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10

Automated Mental Health Assessment for Integrated Care

The Quick PsychoDiagnostics Panel Meets Real-World Clinical Needs

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BOX 10.1
KEY POINTS

- **Quality mental health care begins with thorough assessment.**
- **Commonly-used assessment tools do not meet medical providers' clinical needs.**
- **A clinically useful mental health assessment tool must assess the range of conditions commonly seen in medical settings, provide clinically actionable information, and integrate seamlessly into busy practice settings.**
- **The Quick PsychoDiagnostics Panel (QPD Panel) is a fully automated assessment tool that assesses 11 common mental health conditions. It is self-administered by patients, typically on a tablet device in the clinic waiting room.**
- **Providers immediately receive a computer-generated, chart-ready assessment report in a familiar lab report format.**
- **The QPD Panel can be readministered as often as desired for progress monitoring and outcome assessment.**
- **Primary care providers agreed or strongly agreed that the QPD Panel helps provide better patient care, is well accepted by patients, and can be used immediately by any physician without additional training.**
- **The QPD Panel is a revenue generator for health care organizations. QPD Panel administration is billable to third-party payers using Current Procedural Terminology (CPT) code 96103 for computerized psychological testing.**
- **Visit www QPDPanel.com to request a free trial.**

INTRODUCTION

This chapter discusses the challenges of mental health assessment in primary care and general medical settings, and describes the QPD Panel, an automated mental health assessment tool that assesses eleven common mental disorders and meets the real-world clinical needs of medical providers. See Box 10.1 for a summary of Key Points.

At least 20% of primary care patients have mental health conditions, most of which go unrecognized, untreated, or inadequately treated.[1–15] The overwhelming majority of patients with mental health conditions seek care from primary care providers, not mental health providers.[16,17] For better or worse, primary care is the de facto mental health services system for most patients.[18] To make things more difficult, patients with mental

health conditions commonly present with somatic rather than mental health complaints, making mental health conditions harder to recognize in general medical practice.

THE CHALLENGE OF ASSESSMENT

As with all areas of health care, good mental health care begins with thorough assessment. Despite frequent assertions to the contrary, medical providers have generally *not* had access to clinically helpful mental health assessment tools. It is not that there is a dearth of assessment tools; on the contrary, the number of such tools can seem overwhelming. The problem, rather, is that the assessment tools commonly given to medical providers do not meet their clinical needs.

Over the past decades, demands on primary care providers have increased relentlessly. Health care organizations and regulatory agencies have expected providers to do more and more in less and less time.[19] Far from easing the burden on providers, the mental health screening tools most often used in primary care add to that burden, hampering rather than facilitating providers' clinical workflow.[20] When medical providers do use mental health screening tools, it is more often because their use is mandated by regulatory and accrediting bodies than because providers perceive compelling clinical benefits.

These comments require explanation. The high prevalence of mental health conditions in primary care and general medical practice is not a recent discovery; it was well documented at least a quarter of a century ago. Then as now, mental health case-finding tools were readily available, but medical providers rarely used them. Beginning in the mid-1990s, screening tools were developed specifically for primary care, and research projects (generally funded by pharmaceutical companies marketing antidepressants) were conducted with the aim of promoting their routine use. The results of these research projects were nearly always the same: Reports in prestigious medical journals documented the validity of the screening tools[2,21] but failed to mention that the medical providers used the screening tools only for the duration of the research projects, while they received external support and incentives.[22,23] When external support and incentives ended, providers stopped using the tools, essentially "voting with their feet" regarding their perceived utility in day-to-day practice.

