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The effectiveness of mental health services in primary care: the view from the developing world



Mental Health Policy and Service Development
Department of Mental Health and
Substance Dependence

Noncommunicable Diseases and Mental Health

World Health Organization
Geneva

Mental Health Policy and Service Development

Objectives and strategies

- To strengthen mental health policies, legislation and plans through: increasing awareness of the burden associated with mental health problems and the commitment of governments to reduce this burden; helping to build up the technical capacity of countries to create, review and develop mental health policies, legislation and plans; and developing and disseminating advocacy and policy resources.
- To improve the planning and development of services for mental health through: strengthening the technical capacity of countries to plan and develop services, supporting demonstration projects for mental health best practices; encouraging operational research related to service delivery; and developing and disseminating resources related to service development and delivery.

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Preface

This document reviews and evaluates the effectiveness of mental health programmes in primary health care in the developing countries. Its publication is timely because the World Health Organization is currently focusing on the importance of integrating mental health into primary health care. One of the ten recommendations in the *World Health Report 2001* on mental illness stresses the provision of treatment in primary health care.^a

WHO is also re-emphasizing the need to have good evidence for what works in health care, in order to build sound and effective policies and programmes for the health services. This is particularly important in countries with limited resources for health/mental health care where it is vital that they should get good value for the money spent.

This document includes a detailed discussion of programmes in developing countries and a historical review of what has been achieved, which will be of great help to policy-makers, planners and practitioners in the health and mental health fields who are considering implementation of such programmes. Some concrete examples are described, which will give developing countries a basis from which to measure their own country experiences — or, at the very least, to see what is possible in countries that have limited resources.

The document demonstrates what has been found to be most effective in primary care settings and, while recognizing the enormity of the task, concludes with pragmatic and achievable recommendations on what developing countries can do right now.

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^a *World Health Report 2001. Mental Health: New Understanding, New Hope.* Geneva, World Health Organization, 2001 (in press).

1. Background

1.1 Recognition of need

In the years 1972–73, the *British Journal of Psychiatry* published a series of articles that reviewed psychiatric issues in the developing world (1-4). The authors all came to the conclusion that, in view of the prevalence rates of mental disorders which were comparable to those found in the developed world, and also the scarcity of mental health personnel and services, the care and treatment of mental disorders in Latin America, Africa, and Asia should be relegated to general physicians and health workers. At the same time, a working group of the WHO Regional Office for Europe produced a report that considered the question of whether primary care doctors should deliver mental health services (5). In 1974, WHO convened an Expert Committee on Mental Health to consider this question. After a week of meetings, the Expert Committee concluded as follows (6):

In the developing countries, trained mental health professionals are very scarce indeed. Clearly, if basic mental health care is to be brought within reach of the mass of the population, this will have to be done by non-specialized health workers — at all levels, from the primary health worker to the nurse or doctor — working in collaboration with, and supported by, more specialized personnel.

Having adopted this strategy, which would fit in with the overall perspective on primary health care that was soon to be established at the Alma-Ata Conference in 1978 (7), WHO began to set priorities in the provision of mental health care and services. Based on the literature and their own experience, as well as surveys of psychiatric morbidity in Iran and Ethiopia, Giel and Harding (8) proposed that programmes should focus on improving the recognition and treatment of three classes of conditions. The first, *chronic mental handicaps* (e.g. mental retardation, addiction, and dementia), were proposed because they were the source of significant social disability. Rather than relying on institutional care — which was expensive and frequently detrimental — Giel and Harding reasoned that it would be better to concentrate efforts on prevention and the expansion of community care resources. This strategy was assumed to be both less expensive and more effective.

These authors chose *epilepsy* as the second priority because it usually affected young people and often resulted in physical and psychological impairments (progressive brain damage with dementia, injuries and burns) and social

disabilities (educational failure, social rejection, work handicap), and because inexpensive and effective treatments were available. Giel and Harding, recognizing that this decision would be questioned, wrote as follows (8):

For some, the inclusion of epilepsy in a list of psychiatric priorities may require some justification. The paucity of neurologists is even greater than that of psychiatrists in most developing countries. Any debate about the respective roles of "neurology" and "psychiatry" at community level is irrelevant. Epileptic individuals face many of the same problems as the mentally ill, and in operational terms (i.e. training, planning of services, drug supplies) it is useful to group them together as a 'neuropsychiatric' problem.

Moreover, they noted that psychiatrists in Latin America, Asia, and Africa often treated patients with epilepsy.

The *functional psychoses* comprised their third priority. Like epilepsy, the relatively low prevalence of these disorders was more than offset by the considerable burdens which they imposed on individuals and families, burdens that could be relieved to a great extent by anti-psychotic medications.

Despite the high prevalence of neuroses and personality disorders, Giel and Harding made a point of *not* recommending them as priorities. Considering the inherent difficulty of treating these disorders, and their supposed responsiveness to traditional forms of treatment, Giel and Harding maintained that the most important task was to educate health workers to recognize the psychological basis of many somatic complaints to avoid the inappropriate use of medical resources.

