Summary

This thesis concerns the detection, diagnosis and treatment of mental health problems by primary care physicians. The studies presented in this thesis reflect the spirit of the times of the nineteen nineties. In this decade, first guidelines for diagnosis and treatment of mental health problems, in particular depression, in the primary care setting, were developed in The Netherlands and in other countries. The rationale for these guidelines is that enhancing recognition, diagnosis and treatment of mental health problems, will improve patients' prognosis. This detection-diagnosis-treatment-model, in essence a medical model, is the paradigm underlying the research described in this thesis.

Chapter 1 shortly describes the historical position and subsequently presents the outline of the thesis. The thesis is composed of four parts. Part 1 consists of a historical overview. The results of empirical studies are presented in parts 2 and 3: naturalistic studies in part 2, and an experimental study in part 3. Finally, in part 4, conclusions are drawn and, following critical review of the detection-diagnosis-treatment-model, a new model for the treatment of mental disorders in primary care is presented.

Part 1
In a historical sketch in chapter 2, three factors are described that may have been responsible for the fact that 25 years elapsed from the first psychiatric epidemiologic studies, showing that mental health problems were common among primary care patients, until guidelines for detection, diagnosis, and treatment of these problems in primary care were developed. These three factors are the paradigm of primary care, the limited usefulness of psychiatric diagnostic classifications for primary care physicians, and the limited possibilities for treatment of mental health problems in primary care.

The first factor, the paradigm of primary care, is associated with increasing interest in psychosocial aspects of illness. In the nineteen fifties, a time of growing specialization in medicine and dissatisfaction with the biomedical model, primary care evolved into an independent discipline. The typical primary care paradigm that
developed during this era is referred to as the ‘patient-as-a-whole’ model in this chapter, because attention is focused on the whole patient rather than only the ill organ. This paradigm is characterized by: 1) the biopsychosocial approach to illness; 2) explicit attention to communication and interaction between doctor and patient; 3) the concept of illness-behavior; and 4) a patient-centered approach.

For the management of somatic illness the biomedical model remained dominant, while the biopsychosocial model slowly won ground. Although the biopsychosocial or ‘patient-as-a-whole’ model is, in essence, a medical model, mental health problems were not placed in a medical context at all. The approach to these problems was drawn from the psycho-analytic model, such as Balint’s, emphasizing the doctor-patient communication (the doctor as a drug), or the social model, viewing the complaint of the patient as a symptom of a sick society. The fact that mental health problems were not treated using the medical model may have been influenced by the ideas of the ‘anti-psychiatrists’ who explicitly rejected the medical model.

The two additional factors, the limited usefulness of psychiatric diagnostic criteria that, and the limited possibilities for treatment, probably contributed to the first factor. Because of these factors the medical model had limited feasibility for primary care physicians. Besides the fact that the psychiatric diagnosis had been unreliable for a long time, it also was of limited relevance for primary care physicians, because diagnosis did not guide treatment. This situation changed when standards and guidelines were developed (for example the NHG guidelines in The Netherlands) which established a direct link between diagnosis and treatment. Furthermore, the treatment possibilities for, for instance, depression, were improved by the introduction of the modern antidepressants. The older antidepressants have many side effects, resulting in low compliance, as well as toxic risks, while psychotherapy is not considered a viable option for normal 10 minute primary care visits.

The development of standards and guidelines reflect the spirit of the times of the nineties, as concepts such as ‘quality of care’ and ‘evidence-based medicine’ were introduced, also in politics. The detection-diagnosis-treatment-model as paradigm for the management of mental disorders, including the clear guidelines produced from this...
model, is an advance over earlier efforts, but seems to be too simplistic in the final analysis (see part 4).

**Part 2**

In part 2, through three naturalistic studies, the detection and diagnosis of depression and anxiety by primary care physicians are examined in more detail, and the association between detection and outcome is studied.