The health care landscape has since changed. There is now greater awareness of the prevalence of mental disorders, their high societal cost, and the interrelatedness of mental and physical conditions.[3] Use of mental health screening and case-finding instruments has been recommended, for example, by the U.S. Preventive Services Task Force,[24] the Canadian Task Force on Preventive Health Care,[25] and the UK National Institute of Clinical Excellence.[26] Regulatory and accrediting bodies such as the National Center for Quality Assurance (NCQA) now mandate routine depression screening in many medical settings. The nine-question PHQ-9 depression screen[27] and the two-question PHQ-2 depression screen[28] are now commonly integrated into medical office visits and typically administered by medical assistants or nurses along with vital signs.

What has not changed is that providers still do not find these assessment tools especially clinically helpful, nor has their use had a meaningful impact on patient outcomes. A recent rigorous meta-analysis examined the impact of depression screening tools and bluntly concluded, "We found no substantial effect of screening or case-finding instruments on the overall recognition rates of depression, the management of depression by clinicians or on depression outcomes. These findings were true for both primary care and general hospital settings."[29]

A recent study examined physicians' actions following a positive PHQ-2 depression screen in a primary care practice setting where the PHQ-2 was routinely administered to patients at intake per NCQA guidelines.[30] The PHQ-2 comprises the first two questions of the nine-question PHQ-9 depression screen and positive results should be followed by administration of the full PHQ-9.[28] However, 95% of the time, physicians did *not* administer the PHQ-9 after a positive PHQ-2 screen, again "voting with their feet" regarding its perceived utility. In many cases, providers did not even review the PHQ-2 results. Reasons physicians cited included time limitations, other issues taking precedence, and the belief that the patient's depression status was already known.

Such results are commonly explained in terms of need for practice support.[31] Conventional wisdom holds that mental health assessment tools will gain traction in general medical practice when there is enhanced systemic support for behavioral health care, including ready access to behavioral health providers, availability of psychiatric

consultation-liaison, availability of care teams and case managers, and so on. These assumptions and principles underlie the integrated care movement. The conventional wisdom obviously has validity, as there is little point in identifying that a need for services exists, if the needed services are not accessible.

However, the conventional wisdom bypasses the question of whether or not the mental health assessment tools typically provided to physicians truly meet their clinical needs. In fact, in the study just described, which showed that physicians rarely administered the PHQ-9 even after a positive initial depression screen,[30] behavioral health support was excellent. The findings indicate that the physicians did not make more use of the depression screening tools, not because of lack of practice support for behavioral health care, but because they did not find the assessment tools sufficiently clinically helpful.

WHAT MEDICAL PROVIDERS DO AND DON'T WANT

One reason these widely distributed screening tools have not gained greater traction in clinical practice is that they were developed and disseminated via a "top down" strategy. Researchers and policymakers made a priori decisions about what kind of mental health assessment tools primary care providers should use, without real input from primary care providers, with the expectation that providers would simply adopt what they were given. An alternative to a "top down" strategy is a "bottom up" strategy, which begins with a thorough investigation into the needs and wants of primary care clinicians. An assessment tool can then be designed in accord with clinicians' specifications, ensuring that it meets a legitimate clinical need "on the ground." This was the strategy used to develop the Quick PsychoDiagnostics Panel (QPD Panel).

In the early 1990s, interviews and focus groups were conducted with primary care physicians, with the aim of discovering (1) why primary care providers did not use existing mental health assessment tools and (2) what the providers would want in a hypothetical, ideal mental health assessment tool that they would want to use.

The answer to the first question was relatively straightforward. In some cases, physicians felt uncomfortable delving into patients' emotional matters or believed, incorrectly, that their patients would be uncomfortable. Some felt their training in psychiatry was inadequate. But the biggest concern, by far, was time. The physicians felt overburdened with responsibilities ("besieged on all sides," as one put it), with barely enough time to address the medical issues that were their primary concern. The last thing they wanted was a mental health assessment tool that required still more of their time or added to their clinical workload.