In 1975, WHO initiated a Collaborative Study on Strategies for Extending Mental HealthCare with the goal of examining the feasibility and effectiveness of mental health programmes, mostly in primary care settings. The study took place in seven developing countries (Brazil, Colombia, Egypt, India, Philippines, Senegal, and Sudan) and had four basic components:

- 1) the development and application of psychiatric surveys to determine the nature and extent of mental disorders;
- 2) the training of primary care health workers in the recognition and management of a range of mental disorders;
- 3) the establishment of mental health programmes in primary care settings which would rely on the new skills of the health workers; and
- 4) evaluation of these programmes (9).

The first step in the development of the psychiatric surveys was to determine the cross-cultural validity of diagnostic categories (10), and then to apply that knowledge to the development of screening instruments — the Self-Reporting Questionnaire for Adults and the Reporting Questionnaire for Children (11). These instruments were then used to determine the nature and extent of mental disorders among primary care patients — both adults and children — in four developing countries (12). Estimates of adult patients suffering from a mental disorder in Colombia (10.8%), India (17.7%), Sudan (10.6%), and the Philippines (16.3%) give an average estimate of 13.9%. The great majority of cases were “neurotic” illnesses that presented with somatic complaints. More severe mental disorders, e.g. psychoses, mental retardation, and epilepsy, were notably absent, leading the investigators to conclude that few patients with these conditions (or their families) were actively seeking care (11). The study also determined that although significant numbers of primary care patients were found to be suffering from a mental disorder, the diagnostic sensitivity of health workers was relatively low (36.8%), identifying only about 1 in 3 cases of mental disorder. At the same time, their diagnostic specificity was relatively high (92.7%). That is, when making a diagnosis, health workers were correct in more than 9 out of 10 cases.

The results of the research among children were similar (13). On average, about 19% of the children interviewed in primary health care settings in the same four countries were determined to be suffering from a psychiatric disorder: Colombia (29%), India (22%), Sudan (12%), and Philippines (15%). Again, sensitivity was quite low overall (15.2%, with a range of 10–22%). Specificity was quite high overall (96.4%) — although the investigators admitted that this was the result of health workers diagnosing very few cases.

In addition to determining the prevalence rates of mental disorders in primary care settings, the Collaborative Study sought to determine the extent of the social burden of mental illness (14). Contrary to the assumption that extended families were well able to care for their mentally disabled members, the families of patients with mental disorders were found to experience problems in intra-family relationships and to undergo economic hardships that were often severe. Many families also suffered from the effects of social stigma. Psychosis was the condition most strongly associated with family burden.

1.2 Training

The lack of mental health personnel in low-income countries is well documented (1-4,15-17). This has meant that any extension of mental health services in the developing countries must depend on health workers in primary care settings. However, primary care health workers in the developing world

have little or no expertise in the recognition or treatment of mental disorders (18). Therefore, it was necessary for the WHO Collaborative Study, mentioned above, to provide training before any effective services could be developed. In India, training focused on acute psychosis, depression, and epilepsy — with sessions of 2–3 hours for each condition. Flow charts were used to illustrate the steps to be followed in recognizing and then treating the disorders. The use of a limited number of drugs was reviewed and, in subsequent sessions with supervisors, the health workers were given guidelines about the common side-effects. Whether this meant that side-effects went unmonitored for an unspecified period is unclear (19). The brevity of the training was due to enormous workloads and time constraints for health workers in primary care. Whatever the reasons, however, one must be concerned whether this amount of training was adequate to provide health workers with the knowledge and skills necessary to treat the targeted conditions in a responsible manner.

In Cali, Colombia, the training methods were quite different (20). Nurses were given intensive training in the theoretical and practical aspects of psychiatric clinical care. At first, the training lasted for 185 hours. Later modifications reduced the length of training to less than 60 hours, which is many times longer than the training given to Indian health workers. Accounts of the training programmes in other settings could not be found in the research literature.

To assess the effectiveness of the training programmes, the Collaborative Study used a semi-structured interview to assess the mental health knowledge and attitudes of health workers (18). Before the training began, between 16% and 67% of the staff in various sites had received no mental health training of any kind. In sharp contrast to the results of the psychiatric surveys (12,13), a majority of the health workers estimated that less than 5% of their patients had a mental disorder. Their knowledge of available treatments was also poor. Most had very limited understanding of psychotropic medications, and very few saw themselves as being able to provide mental health care of any kind. Eighteen to 24 months after the completion of training, the health workers in six of the sites were re-interviewed (21). Their understanding of the link between somatic symptoms and mental disorders, their knowledge of the extent of mental disorders among their patients, their acknowledgement of the potential contribution of primary health workers in the recognition and management of mental disorders, and their awareness of several types of psychotropic drugs that were available in the health centre had all improved. The researchers concluded, therefore, that the training programmes had brought about a significant improvement in the knowledge and attitudes of health workers about mental disorders and their treatment. However, given the imprecise capacity of the interview questions to gauge clinical knowledge, and

the lack of observation of actual clinical practices and outcomes, this claim about the effectiveness of the training programmes is optimistic, at best.

Furthermore, the researchers assumed that the attrition rates were within acceptable limits because more than 90% of those trained had stayed on in three of the study sites and large percentages (83.3% and 86.7%) of those at two other sites had also remained. But fully half of those trained at the site in Sudan had left. The attrition rate of health workers in Sudan, as well as in those sites where it was about 15%, should have caused some concern or at least some comment about the need to monitor how many of those trained remained in the programmes and continued to apply their new skills. In Nepal, for example, the turnover of health workers is a serious problem in maintaining the services in rural health posts (22). In a programme in Guinea-Bissau (see below), attrition was a great problem. After training an initial cohort of 200 health workers, it became necessary to train an additional 600 because of changes in staff (23). Finally, research in Sweden has demonstrated that the effects of training programmes can be seriously diminished because people depart or change jobs (24).