In chapter 3, agreement between depression diagnosis according to the primary care physician and to a standardized diagnostic interview, the Composite International Diagnostic Interview-Primary Health Care Version (CIDI-PHC), is examined in two samples from primary care practices in Seattle (USA) and Groningen (The Netherlands). In contrast to the usual way of studying diagnostic agreement, namely in terms of false-negative and false-positive, three levels of disagreement are distinguished. These are: 1) complete disagreement about the presence of psychiatric symptoms (true false-negatives and true false positives); 2) agreement about the presence, but not about the severity of the psychiatric problems (underestimated and overestimated problems); and 3) agreement about presence and severity, but not about what psychiatric diagnosis to assign (misdiagnosed problems and problems with another CIDI diagnosis). Among all patients with any level of disagreement between primary care physician and interviewer (the false-negative and false-positive comprising 13% of the total sample), 42% is due to disagreement about the presence, 29% about severity, and 29% about the diagnosis of the mental health problems. Of the ‘false-negative’ judgments of the primary care physician, 27% are due to complete disagreement (true false-negatives), and 55% of the ‘false-positives’ are due to complete disagreement (true false-positives). It seems that, when levels of disagreement are differentiated, disagreement about depression diagnoses between the primary care physician and a psychiatric interview is not as large as often stated. Differentiating levels of disagreement regarding the presence, severity and specific diagnosis, does more justice to diagnostic practice in primary care, and provides greater guidance on how to improve the diagnostic accuracy of primary care physicians. For example, underestimation of problems may occur in the early phase of a depressive episode. Time is an important diagnostic consideration in primary care, but requires return appointments to be set so that the physician can immediately take action if the situation
In Chapter 4, the (dis)agreement between primary care physician and a standardized psychiatric interview is studied further. This study shows that the agreement about the presence of depressive and/or anxiety disorder between the assessment according to the primary care physician and the standardized assessment according to a psychiatric interview, increases if the differences between classification systems (DSM-III-R, ICD-10), the comorbidity, the presence of subthreshold disorders in the primary care population and the aspect of time in the diagnosis of the physician, are taken into account. The agreement between the physicians and the DSM-III-R is 83% (Cohen's kappa \( \kappa = 0.35 \)), between the physicians and the ICD-10 87% (\( \kappa = 0.46 \)), and with at least one of the classifications 89% (\( \kappa = 0.52 \)). After correction for comorbid and subthreshold disorders, and inclusion of diagnoses given by the physicians in follow-up consults, the agreement increases to 93% (\( \kappa = 0.72 \)).

In both studies, the true false-negative patients are not the patients with less severe problems as shown by many other studies, but primarily patients who come to see their doctor for a somatic complaint and who do not visit their doctor frequently.

Chapter 5 is a replication of the Groningen Primary Care Study that found that recognition of psychological problems is associated with better patient outcomes. In a new sample of primary care patients, the patients whose psychopathology is recognized by the physician do not show better outcomes than patients whose psychopathology is not recognized. This inconsistency in results about the association between recognition and better outcome, exists not only between these two Groningen studies, but among the results of other studies as well. Searching for an explanation for this inconsistency, these different studies are further scrutinized in Chapter 6. Methodological factors (design: experimental versus naturalistic; characteristic of the sample: incident versus prevalent), as well as clinical factors (the clinical consequences of recognition) are examined. This probing of the different studies leads to the conclusion that recognition is associated with better outcome only if the sample consists of patients with new (incident) problems, and if recognition is followed consequentially by adequate treatment. Thus, to improve the outcome of mental health problems of primary care
patients, early detection and adequate evidence-based treatment are crucial. Both can be promoted by training.

**Part 3**
The focus of part 3, the experimental part of the thesis, is the improvement of detection, diagnosis, and treatment of depression and anxiety via training of primary care physicians.

First, the development and validation of a screening instrument for depression and generalized anxiety disorder, the INSTEL-screen, is described in chapter 7. The screen has been developed using data of half of a sample of 558 primary care patients. On the other half the INSTEL-screen has been validated and compared with the so-called Goldberg-screen: a comparable instrument with depression and anxiety scales. The INSTEL-screen employs a hierarchal approach. First, patients are screened for general mental health problems with two questions. Patients with positive results on the initial screen are then screened for depression, and, if depression is absent, they are screened for anxiety. Compared to the Goldberg-screen, the INSTEL-screen predicts the presence of either one of both disorders, depression or generalized anxiety disorder, as well as the Goldberg-screen (the positive predictive value of the INSTEL-screen is 69%), while depression is predicted better (a positive predictive value of 81%). Moreover, the burden on the primary care physician is lower with the INSTEL-screen: the mean number of questions to be asked is less than half the mean number of questions required by the Goldberg-screen (5 instead of 11). For these reasons the INSTEL-screen seems to be a better alternative for the primary care physician.