A PROVIDER WISH LIST

The primary care physicians were asked to describe a hypothetical, ideal mental health assessment tool—one that they would want to use and keep on using.[20] From the interviews and focus groups, the following "wish list" emerged:

(1) The test should require no time from physicians or medical staff. (Note that the desire was not for a test that required little time, but *no* time.)
(2) The test should require no training to use.
(3) The test should diagnose the full spectrum of mental health conditions commonly encountered in general medical settings. *The physicians felt that tools that screened for depression alone did not provide enough information to be truly clinically helpful.* (The general attitude seemed to be, "Give me enough diagnostic information to address the range of mental health issues I'll now have to deal with, or don't bother me.")
(4) The test should provide specific psychiatric diagnoses and symptoms. (Physicians did not just want numeric scores with cutoff points; they wanted actual diagnoses based on the *Diagnostic and Statistical Manual of Mental Disorders* [DSM]).[32]
(5) The test should not require forms or paperwork.
(6) The test should not require change in office routines or interfere with patient flow.
(7) The test should be liked and accepted by patients. (Physicians did not want their patients to feel they were being asked inappropriately personal questions or being treated impersonally.)

These requirements may seem excessive or unreasonable from the perspective of a mental health test developer, but they make sense from the frame of reference of medical providers. That frame of reference is a *medical lab test.* Lab tests do not take up provider time or staff time or create busywork. They do not disrupt office routines or patient flow. They do not add to the burden on providers or staff.

Providers simply *order* lab tests and get back the diagnostic information they need.

COMPREHENSIVE ASSESSMENT IS CRUCIAL

The primary care physicians felt that tools that screened for depression alone had limited utility because they did not provide enough information to guide treatment decisions (item 3 in the "wish list"). The physicians were, in fact, correct. Comorbidity of psychiatric disorders is the norm, and cases of depression alone are relatively rare. Epidemiologically, 78.5% of cases (12-month prevalence) of major depressive disorder (MDD) have additional psychiatric comorbidity, *"with MDD only rarely primary"* (emphasis added).[33] In practice, this means that physicians see depression accompanied by generalized anxiety, substance abuse, trauma, panic disorder, or any number of other configurations of symptoms and disorders, which have different implications for treatment. For a substantial percentage of patients who screen positive for "depression," treating depression per se may not be the correct treatment decision.

From the perspective of primary care providers, screening for depression alone amounts to opening Pandora's box without providing actionable information for treatment decisions. Given a positive depression screen, providers must still conduct a psychiatric examination before making treatment decisions, or even determining whether a behavioral health referral is warranted. Just how primary care providers are supposed to do this on a routine basis, when patients are presenting with medical complaints that require attention, during office appointments that average 15 minutes or less,[19] is anyone's guess.

A truly clinical useful mental health assessment tool *must* provide a comprehensive assessment. It must assess the spectrum of mental health conditions that providers are called upon to address and provide sufficient information to inform sound treatment decisions.

OVERVIEW OF THE QPD PANEL

The QPD Panel is a fully automated mental health assessment test. It was designed from the ground up to meet the specific clinical needs of medical providers, based on the "wish list" compiled from physician interviews and focus groups.[20,34] The test requires no time from providers or medical staff to administer or score. Rather, patients self-administer the test, typically in less than 10 minutes, using a tablet device, smartphone, or computer web browser.

Patients complete the test by responding to a series of true-or-false questions that require only a fifth-grade reading level. The test screens for 11 mental health disorders commonly seen in primary care and general medical settings (Box 10.2). Most often, patients self-administer the test in the clinic waiting room using a tablet device (iOS, Android, Windows, and Kindle tablets are all supported). In some health care organizations, patients have the option of completing the test online prior to their office appointment. The test can be administered in English or Spanish.