The diagnostic sensitivity of health workers in all but one of the seven original sites increased, without an appreciable decrease in specificity — although it must be noted that the achieved levels of diagnostic sensitivity in four sites ranged from a low of 23.2% to a high of 82.3% (25). Treatment apparently improved, as well. Careful monitoring demonstrated that medications were being used “appropriately and in accordance with accepted standards of practice” (25). However, missing from the evaluation were: 1) whether increased diagnostic sensitivity brought about improved outcomes; and 2) indications of the relative success of specific interventions for specific conditions. There is no substantive evidence that the training programmes — and the resultant changes in knowledge and attitudes — improved the actual practice of health workers.

1.3 Programmes

The ultimate goal of the WHO Collaborative Study was to develop and implement one or more models of efficient, low-cost mental health delivery systems that could be applied in low-income countries. It is frustrating, therefore, that the reports in a 1983 issue of the *American Journal of Psychiatry* (9,11,25) contain very little description of the research sites other than the one in India (19), offer little evidence of the effectiveness of the programmes, and were not followed up by later reports. Fortunately, some impressions of the work conducted at the study sites in India and Colombia

can be gleaned from articles that appeared elsewhere in the professional literature.

1.3.1 Raipur Rani, Chandigarh, India

At the initiation of the Chandigarh Programme in 1975, Raipur Rani, a section of the Ambala District in the State of Haryana in northern India, consisted of 100 small, rural villages with a total population of about 60 000 (26).

Interviews with all the health staff working in the study area revealed very low levels of knowledge about mental disorders and their treatment. Their lack of understanding was most apparent in that they recognized less than 40% of the adults who were diagnosed by the research team as suffering from mental illness. Their recognition of mental disorders in children was worse, because they identified less than 5% of the cases. These figures may not be as dire as one might assume at first glance. Diagnostic specificity of the health staff was quite high, more than 90%. That is, although they were missing many cases, the health staff were not applying psychiatric diagnoses indiscriminately. Interviews of health staff at baseline also revealed that it was difficult to add responsibilities to their already heavy workload and that their “curative work” carried the most prestige (26). These findings implied that when setting priorities for mental health programmes, conditions which were likely to respond to treatment were the most likely to receive the attention of health workers (19).

Based on interviews with key informants in the community and the availability of a limited range of drugs, the programme planners designated psychosis (both acute and chronic), epilepsy, depression with psychotic features, and mental retardation as the conditions to be targeted. The drugs to treat these disorders were limited to phenobarbitone, chlorpromazine, and imipramine — with the idea that these were the most widely available and their use would provide a model for other settings.

Following the initial training, the need for supervision became apparent. Changing the attitudes of health workers about the need to attend to the mental health problems in their patients proved difficult. They were reluctant to take on the care of mentally ill persons because of time constraints in the clinics, fear of the patients, claims that people did not want the treatments, and the belief that traditional methods of treatment were good enough. To overcome this reticence, the investigators began to meet with health workers once a week to guide and encourage them and to provide ongoing supervision, training, and consultation.

By 1981, two years after the initiation of training, more than 200 patients were receiving mental health services from health workers in the study area: about

25% were suffering from acute psychosis, 50% from epilepsy, 16% from depression, and the remainder from “a variety of psychosomatic disorders” (19). The extent of the services far exceeded anything provided previously. But there were problems. Health workers had great difficulty in differentiating physical health problems from depression, they had unrealistic expectations about the degree to which patients would improve, and they continued to lack adequate skills in the use of psychotropic drugs. Nevertheless, the Raipur Rani training programme was considered a success because it seemed to change the knowledge and attitudes of health workers about mental disorders and began to provide psychiatric services where none had existed before. In the absence of clinical outcome data and long-term evidence, however, it would seem more prudent to withhold judgement about the effectiveness of the training to integrate mental health services into primary care.

1.3.2 Cali, Colombia

The Collaborative Study site in Cali, Colombia, operated under a different model. Whereas the health workers in Raipur Rani received only a few hours of training, nurses in Cali received a minimum of 54 hours of both theoretical and practical training, and some received as much as 185 hours (27,28). The nature of the health facilities in the two sites was also different. In Cali, the first phase of the study took place in the outpatient clinic of a psychiatric hospital. After the training, nurses administered care to patients under the supervision of medical staff. The care given by these nurses proved to be equally effective as the care usually given in the clinic. Once this approach proved to be successful, the study moved to an urban health centre. Again, the nurses were trained (although this second group received much less training than the first) and were then given responsibility for patients. Compared to the “usual care” (referral to the outpatient clinic of the psychiatric facility), the care given by the nurses was found to be equally effective, if not better. Although 2-year outcomes for patients in both the nurses and usual care groups had similar outcomes, those in the former improved more rapidly. The investigators also noted that the nurses were able to develop therapeutic relationships which helped the families to understand better and tolerate the patients’ behaviour (28).

