were describing two different randomly selected clients and the services that they received. It does mean, though, that caution must be exercised in generalizing too much on the basis of the data

obtained on one sample of individual clients. Real-time sampling is a useful methodological tool, but data derived may prove generalizable only with large samples. Generalizability might also be enhanced if, instead of focussing on all clients, specific groups of clients were targeted for data collection. Limiting the data collection to, for example, adolescent clients, clients receiving therapeutic services, or clients with mood or anxiety disorders would likely result in less variability across waves of data collection.

The findings from the second phase of the project provide a detailed picture of the demographic and clinical characteristics of psychology practitioners' clients in Canada. Broadly speaking, the majority of clients were female, White, heterosexual, born in Canada, spoke English at home, and lived in a private residence. The average age of the clients was around 32 years of age. Nearly one-half of the clients were single or never married. The clients' levels of education were varied within and between survey administrations. One-third of the clients were employed full-time and they were more likely to be working in sales and service (in the first wave of the survey) or administration (in the second wave of the survey).

Practitioners had been providing services to their clients for an average of 14 sessions in the first administration of the survey and 24 sessions in the second administration of the survey. However, the average number of sessions in the second administration was slightly skewed by responses considered to be outliers (rare responses that fell outside the range of the majority of the other participants' responses). The majority of sessions occurred in English, in a major urban centre, and with the client alone. Almost one-half of the sessions occurred in an individual setting in a private practice. Nearly equal amounts of clients paid for services through a publicly funded institution or paid directly. One-half of clients were receiving cognitive

behaviour therapy from their practitioners, while one-third were receiving assessments for mood, behaviour, and personality. Clients were referred to psychological services by a variety of methods; they were most notably referred by their physician or brought themselves to therapy. Approximately one-half of clients were receiving other health services for their presenting problems, more often from a general practitioner or a psychiatrist. A minority of practitioners referred their clients to other health services, most likely for other mental health treatments or a medication evaluation. Although less than one-half of the clients were receiving medication, one-third of clients were receiving anti-depressants.

Many of the clients presented with a background that included parental mental disorder and/or marital problems. For the majority of clients, daily functioning was significantly affected by their presenting problems. More than one-half of clients were also diagnosed with a disorder that met DSM criteria, with mood and anxiety disorders being the most commonly reported. Many clients also had a chronic disorder, most likely regarding mental functions or neurological functions. There was also a moderate impact of the chronic condition on the client's daily functioning. Despite this, the majority of practitioners noted that their client's health status had improved as a result of the services they had received. Interestingly, approximately one-half of clients were seen as being likely to self-report their health status as good or very good.

Focus groups with Canadian psychology practitioners

Focus groups were held in the summer of 2010 with psychology practitioners in three major Canadian cities. The purpose of the focus groups was to gather information from psychologists with various practice backgrounds to help inform the content of two additional

targeted surveys. The first focus group was held in Ottawa, Ontario with practitioners who provided psychological services to children and/or youth. Based on the feedback provided in this focus group session—as well as information gathered from the pilot project and feedback from Survey 2— it was determined that Survey 3 would focus on psychology practitioners who provided services to children and youth.

The second focus group was held in Halifax, Nova Scotia with practitioners who provided psychological services in a public health care setting. The last focus group was held in Vancouver, British Columbia with practitioners who provided psychological services in a private practice setting. Focus group feedback from these sessions highlighted a need to capture psychological services provided to adult clients with chronic disease. Cardiovascular disease and diabetes were chosen as two examples of prominent chronic disorders in the Canadian population and were the focus of Survey 4.

Survey 3: Survey of child and youth clients

Survey 3 questions were similar to those found in Survey 2—i.e., the purpose of the survey was to gather information on the demographics (e.g., age, gender, ethnicity, school, family status, etc.) and the clinical characteristics (e.g., risk factors, presenting problems, number of sessions attended, types of service provided, etc.) of the clients of Canadian psychology practitioners—but the focus was instead on child and youth clients. Practitioners were recruited to participate through the master list of practitioners that originally expressed interest in the project for Survey 1. It was originally intended that Survey 3 utilize real-time sampling in much the same way as that used in Survey 2, but the database that housed the surveys and the coding for real-time sampling became subject to technological problems. In the

interest of time, survey invitations were therefore sent manually instead of automatically; however, a random time (and hence a random client) was nevertheless selected for each participant to complete the survey.

Summary of Survey 3 results

One hundred and thirty-seven psychology practitioners responded to the survey regarding a randomly selected client. Participants were on average 42 years old and primarily female. Unlike participants in Survey 2, there were a near equal number of Masters-level and Doctoral-level practitioners who participated in the survey. The child and youth clients of these practitioners were on average 12 years old, primarily White, and Canadian-born. There were a near equal number of male and female clients. Approximately one-half of clients had a family structure of two parents and one-fifth lived with a single parent. The majority of clients lived in a single residence. One-quarter of participating clients spoke French at home. The majority of child and youth clients attended schools that were publicly funded and were on average in the 6th grade. One-half of clients also attended a special program while at school, more frequently for slow learners and learning disorders.