The INSTEL-screen is part of a training program developed by the INSTEL-research group to improve detection, diagnosis, and treatment of especially depression. In the training, consisting of 8 sessions each lasting 2½ hours, the physicians practice with the screening instrument, with symptom diagrams that facilitate diagnosis, and with treatment guidelines, and attention is given to general communication skills. In an experimental study with a pre-post design, the effect of the training on the course of psychopathology and daily functioning was investigated. This study is described in chapter 8.
A sample of consecutive patients of 17 primary care physicians was evaluated for the presence of depression. After 3 months and after one year these patients were examined again. The physicians were subsequently trained with the INSTEL-training program. After training a new sample was drawn in each practice and examined, and patients with depression were followed again over a one-year period. A positive effect of the training on short-term outcome was found, particularly for patients with a recent-onset depression. At 3-month follow-up, depressed patients whose physicians had been trained had less severe psychopathology than patients of the same physicians prior to their training. Patients with recent-onset depression also showed higher levels of daily functioning than similar patients of these physicians before they had been trained. Depressive episodes of patients with recent-onset depression recognized by the physician, were shorter after training compared to before training. After one year no effects of the training on patient outcomes were found. Because of the pre-post design of the study, a time effect cannot be excluded as an explanation for these findings.

Part 4
Finally, in chapter 9, building upon the findings of this thesis, a new model is developed for the management of psychiatric disorders in primary care. The three major findings are:

I. Conclusions from earlier studies, regarding severe underrecognition and underdiagnosis of psychiatric disorders in primary care, are too simplistic. Differentiating diagnostic agreement levels provides more guidance on how to improve the diagnostic accuracy of primary care physicians.

II. The improvement of recognition and diagnosis only seems to be effective (i.e., improves the course of symptoms) if detection occurs in the early phase of the episode and is followed by adequate diagnosis and treatment.

III. Training of primary care physicians in the principles of the detection-diagnosis-treatment-model improves patient outcomes, but the effects of the training are limited in magnitude and duration.

These findings suggest that the detection-diagnosis-treatment-model is useful, but that its effectiveness is limited. Possible causes of this limited effectiveness are that the model: a) does not take into account the differences among patients that influence the course of symptoms, b) is only focused on acute care, while many psychiatric disorders have a
chronic or recurrent course, and c) does not provide guidance on how guidelines should
be used in practice.

Drawing on strategies developed in models of care for somatic illnesses and
addictive problems ('matched-care', 'stepped-care', and 'motivational interviewing'),
and for chronic conditions ('collaborative care'), an 'individualized-stepped-care' model
is proposed for management of mental disorders in primary care. This model differs
in two essential ways from other stepped-care models. The first difference is the process
of moving from one treatment step to the other. In this process the readiness and
preferences of the patient are taken into account. There is a collaborative relationship
between doctor and patient, rather than a prescriptive relationship in which the patient
only has to follow the doctor's prescription. The second essential difference is that acute
and chronic care are placed on a management continuum instead of considering these
as two mutually exclusive management models. Patients may need different
combinations and intensities of acute treatment and chronic care over time.

The proposed model has far reaching consequences for the organization of
primary mental health care. It requires changes in the organization of the primary care
practice, as well as adaptations in the reimbursement system. For example, for chronic
care and stepped-care a structured system of follow-up appointments is necessary.
Because following and supporting patients is labor intensive, these tasks could be
assumed by other professionals, such as nurse practitioners. Although in The
Netherlands experiments with nurse practitioners have recently been initiated, this
method generally does not qualify for reimbursement.

The new model is heuristic, as most of the individual elements have been
proven to be effective, but in other populations with other (chronic) conditions. New
studies are needed to determine the value of the proposed model for the treatment of
primary care patients with mental disorders.