The importance of the evidence from the site in Cali was that it provided the only clinical outcome data in the Collaborative Study. As assessed by a variety of instruments, the care provided by nurses was quite effective. However, one must be cautious in generalizing these results. First, the training was far more extensive in Cali than in Raipur Rani. Second, even before their training the nurses had worked in the psychiatric outpatients department, an experience which surely would have influenced the

effectiveness of their interventions. Third, during the first phase of the study, the nurses were working under the supervision of psychiatrists in an outpatient psychiatric clinic, a situation which is radically different from practising on one's own in a rural health post without the opportunity to seek advice from mental health professionals on an ongoing basis. Finally, the context of the experimental interventions in Cali probably influenced the outcomes significantly, making it difficult to extrapolate these results onto sites with no psychiatric facilities, a few doctors, and health workers with much less training.

In sum, the WHO Collaborative Study was an important milestone. It demonstrated the significant burden of disease imposed by psychiatric conditions on a variety of populations. In a more limited way, it also showed the ability of health workers to recognize and manage several priority mental disorders. However, the documentation of the study was limited. While the results from India and Colombia were published, we have little evidence on which to judge the success of the study in the other sites. Most importantly, rigorous and long-term evaluations of the programmes are lacking. Without such evidence, one cannot determine the ultimate effectiveness of these attempts to expand mental health services to underserved populations.

2. Burden of mental disorders in primary care

The work of Harding et al. (12) showing that mental disorders comprise a significant burden of disease in the developing world has been replicated many times. Surveys of community samples (Table 1, see p. 41) show that prevalence rates of mental disorders generally range from about 10% to 25%. Among samples of primary care patients (Table 2, see p. 42) the prevalence rates appear to be higher, tending towards 15–30%, with a number of surveys showing rates of 45% or more. A WHO international study found that about 25% of all attendees in primary care settings were suffering from some form of mental disorder, mostly depression and anxiety (29). The WHO research also demonstrated that mental disorders were associated with substantial levels of disability (30), a finding that agrees with findings from the West (30–42) and is supported by studies from India (43,44) and Africa (45,46).

2.1 Alcohol-related problems

Like studies in the USA (47) or those done cross-nationally (48), research in the developing world has found that a substantial proportion of primary care patients have alcohol-related problems. Alcohol use accounts for almost 10% of the burden of disease in Latin America (16). Evidence from Africa is

particularly compelling. One study in Nigeria determined that about 14% of patients had alcohol-related problems and that these patients were at higher risk for mental health problems (49). A survey of outpatients in a rural district hospital in Kenya found that more than half of the men and one-quarter of the women (together almost 40% of the entire sample) were suffering from either alcohol abuse and/or alcoholism (50). A community survey of alcohol-related problems in rural Kenya revealed similar rates among women and although the rates among men were about half of those found in the primary care sample, they were still quite high (51). A WHO cross-national study of alcohol use found that Kenyan primary care patients had the highest average daily alcohol intake and the highest levels of hazardous consumption (48). Finally, an epidemiological study in Lesotho found high rates of alcohol abuse among those diagnosed with depression or a generalized anxiety disorder (52). These findings are made more troubling by the lack of acknowledgement by health workers about the existence of alcohol-related problems (50,53), or their reluctance to see them as a problem (49).

2.2 Risk factors for mental disorders

Research has shown that the risk factors for common mental disorders in the developing world are very much the same as those in the West (54,55) — with poverty, stressful life events, and female gender as the most prominent risk factors. In Zimbabwe, employment and financial worries among men, and infertility and troubled family relationships among women have been found to be associated with psychiatric morbidity in primary care patients (56,57). A survey of women in Harare found poverty, as well as low levels of education and overcrowded living conditions to be risk factors for depression and anxiety (58). Chronicity in depression among patients in Zimbabwe has been found to be associated with grief, a psychological explanation of the illness, and with greater disability as measured by sick days in the previous month (45). All of these studies found female gender to be a significant risk factor for common mental disorders. Elsewhere in Africa, research among a rural Ethiopian population found that psychosocial stress (as measured by life events) was significantly associated with both neuroses and psychoses; while female gender, illiteracy, chronic illness, and being divorced, separated, or widowed were associated with the neuroses specifically (59). In Kenya, life events (particularly those involving loss) have been found to be associated with depression (60). And a survey among Nigerian children found that poverty was again a significant risk factor for the development of mental disorders (61). The evidence from Asia about risk factors for common mental disorders is similar. A community survey in Nepal determined that early age at marriage, having more than five children, and inadequate food supply for the household were risk factors for mental disability among women, while low levels of income were risk factors for men.

2.3 Gender as a risk factor

Perhaps the most consistent finding in psychiatric epidemiology is that women suffer much higher rates of common mental disorders, especially depression, than men. This is confirmed by several surveys from the developing world (44,52,62-64). Two community surveys from Pakistan, in particular, demonstrate the potential vulnerability of women — 45% of the women in two mountain villages (as opposed to 15% of men) were found to be suffering from anxiety and depressive disorders (65). Among the inhabitants of a rural village in Punjab, 66% of the women (compared with 25% of men) were suffering from these disorders (66). A survey in India found that female gender had remained a risk factor for common mental disorders over a period of 20 years (67). The evidence from China is even more dramatic. Although overall rates of depression are lower than those in the developing world, one of the largest epidemiological surveys undertaken in China found the prevalence of depression was 9 times greater among women than men (68). A more recent survey found rates of postnatal depression to be similar to those found in the West (69). Furthermore, while the association between depression and suicide has not been clearly demonstrated in China, the fact that rural women in China have the highest rates of suicide in the country (70) points to the influence of psychosocial environments and dramatic socioeconomic changes in recent decades (71). Indeed, evidence from other regions of the developing world supports the notion that women's vulnerability to common mental disorders is at least as much a function of sociocultural and economic factors as of biological factors (44,64,72). For example, in reviewing studies of depression, Desjarlais et al. (73) found that the higher rates among women were most often attributed to relative powerlessness.