Practitioners provided a variety of services. Client sessions primarily occurred in English and practitioners were primarily providing treatment (most frequently CBT) and assessment (most frequently psycho-educational assessment) sessions. Practitioners indicated that when they provided consultations to school personnel, it was primarily with teachers. Among others involved in the client's psychological care, parents were often involved in treatment. Nearly one-third of clients were taking medications, which was primarily prescribed by a psychiatrist. Practitioners indicated that one-quarter of clients were receiving another health service in

conjunction with the psychological services they provided. Clients were primarily seeing psychiatrists or the family physician. One-quarter of clients was also participating in community services, most notably community resource or health centres. Clients were referred to the psychological services primarily by their parents or the school. One-half of participants made referrals for their client to seek additional services, most notably for educational services. The majority of participants were in public practice—35% in public health care and 21% in schools.

Clients presented with a variety of risk factors and mental health problems. More than one-half of clients had more than one risk factor. The most common risk factors were academic performance problems, parental mental disorder, marital problems in the family, and aggression or anger. On average, clients had 3.5 presenting mental health problems, with more than one-half of clients having more than one problem. The most common presenting problems were behaviour problems, intrapersonal issues, learning problems, anxiety problems, attentional problems, and mood problems. Nearly one-half of child and youth clients were diagnosed with a DSM disorder. The most frequently diagnosed disorders were mood and anxiety disorders and ADHD. Practitioners indicated that the majority of clients were moderately to severely affected by their mental health problems, but that more than one-half have shown great improvement since starting treatment. Only 14% clients presented with a chronic disorder.

It was of interest to know whether there were any differences in client characteristics and psychosocial functioning between different groups of practitioners. Practitioners with a Masters degree were compared with practitioners with a Doctoral degree. Similarly, practitioners in public practice were compared with practitioners in private practice. There

were very few, but interesting, differences between the two groups of practitioners, but there were some interesting. More practitioners with Doctorate degrees had diagnosed their clients with a DSM disorder than did practitioners with Masters degrees. Similarly, more publicly practicing psychologists had diagnosed their clients with a DSM disorder than did psychologists providing services in a private practice.

There were also a number of differences between different groups of clients, where gender, family structure, and attending a special program were compared. Clients who had two parents presented with fewer risk factors overall than did clients with other types of family structures. Clients who attended a special program in school had more risk factors than did clients who did not attend a special program in school. When considering individual risk factors, more females than males presented with parental mental disorder as a risk factor, but more males than females presented with academic performance problems as a risk factor. There were some differences regarding the presenting mental health problems as well. More female clients than male clients presented with anxiety problems, but more male clients than female clients presented with behaviour problems, attentional problems, and learning problems. In addition to having more risk factors overall, more clients who attended a special program in school than clients who did not attend a special program were diagnosed with a DSM disorder and presented with the following risk factors and mental health problems: aggression, academic performance problems, school avoidance, and learning problems.

Finally, participating practitioners reported on the different challenges they experienced during the provision of psychological services with the randomly selected client. Seven challenges were noted to interfere with service delivery: family challenges, challenges in social

services, lack of resources, funding, and services (e.g., no funding to pay for services, lack of support services), lack of access to services, lack of communication and collaboration among partners in care, client challenges, and professional interferences.

Survey 4: Clients diagnosed with a chronic condition

Many suggestions came out of the focus groups held in summer 2010, but it was decided that Survey 4 would focus on clients with concomitant chronic disorders and their effects on mental health and psychosocial functioning. Considering the large number of chronic conditions affecting Canadians, it would not have been possible to develop a survey that examined a broad range of chronic conditions and their effects on mental health and psychosocial functioning. To narrow the scope of the survey, it was decided that the fourth survey would focus on two of the most prevalent chronic conditions only: cardiovascular disease (CVD) and diabetes.

Similar to the procedure followed with the other surveys, recruitment messages were sent to all interested participants from the master list of participants. Only a very small number of psychology practitioners expressed their interest in this survey; therefore, we had to explore other recruitment options. Many of the practitioners who responded with interest only had a few clients who met the survey criteria, with most receiving services infrequently. Because of these challenges, it was not practical to use the real-time sampling methodology (i.e., the methodology used for Survey 2). Therefore, participants were asked to report on the most recent client that met the criteria, seen within the past few weeks, rather than report on the client seen closest in time to the hour they received the survey email.