When patients complete the QPD Panel, the provider immediately receives a comprehensive, chart-ready assessment report in a familiar lab report format. The computer-generated report is automatically sent to a local office printer or directed to the patient's electronic medical record in electronic format, depending on the needs of the clinic or health

BOX 10.2
QUICK PSYCHODIAGNOSTICS PANEL: DISORDERS SCREENED

- Major depression
- Persistent depressive disorder
- Bipolar disorder
- Generalized anxiety disorder
- Panic disorder
- Obsessive-compulsive disorder
- Posttraumatic stress disorder
- Substance use disorder
- Binge-eating disorder
- Bulimia nervosa
- Somatic symptom disorder
- Psychosis[a]

[a]*Optional module*

care organization. Thus, providers receive real-time diagnostic information. The word *panel* in the name *QPD Panel* reflects the input of physicians in the initial focus groups (see "What Medical Providers Do and Don't Want") and is intended to underscore that the test can function in a medical setting in much the same way as a familiar lab test such as a blood chemistry panel. The QPD Panel software is currently in its 10th major edition. The assessment procedure is fully compliant with the Health Insurance Portability and Accountability Act (HIPAA).

The base version of the QPD Panel screens for the 11 mental disorders listed in Box 10.2, based on diagnostic criteria specified by the DSM-5.[32] The included disorders reflect the input of primary care physicians regarding the conditions they viewed as most important to assess, as well as epidemiological data about the mental health disorders most prevalent in primary care and general medical settings. In addition to these diagnosable mental health conditions, the QPD Panel screens for suicide risk, recent physical or sexual abuse, and (optionally) danger to others.

The QPD Panel software incorporates advanced logic and branching to maximize efficiency and minimize test administration time. Algorithms determine which questions are presented based on responses to previous questions. Thus, patients who do not have a psychiatric disorder are not asked irrelevant questions, and patients who may have disorders are examined in depth. The initial questions focus on physical symptoms, consistent with what patients expect to be asked during a medical office visit (although they are symptoms associated with depression, anxiety, and other mental health conditions). The questions then lead gradually into content that is more obviously related to mental health.

The QPD Panel software capabilities make the test more efficient than a human interviewer. It is unlikely that any clinician could systematically assess 11 mental health disorders in less than 10 minutes, let alone record the specific symptoms associated with each disorder, track changes from previous assessments, and organize the resulting information optimally for presentation. Also, empirical research consistently shows that respondents "are more honest with computers ... than they are with live interviewers."[35]

The QPD Panel assessment results have high reliability and validity.[20,34] The symptom scores show high convergent validity with established psychiatric rating scales (e.g., the QPD Panel depression scale correlates highly with the Hamilton Depression Inventory, Beck Depression Inventory, Center for Epidemiological Studies Depression Scale, and Zung Self-Rating Depression Scale [range, $r = .78$ to $r = .87$]). The QPD Panel diagnoses show high sensitivity and specificity relative to structured psychiatric interviews (e.g., for major depression, sensitivity and specificity were .81 and .96 respectively; for generalized anxiety disorder, sensitivity and specificity were .79 and .90 respectively). For further information on validity, see references 20 and 34.

THE QPD PANEL ASSESSMENT REPORT

The QPD Panel assessment report reflects the extensive input of primary care providers. The report is designed to communicate diagnostic information simply and efficiently, allowing the test to be used by virtually any physician without additional training. By design, the report has a "look and feel" that is familiar to medical providers, resembling a blood chemistry report. Figure 10.1 shows a sample QPD Panel assessment report.

The QPD Panel assessment report has three sections: (1) symptom scores, (2) diagnostic notes, and (3) symptom list. If the QPD Panel is administered more than once, the report also includes a trending graph showing changes in the severity of depression and anxiety symptoms over time (see section on "Outcome Assessment").

Symptom Scores

The first section of the report, "symptom scores," is in lab test format. Numeric scores measure the severity of symptoms in eight areas (see Fig. 10.1). Normal reference ranges are shown on the report. Scores that fall outside the normal reference ranges indicate clinically significant symptoms that warrant clinical attention. In Figure 10.1, the patient's depression and posttraumatic stress disorder (PTSD) scores fall outside the normal reference ranges.