3. Recognition of mental disorders in primary care

The principal reason for the neglect of mental health problems among primary care patients in the developing world is that most health systems do not consider mental disorders as a priority (3,4,74,75) and, therefore, health workers do not receive the appropriate training (76). The lack of training is most obvious in their poor ability to recognize mental disorders among patients. For example, an estimated 90% of depressed patients in China are neither diagnosed nor treated (77). Both the WHO Collaborative Study on Strategies for Extending Mental Health (12) and the WHO Collaborative Study on Psychological Problems in General Health Care (29), as well as numerous other studies in the developing world (56,62,72,78-86), have demonstrated that mental disorders go largely unrecognized by primary care health workers. These findings are in keeping with the results of research in North America and Europe (87-92).

Another reason for the lack of recognition of common mental disorders among patients in primary care is the frequent presentation of somatic rather than psychological symptoms (80,93-102). Examples of somatic complaints include: heat in the head, crawling sensation of worms and ants, and heaviness in the head (103); heart distress or nerves (96); headache, joint and gastrointestinal pains (104). In brief, the recognition of common mental disorders is complicated because their presentation is shaped by cultural idioms of distress which can make them appear to be very different in different settings (105,106). In the absence of biological markers, our reliance on culturally variable symptoms to diagnose common mental disorders makes it difficult to develop universally valid methods. The problem is made more complicated by two other factors. First, stigma about mental illnesses makes patients reluctant to report psychological distress to physicians. A study in India demonstrated that when patients associated psychological symptoms with stigma, they presented with somatic complaints. When they did not make that association, they were far more willing to speak of the psychological causes of their distress (107). Second, given the considerable presence of infectious diseases in the developing world, the attribution of physical symptoms to psychiatric causes must be made with caution (82,108-110). On a positive note, an important finding of the research in Raipur Rani (India) was that those patients who cited three or more somatic reasons for seeking care were twice as likely to be suffering from a mental disorder than those patients who presented with only one or two symptoms (26). This information provides a simple indication of whether somatic symptoms were serving as expressions of psychiatric distress.

4. Training

There is a severe lack of mental health personnel and facilities throughout the developing world (16,17,75). For example, in India, a country of more than 1000 million people, there are only 46 mental hospitals with a total of 20 000 beds, half of which are occupied by chronic patients. There are psychiatric facilities within some academic and general hospitals, but these are in cities and are not easily accessible to rural populations. The situation is made worse by the lack of mental health personnel. There are 2–3 psychiatrists per million inhabitants in India whereas the ratio in the countries of the developed world is 50–150 psychiatrists per million population (111). In Sub-Saharan Africa, mental health professionals of all kinds are in short supply (112). China has 1260 million people but only about 13 000 physicians who work in mental health settings. Of those, probably fewer than 3000 are fully trained psychiatrists. The numbers of personnel in the allied mental health fields, e.g. psychology and social work, are even smaller (113); there are almost 23 000 psychiatric nurses (114). This general lack of mental health resources in the developing world, the extensive burden of mental disorders, and the low rates

of recognition and treatment make clear the need for mental health training of primary care health workers (6,43,76,115,116). Such training has been carried out in many countries following, for the most part, the models established by the WHO Collaborative Study on Strategies for Extending Mental Health Care (5,93,111,117-122). Yet, despite these laudable efforts, it is necessary to note one glaring deficiency: outcome measures of the training are difficult to find and, when they do exist, they are difficult to interpret. While training programmes have increased the diagnostic sensitivity of primary care health workers, there is little evidence that such improvements have resulted in better outcomes.

5. Mental health services in primary care

A number of mental health programmes in primary care settings have been established in the countries of the developing world. A brief review of a few will provide evidence about the degree to which this strategy has been effective in relieving the burden of mental disorders.

5.1 India

Of all the countries in the developing world, India arguably has had the most experience in the implementation of mental health services in primary health care. The move to integrate these services began in the mid-1970s when, in addition to the WHO-affiliated Chandigarh Programme (see above), the Department of Psychiatry at the National Institute of Mental Health and Neuro Sciences (NIMHANS) in Bangalore established a Community Psychiatry Unit whose goal was to integrate mental health care into primary care settings (111). The Unit developed mental health manuals and training programmes (118), established a rural training centre at Sakalwara (located on the outskirts of the city of Bangalore), and initiated pilot training programmes in a number of primary care clinics. At the same time, NIMHANS began a formal training programme in psychiatry for general practitioners (123). The generally positive results associated with these efforts resulted, in 1982, in the formulation of India's National Mental Health Programme (NMHP) whose goal was to extend mental health services through training programmes, the provision of essential psychiatric drugs in all health facilities, and the integration of mental health services into primary care (121,123). One direct result of the NMHP, was the establishment of the Bellary District Mental Health Programme under the auspices of NIMHANS. Based on early evaluations (121,124), the Bellary District model was extended to other districts and, more recently, to the national level. At present, district mental health programmes are operating in more than 25 districts in 22 states of India and providing mental health services to a population of more than 40 million people (123). As impressive as these efforts have been, one must not assume

that they provide conclusive evidence of the effectiveness of mental health services in primary care since the projects have lacked rigorous evaluations that provide evidence of the consequences of training on treatment and clinical outcomes.