Summary of Survey 4 results

Ninety-two psychology practitioners completed Survey 4. Participants reported on a randomly selected adult client who had been diagnosed with either cardiovascular disease (CVD) or diabetes. Practitioners were on average 46 years old and were primarily female, similar to the previous surveys. Just over one-half of participants were practicing at the Doctoral level, primarily in clinical psychology. More practitioners were in public practice than private practice. Participants indicated that an average of approximately 36% of their total client population had been diagnosed with CVD or diabetes. Clients were on average 48 years of age and primarily male. The majority of clients were identified as heterosexual, White, educated (many clients had at least some university), living in a private residence, and were primarily married or common law (50% of clients) or single (30%). There were an equal percentage of clients who were employed full-time or unemployed, but more clients from Survey 4 were on a disability pension compared to clients from Survey 2.

More clients had been diagnosed with diabetes (48%) than with CVD (36%) and among those with diabetes, 75% had Type 2 diabetes. One-half of clients with CVD had been diagnosed within the past ten years. For nearly one-half of clients, the chronic condition had deteriorated since diagnosis. The majority of clients were not accessing psychological services for the management of the chronic condition, but the distress associated with having a chronic condition was always or half the time a focus of treatment for more than one-half of clients. A nearly equal number of clients' presenting psychological problems preceded their diagnosis of CVD or diabetes as the clients whose presenting problems followed the diagnosis of their chronic condition. Family stress was the most reported type of stress among clients (presenting

in 61% of clients). Slightly fewer than one-half of clients were experiencing work and social stress.

In 77% of clients, CVD or diabetes was impacted by psychological factors. These factors—stress, poor coping mechanisms, mental health problems, life demands, and an inability to make lifestyle changes— were often compounded with each other to worsen the client's chronic condition. One-half of clients had also been diagnosed with a comorbid chronic condition other than CVD or diabetes that was considered to be part of the presenting problem. Neurological functions were the most affected bodily process (26% of clients). Practitioners indicated that clients were moderately to severely affected by the chronic condition. The client's family was primarily not involved in the psychological services, but were moderately to severely affected by the clients presenting psychological problem and chronic condition. The client's presenting psychological problem and chronic condition were also moderately to severely affecting the client's ability to work.

Practitioners reported that they expected to provide services to the selected client for an average of 34 sessions. Treatment was the most common service provided to clients, with CBT being the most frequently reported form of treatment. The majority of practitioners consulted with other health professionals regarding the care of the selected client. Practitioners indicated that they primarily consulted with a physician, a medical specialist, or a dietitian. Approximately one-half of clients were on medication, most commonly taking anti-depressants and anxiolytics. Medication had been primarily prescribed by the client's physician. More than one-half of clients had also been receiving another health service; more frequently from a physician, a medical specialist, a psychiatrist, or a nurse. Practitioners indicated that more of

their clients had been referred to their services by a physician. More than one-half of services were offered in a public health care setting and just over one-third of psychological services had been offered in a private setting.

Clients presented with a variety of risk factors and mental health problems. The most commonly reported risk factors among clients were other mental health problems, having experienced a traumatic event, parental mental disorder, marital problems, and physical disability. Clients had, on average, 3.5 presenting psychological problems, with more than one-half of clients presenting with two or more psychological problems. More clients were affected by mood problems, problems with adjusting to life stressors, managing health, injury, and illness, anxiety, and intrapersonal or interpersonal issues than other presenting problems. Most clients did not have substance use problems and only one-quarter of clients had suicidal thoughts or tendencies. Nearly two-thirds of clients had been diagnosed with a DSM disorder and nearly all of the participants were moderately to severely affected by their presenting psychological problems. Practitioners indicated, however, that the mental health status of three-quarters of the clients had improved since beginning treatment.

Unlike previous surveys, there were no group differences between different types of practitioners and clients. Finally, and similarly to Survey 3, participating practitioners reported on the different challenges they experienced during the provision of psychological services with the selected client. The challenges were organized into six themes: client challenges; lack of services and/or access; lack of communication and collaboration with partners in care; lack of resources and/or funding; lack of support; and family challenges.

Conclusions and future directions

The objectives and expected outcomes for all phases of the project were fully met. We successfully recruited a representative sample of over 500 psychological practitioners from across Canada to complete information on their practice characteristics and demographics. We were also successful in recruiting participants to complete a general client survey, as well as two additional surveys on the demographic and mental health characteristics of a randomly selected client. Although real-time sampling is not a perfect methodological tool, we were able to find moderate consistency between the two administrations of Survey 2 when using real-time sampling. Based on our experience with Survey 4, it appears as though real-time sampling is a more valuable tool for a general client survey (such as Survey 2 and Survey 3) rather than a survey geared towards a specific group of clients (clients diagnosed with CVD or diabetes, such as with Survey 4). The feedback received from participants (detailed in the Final Report) will help improve the relevance and comprehensiveness of future surveys of this project, as well as any future administrations of the survey instrument.