Diagnostic Notes

If one or more symptom scores are out of range, a diagnostic note is displayed in the "diagnostic notes" section, immediately below the symptom score section. Diagnostic notes indicate whether the patient's symptoms meet formal diagnostic criteria for a specific DSM-5/ICD-10 diagnosis. For example, if the depression symptom score is out of range,

QPDPanel v10.1

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Name: John Doe
ID: 123456789
Date: 2/5/2016 10:25 AM

Sex: M
Age: 44

Symptom Scores

Scale	Results: within range	Results: out of range	Reference Range
Depression*		21	0–10
Manic Episode	0		0–3
Anxiety	9		0–10
Panic Disorder	5		0–8
PTSD		6	0–3
Eating Disorder	0		0–4
Substance Use	1		0–2
Somatization	6		0–11

*11–14 mild/ 15–19 moderate/ >19 severe

DSM-5/ICD-10 Diagnoses:

— Patient appears to meet criteria for Major Depressive Episode
— Patient appears to meet criteria for Posttraumatic Stress Disorder

ID: 123456789
Date: 2/5/2016 10:25 AM

Depression Symptoms

— depressed mood, nearly every day, 2 weeks or longer duration
— diminished interest or pleasure in activities, 2 weeks or longer duration
— weight loss
— insomnia
— fatigue, loss of energy
— feelings of worthlessness or guilt
— impaired concentration
— diminished self-esteem
— hopelessness

PTSD Symptoms

— intrusive recollections of traumatic event
— distressing dreams of traumatic event
— relives or has flashbacks of traumatic event
— distress or physiological reactivity when reminded of traumatic event

Trending: Change in Depression and Anxiety Over Time

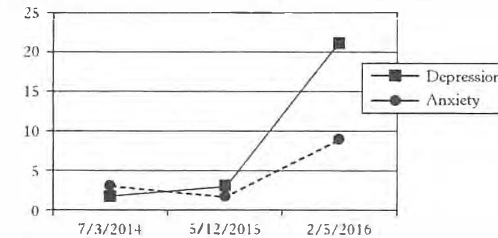

FIGURE 10.1. QPD Panel Sample Report.

the clinician might see one or more of the following diagnostic notes:

- Patient appears to meet criteria for Major Depressive Episode.
- Patient appears to meet criteria for Persistent Depressive Disorder (Dysthymia).
- Clinically significant depression (does not meet formal diagnostic criteria for Major Depressive Episode or Persistent Depressive Disorder).
- Patient appears to meet criteria for Bipolar Mood Disorder.

The notes are generated by pattern-matching algorithms, which match the specific symptoms reported by the patient against applicable DSM-5 diagnostic criteria. The "diagnostic notes" section will also include notes indicating the presence of suicidal ideation, imminent suicide risk, recent sexual or physical abuse, and (optionally) danger to others. In Figure 10.1, the diagnostic notes indicate that the patient has reported symptoms that meet DSM-5 diagnostic criteria for major depressive episode and PTSD.

Symptom List

The second page of the assessment report lists the specific symptoms reported by the patient. The symptom list is valuable for guiding treatment decisions and, if the patient is being referred for behavioral health treatment, for communicating clinically crucial information to the behavioral health provider.

A provider reviewing a QPD Panel report would first review the lab-test format symptom scores. If all scores are within the normal range, the review is done. If one or more out-of-range scores indicate clinically significant symptoms, the provider would then review the diagnostic notes section for applicable DSM-5/ICD-10 diagnoses. Finally, the symptom list provides fine-grained information about the patient's specific symptoms.

Outcome Assessment

Providers can readminister the QPD Panel as often as desired to monitor patient status and for outcome assessment. The QPD Panel software automatically tracks and graphs changes in the depression and anxiety symptom scores over time (see Fig. 10.1), allowing providers to see at-a-glance whether the patient's mental health status is improving or worsening. Both the depression and anxiety symptom scores are sensitive to change.[34] Changes of 5 points or more are clinically meaningful and correspond to approximately one standard deviation of change (for more information, see reference 20).