5.2 Nepal

Since 1984, a mental health system has been in operation under the auspices of the United Mission to Nepal (UMN), the Department of Psychiatry at the Institute of Medicine of Tribhuvan University, and the Ministry of Health of Nepal (22). The first programme was established by UMN in Lalitpur, a poorly watered and poverty-stricken district in the very steep hills south of Kathmandu. The goal of the project was to bring rudimentary mental health services to the rural poor through an extant community health system operated by UMN. This was to be achieved by training health workers in the recognition and management of mental disorders. Eventually, UMN and the Institute of Medicine of Tribhuvan University formed a collaboration, and, with the agreement of the government of Nepal, a Community Mental Health Project was established in 1989. At present, the project operates mental health programmes in four of Nepal's 75 districts, in addition to the one in Lalitpur. The support for the programmes comes mainly from Redd Barna (Save the Children Fund, Norway) and various religious charities and churches. The salaries of staff at the Institute of Medicine are paid by the government through the University. However, funding for medications has been a problem. In the beginning, donor funds were sufficient to provide and distribute the drugs free of charge, but as the programme expanded and patient numbers increased, this became prohibitively expensive. At present, free drugs are provided only to very poor patients; this has been a major setback for the programme. Another problem has been that while the government has been positive about the programme, mental health services are not an *official* component of the public health service. As a consequence, the government does not distribute psychiatric drugs to the health posts, Department of Health training sessions take precedence over mental health training sessions, and government health workers do not receive any financial incentives for their mental health work.

Much of the programme is devoted to mental health training for health workers. Each session lasts nine days. The curriculum covers five common diagnoses: psychosis, epilepsy, depression, anxiety, and hysteria. The benefits and use of five inexpensive and relatively safe drugs which are generally available in Nepal — chlorpromazine, depot fluphenazine, trihexiphenidyl, phenobarbitone, and amitriptyline — are described. Role-playing is used to demonstrate the use of and therapeutic benefits of rudimentary counselling techniques. Trainees are also given practical experience by bringing them to

health posts, outpatient clinics and, when possible, psychiatric wards. The curriculum also includes such topics as alcoholism, drug abuse, child mental health and mental retardation, and sexual difficulties. However, the goal of the training is not to cover the field of psychiatry, but to provide health workers with a set of basic skills which they can use to provide treatment for those mental disorders which they are likely to see in primary care clinics.

Independent evaluations of the programme have been generally positive. A small study of epilepsy treatment in four health posts found that care was probably appropriate and adequate (125). In 1993, 421 active patients were being seen in 16 health posts in the district of Morang and, over a period of four years, there were 557 patient visits related to psychosis, 1124 for depression, 4878 for epilepsy, 34 for mental retardation, and 144 for “neurosis”. This has meant that many people are receiving care where none was available before the programme. However, the numbers of patients fall far short of what one might expect from epidemiological surveys in Nepal (126) and elsewhere. And, in the absence of outcome data, one cannot make assumptions about the quality of the care. It must also be noted that the programme has been criticized for not addressing the mental health needs of children and adolescents, even though more than one-half of the population is under the age of 18 years (127). Nevertheless, the programme has now been running for more than 16 years and, in that time, has expanded to a total of five districts and formed partnerships with the Institute of Medicine and the public health service. These accomplishments are not inconsequential. The establishment of new postgraduate programmes in psychiatry, psychology, and social work will, hopefully, result in long-term benefits.

One critical task of the project is community education. This is achieved through “mental health camps”. The following is a report on one such camp by Dr Sarah Acland, Director of the UMN Mental Health Project from 1990 to 2000 (128). The full report is given below because it not only describes a community education event, but also provides insights about some of the obstacles that must be faced in establishing a mental health service in a low-income country.

5.2.1 Report on Mental Health Camp at Gandruk village, Kaski District

Gandruk is a village on the tourist trail, at an altitude of about 6000 feet, on the road from Jomosom to Pokhara via Ghorepani. Its population is about 8000, mainly Gurungs and low-caste. The Gurungs are reasonably well to do, because of army pensions and tourism; the other groups do not share in this prosperity much. The village is set on a

steep hillside with views of the Himalaya and one's immediate impression is of pretty white-washed houses, flowers everywhere, and steep steps connecting everything. There is an office of the Annapurna Conservation Area Project, a health post, a high school, telephone service, a police station, and one or two shops. Mule trains which previously went to Tibet now clatter through on their way to Mustang. In all, Gandruk is very beautiful, at least in those parts seen by tourists. Every house has a latrine, the lodges are painted in bright colours, surrounded by flower gardens, and provide Western food and solar showers. However, in the poor areas where tourists do not go, it is a different story. The provision of health care is woeful. One medical auxiliary and an unmanned dispensary are not sufficient. The rich can, perhaps, go to Pokhara, but the poor cannot afford the bus fare and the walk could take several days for a sick person; then there would be the problem of lodging in town. It is no consolation to reflect that this situation is repeated all over Nepal.

The Community Mental Health Programme (CMHP) team arrived in Gandruk on the evening of 6 March 1998. The following morning we set up the mental health exhibition at a school with the permission of its headmaster and with the assistance of the community medical assistant (CMA) who was in charge of the local health post. The exhibits were hung on a cord around three sides of the school buildings. There were posters of mentally-ill patients – along with written explanations – taken from the flip chart. Then there was an exhibit of First Year of Life photographs, also with written explanations. There was also an exhibit of 12 posters relating to childhood development in mental and physical functioning. Training posters which have graphic depictions of mentally-ill people were displayed, too. Many of those who came could not read, so spoken explanations were given at intervals for groups of people. Those adults who could read were very enthusiastic in reading all the materials and even in reading to each other.

We organized activities for children, such as building blocks, jigsaw puzzles and colouring books, in the central grassy area of the school. The smaller children showed a degree of concentration and long attention-span that is not always evident in Western children or in those from educated backgrounds. The older ones helped the younger, materials were shared, and there was little quarrelling. Through questioning, we found that many of these children came from

the poorest of the poor, from scheduled castes and from families where several members had died. When it started to rain, the poorly-clad children were obviously cold, but this did not disturb their concentration.

Initially, the puppet show was also set up in this area, but the rain forced it indoors. The performance was given twice and consisted of one story about a family with a drunken husband, a depressed wife, and children crying with hunger, and another which was about a child who refused to go to school.

Video presentations were also given: Basu, a film both funny and moving, which is about mental retardation and community-based rehabilitation; and a video of the street drama described above.

In all, we estimated that about 400 people came to the exhibitions. On the following day, we set up the mental health clinic in the school. Patients were seen by paramedical workers first, and then evaluated by the psychiatrists. Ancillary help was provided by the health post CMA; a CMHP staff member evaluated several children for mental retardation.

The following day, we moved the clinic to the health post nearby. We saw another 40 or so patients; many more than on the first day presented with epilepsy, some of them children. Fortunately, we had brought medicines sufficient for the first month or so of treatment for these individuals. As on the day before, a CMHP staff member evaluated the children, and found one who was partly deaf and had not learned to talk; this child had a deaf sibling. Holding the clinic in the health post also gave us the opportunity to do some teaching with the staff.

All in all, we were fairly happy with the outcome of the camp. Of course such camps make little lasting difference in terms of improvement in individual cases; but the increase in community awareness and the campaign against stigma are important goals. At the same time, several observations were discouraging. First, there was a lack of medical facilities in Gandruk such that even for simple common ailments, medicine is not available, and even where it has been provided by the local health post, knowledgeable workers are not available to use it. Second, the questionnaire provided for screening for the presence of mental disorders gave a very high proportion of false positives. Finally, not enough

medicine was stocked for the large number of depressed patients we saw.

5.3 Iran

The war with Iraq (1980–88) resulted not only in a great loss of life for the people of Iran, but also widespread psychiatric morbidity. Studies of mental disorders in general medical settings have found relatively high prevalence rates, with depression being the largest diagnostic category (129,130). For that reason, Iran began efforts to integrate mental health services into primary health care in 1986 with the formulation of a National Programme of Mental Health (131). The first step in the programme was the initiation, in 1987, of several pilot projects which trained health workers and primary care physicians in the diagnosis and treatment of mental disorders. After training, their diagnostic sensitivity increased significantly and they were reportedly better able to treat cases, particularly epilepsy. An evaluation of the projects showed that only a small percentage of patients needed specialist care and that patients and their families were satisfied with the services. Following the apparent success of the pilot projects a mental health unit was created within the Ministry of Health and Medical Education, a national mental health advisory group was formed, medical schools became involved with the National Mental Health Programme, manuals and training programmes were developed for all health personnel, an annual mental health week was instituted, psychiatric wards were established in general hospitals, and school mental health programmes were developed.

Additionally, the four foundations in Iran, which are responsible for the care of war-related conditions, consider mental health an important aspect of their work. For example, one foundation supports a number of consulting centres in which psychologists and social workers provide services to families of war-disabled individuals. The same foundation also supports emergency care, outpatient clinics, and rehabilitation centres. Other mental health initiatives have included the establishment of counselling centres in medical schools and welfare organizations. Some of these centres offer telephone counselling services and a hotline for emergencies.

As of January 2000, about 16 million persons (almost one quarter of the population) were covered by the services. Officially, a total of 128 425 patients were receiving care for such conditions as epilepsy (23 500), mental retardation (28 800), psychosis (13 900), common mental disorders (47 900), and other conditions (14 200). From the available information, one may assume that the burden of mental disorders is being effectively addressed (129,130). Yet, as is the case elsewhere, the documentation of the programmes, clinical outcomes, and the processes that developed, established

and now sustain them is scant. Without such documentation and substantiating evidence of what makes the programmes effective, it is difficult to make a conclusive judgement about the extent to which the efforts in Iran have been successful.