REVIEWING THE QPD PANEL REPORT WITH PATIENTS

Many providers choose to share the QPD Panel report with patients and find it helpful as a tool for initiating and structuring discussion about mental health problems. The availability of an objective computer-generated report tends to bypass patient resistance and can help providers broach otherwise difficult topics. Providers should review the assessment report findings with patients in a matter-of-fact manner, as they would any other diagnostic findings. For example, the provider might simply say, "Your test results show an elevated level of depression. The normal score range is between 0 and 10, and your score is 16. Let's take a look at the symptoms you're having."

Provider and patient can then review the symptom list section of the report together, which provides an opportunity to educate the patient about the mental health condition and the symptoms associated with it. At this point, provider and patient are already well on the way to a productive discussion about treatment options and a mutually agreed-upon treatment plan. Use of the assessment report in this way, as a tool to structure discussion of mental health issues, helps to keep the discussion focused and productive. The fact that the provider can review a *comprehensive* mental health assessment report, before initiating discussion with the patient, helps ensure that the provider will not be "blindsided" by unexpected mental health problems that he or she did not anticipate having to address (the "Pandora's box" problem described earlier, which is one of the major reasons physicians cite for hesitancy about broaching mental health issues).

The QPD Panel can be readministered on follow-up visits, and provider and patient can review progress together. This way of working facilitates a collaborative working relationship between provider and patient. Regular follow-up assessments allow timely adjustments to be made to the treatment plan, facilitate treatment adherence, and lead to improved outcomes. If the patient is also

being seen by a behavioral health provider, follow-up assessments with the QPD Panel enhance collaboration and communication with the behavioral health provider and promote the continuity of care that is a hallmark of quality integrated care.

PHYSICIAN ACCEPTANCE AND PATIENT SATISFACTION

Physician Acceptance

As described in the introduction, the QPD Panel was designed from the ground up to meet the specific clinical needs of primary care medical providers. The extent to which the QPD Panel succeeds in meeting this goal is an empirical question, one appropriately answered by providers. Consequently, we conducted a provider satisfaction study to formally evaluate the utility of the QPD Panel under real-world conditions in busy primary care clinics.[20,34] Table 10.1 presents the results of the provider satisfaction study.

Data were provided by a sample of 26 primary care physicians practicing at one of two outpatient medical facilities in a large group-model health maintenance organization (HMO). Providers in these clinics see approximately 20 to 24 patients per day, with appointments scheduled at 15- to 20-minute intervals. The providers used the QPD Panel on a routine basis for at least one month. Neither the clinics nor the providers received incentives to use the QPD Panel or to participate in the satisfaction study. Providers rated each statement listed in Table 10.1 using a 5-point rating scale (1 = strongly disagree; 5 = strongly agree).

Means for the physician satisfaction items were uniformly high and near the scale maximum of 5.0. As another way of presenting the data, the last column of Table 10.1 lists the percentage of providers who agreed or strongly agreed with each statement. The data demonstrate the high levels of provider acceptance achieved by the QPD Panel, and speak to the soundness of the "bottom up" strategy that guided development of the QPD Panel.

Patient Satisfaction

One item on the provider "wish list" for an ideal mental health assessment tool is that the test should be liked and accepted by patients. To assess patient satisfaction, we asked 77 consecutive primary care patients who completed the QPD Panel to respond to four survey questions, using an agree/disagree response format.[34] The patients completed the QPD Panel using tablet devices during regularly scheduled office appointments, in the primary care clinics in which we collected the provider satisfaction data.

Ninety-seven percent of patients agreed with the statement, "the questionnaire was easy to use"; 99% agreed that "the questions were clear and easy to understand"; 96% agreed that "the questionnaire asks about things that are important for my doctor to know"; and 96% *disagreed* that "the questions were too personal and made me feel uncomfortable." Anecdotally, many patients spontaneously

TABLE 10.1. MEANS FOR PROVIDER SATISFACTION QUESTIONNAIRE (N = 26)

Item	Mean[a] (Standard deviation)	% Agree or Strongly Agree
The QPD Panel is convenient and easy to use.	4.8 (.40)	100
The QPD Panel integrates easily into the primary care clinic.	4.6 (.90)	89
The QPD Panel presents results in a clear, easy-to-understand format.	4.8 (.51)	96
The QPD Panel is well accepted by patients.	4.6 (.50)	100
The QPD Panel helps me provide better patient care.	4.7 (.60)	100
The QPD Panel can be used immediately by any physician, without special training required.	4.6 (.75)	100

[a] On a scale of 1–5, where 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree.

commented that the test made them feel good about the quality of care they were receiving, and led them to feel that their doctors cared about them.

INSTITUTIONAL BENEFITS

The QPD Panel offers additional capabilities relevant to health care organizations and systems. Data collected via the QPD Panel are accessible through a HIPAA-compliant database, allowing organizations to conduct statistical analyses of mental health data, for example for population-based needs assessment, outcome assessment, quality metrics, and other statistical and research purposes. From a financial perspective, implementation of the QPD Panel generates positive cash flow. Administration of the QPD Panel and review of QPD Panel test results is a billable procedure. In the United States, physicians and psychologists can bill third-party payers for QPD Panel administration using Current Procedural Terminology (CPT) code 96103 for computerized psychological testing.

IMPROVING PATIENT OUTCOMES: A CASE STUDY IN INTEGRATED CARE

Kaiser Permanente, a group-model HMO that operates in several geographical regions in the United States, developed and implemented a highly successful integrated care program called the Kaiser Permanent Integrated Care Project.[36] The project involved physically locating behavioral health providers (psychologists) in primary care medical clinics, fostering a collaborative team approach to patient care, and systematically tracking outcomes in a sample of patients with mood and anxiety disorders.

The patients self-administered the QPD Panel using tablet devices during regularly scheduled medical appointments, and physicians reviewed the QPD Panel assessment reports during the office visit. One hundred thirteen patients who screened positive on the QPD Panel for depression, generalized anxiety, or panic disorder (which were often comorbid) were enrolled in the project. Exclusion criteria were a positive screen on the QPD Panel for substance abuse, symptoms of psychosis or dementia, or a terminal medical illness. Most patients had medical comorbidities, the most common of which were arthritis or rheumatism, hypertension, sciatica or chronic back pain, asthma, and angina.

Medical providers shared QPD Panel diagnostic findings with the patients, often reviewing

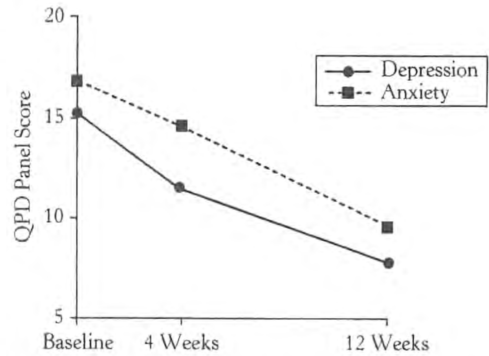

FIGURE 10.2. QPD Panel Depression and Anxiety Scores, Before and After Treatment.

the QPD Panel assessment report together with the patient. The patients were then offered three treatment options, and patients and providers made treatment decisions together. The treatment options included psychotherapy (short-term cognitive-behavioral or interpersonal), antidepressant medication, or a combination of psychotherapy and antidepressants. Most patients chose psychotherapy or combination therapy.

Follow-up assessments were conducted with the QPD Panel at four and 12 weeks after the initial assessment. Figure 10.2 shows QPD Panel depression and anxiety symptom scores at baseline (initial assessment) and at the four-week and 12-week follow-ups. The average depression symptom score at baseline was 15.2, in the moderately severe range. At the 12-week follow-up, the depression score had decreased by approximately 50% (slightly more than a standard deviation) to 7.8, within the normal reference range. The anxiety symptom score showed a comparable decrease, from 16.8 at baseline to 9.7 at the 12-week follow-up. To triangulate on patients' mental health status, patients were also assessed at the same three time points with the Zung depression and anxiety scales and the SF-12 Health Survey; they showed comparable levels of improvement on all measures. The project authors also noted high levels of provider acceptance and patient satisfaction. (For a more complete description of the Kaiser Permanent Integrated Care Project, see reference 36.)

CONCLUSION

Good mental health care begins with thorough assessment. Unfortunately, the mental health screening tools most often given to primary care and general medical providers do not meet

providers' clinical needs, and have had little impact on real-world patient outcomes. A mental health assessment tool that is truly clinically useful must provide a *comprehensive* assessment of the range of mental health conditions commonly seen in medical practice (not just a single disorder) and must provide specific, actionable information to guide treatment decisions. Also, it must not hinder clinical workflow or add to the time burden on providers or medical staff.

The QPD Panel is a computerized, fully automated mental health assessment test designed to meet these requirements. Patients self-administer the test, typically in the clinic waiting room using a tablet device, smartphone, or computer web browser. Administration time is generally less than 10 minutes. The test screens for 11 disorders commonly seen in primary care and general medical settings. Physicians immediately receive a chart-ready, comprehensive assessment report, which is printed on a local printer or sent to the patient's electronic medical record. The computer-generated assessment report displays results in lab test format, offering a familiar "look and feel" for medical providers. In addition to initial assessment, the test can be readministered as often as desired for patient monitoring and outcome assessment. The assessment report includes a trending graph that tracks changes in symptom severity, allowing providers to see at a glance whether the patient's mental health status is improving or worsening.

The QPD Panel demonstrated high physician acceptance in a formal provider satisfaction study. In a busy primary care setting, 100% of physicians who used the QPD Panel agreed or strongly agreed that the test is convenient and easy to use, is well accepted by patients, and helps clinicians provide better patient care.

The QPD Panel automates mental health assessment, providing comprehensive and actionable diagnostic information in a user-friendly lab report format. It is a valuable tool for integrated health care. See Box 10.3 for a summary of Relevant Facts. For a demo and free trial of the QPD Panel, visit www.QPDPanel.com.

BOX 10.3
RELEVANT FACTS

1. **Most patients with mental health conditions seek help from primary care providers, not mental health practitioners.[16,17]**
2. **At least 20% of primary care patients have mental health conditions.[1–15]**
3. **Comorbidity of psychiatric disorders is the norm: 78.5% of patients with major depression have additionally psychiatric morbidity, with depression rarely primary.[33]**
4. **The mental health screening and case-finding tools most often used in medical settings do not meet providers' clinical needs,[20] and they have had little impact on patient care or outcomes.[29]**
5. **A clinically useful mental health assessment tool must screen for the range of mental health conditions commonly seen in medical settings (not just one disorder), must provide clinically actionable information, and must not add to the time burden on providers or medical staff.[20]**
6. **The QPD Panel is a computerized, fully automated mental health assessment tool designed to meet the specific clinical needs of medical providers. Patients self-administer the test, typically on a tablet device in the clinic waiting room. Providers immediately receive a computer-generated, chart-ready assessment report in a familiar lab-report format. The test screens for 11 common mental health conditions.[20,34]**
7. **The QPD Panel achieves high provider and patient acceptance. In a provider satisfaction study, primary care providers agreed or strongly agreed that the QPD Panel helps provide better patient care, is convenient to use in busy medical settings, and can be used immediately by any physician without additional training.[20,34]**

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