5.4 Nicaragua

Before the Sandinista revolution of 1979, mental health services in Nicaragua were almost entirely limited to the national mental hospital where between 350 and 500 chronic patients were cared for by three psychiatrists (132,133). The care in the hospital was custodial, at best, and relied on physical restraints, electroconvulsive therapy, and extensive use of sedatives. No rehabilitation programmes were available (134). In 1980, as part of the radical transformation of the national health system, reforms were implemented to expand and decentralize the mental health services. By 1986, 83 mental health professionals had formed 14 new mental health teams, 7 of which operated outside of Managua, and the number of patients in the psychiatric hospital fell to 170 (132). By 1991, the number of patients in the hospital had fallen to less than 100. The reforms were achieved through concerted efforts of the Sandinista government with support from WHO and several Italian groups (133). One of the key tasks of these efforts were training programmes for primary health care workers (135).

In a report on primary mental health care in Nicaragua, Richard Byng (135) made the following comments:

[I]t is impressive that a developing country at war considered it important not only to theorize about mental health care but also to integrate it with developing health services. The changes that have been made are striking and fundamental and there also appeared to be the [political] will to continue the process of development and improvement.

Unfortunately, although this assessment may have been accurate at the time of Byng's experiences in 1987, his judgement that the changes were fundamental and long-lasting proved to be incorrect. The general elections of 1990 which swept the Sandinistas out of power, also led to the dismantling of many of the health reforms (132). In 1992, public health funding, because of structural adjustment programmes imposed by international financial agencies, fell to one-third of what it had been only four years before, with the result that the percentage of vaccinated children decreased and infant mortality increased. Mental health services were eliminated from primary care. Psychiatric patients cannot be admitted to general hospitals and conditions in the national mental health hospital have deteriorated because of severe budget cuts. In

sum, the lesson of Nicaragua is that the success of mental health services in developing countries can be as dependent on political and economic factors as on the quality of the programmes.

The following reviews are of several programmes that provide more thorough data by which to evaluate their relative success. A close examination of the evidence will give a better understanding of the difficulties entailed in developing and establishing effective mental health services in primary care.

5.5 Guinea-Bissau

In 1983, following the methods established by the WHO Collaborative Study, a project to integrate mental health services into primary care was implemented in four sectors of Guinea-Bissau (23,136). Epidemiological surveys found that the prevalence rates of mental disorders was 12% and 13% among adults and children, respectively, which are within the range of earlier surveys in the developing world (12,13). Health workers, however, were not particularly skilled in recognizing cases and their diagnostic sensitivity was low. Their diagnostic specificity, however, was quite high. Based on these surveys, interviews in the communities and the work of others (8), acute psychosis, neurotic and depressive disorders, and convulsive attacks were chosen as priorities for the training and intervention programmes.

The training programme consisted of seminars which lasted for 5 consecutive days, 5 hours each day. The first day presented the objectives of the training and a description of the epidemiological surveys. The other days were devoted to theory, role-playing, and clinical work with cured patients. In all, 200 health workers participated in the first 10 seminars. Eventually, transfers of personnel made it necessary to train another 600. Following the training, health workers were provided with quarterly supervision for a year; after that, supervision was provided annually. The supervision focused on the use of patient forms (which served to determine treatment and follow-up), management of difficult patients, and the distribution and use of medication. As in other programmes, supervision was the key to success: "health workers only started to practise their acquired knowledge after supervising teams had visited them"(136). In light of the infrequency of supervision, however, one must question the quality of the day-to-day clinical work of the health workers.

An evaluation of the programme (136) found the following. First, despite language difficulties (reading Portuguese) for the participants in the training programme, the diagnostic sensitivity of health workers increased to 75%, and their diagnostic specificity increased to 98%. Although no clinical outcome

measures were available, the programme was deemed effective in the treatment of psychosis and depression since patients and their families reported an improvement in symptoms. The treatment of epilepsy was deemed to be even more successful, even though training had been limited to 4 hours of the seminars. Before training, the diagnostic sensitivity of health workers to epilepsy was 0%; after training it rose to 95%. Ninety percent of patients received correct treatment with the result that the frequency of their seizures decreased almost 50-fold and more than half regained some or all of their working capacity. The cost of the programme proved to be quite low, at least for as long as there was a functioning primary health care system. Disruptions and shortages in the drug supplies followed structural adjustment programmes in the 1980s (137).

In the absence of rigorous clinical and services research, one must reserve judgement about the long-term effectiveness of the programme in Guinea-Bissau. High rates of attrition among trained health workers, relatively infrequent supervision, and lack of data (except for epilepsy) on the outcomes of interventions force one to question the overall effectiveness of the programme.

5.6 United Republic of Tanzania

The first mental hospital was opened in 1927 (15). It had about 1000 beds, but often housed more than 1500 patients. The next facility, Broadmoor institution for the criminally insane was not opened until 1951. It had 600 beds. A third institution, with 200 beds, was opened in 1962 by Lutheran missionaries. Soon after Tanzania became independent, a report noted the overcrowded conditions in these hospitals, as well as the virtual absence of other psychiatric facilities in the country, and the financial constraints under which all hospitals in the country operated. Many mentally ill persons were kept in jail. The situation prompted the authors of the report to recommend the decentralization of mental health services. Between 1965 and 1979 regional psychiatric facilities were established across the country. However, resources remained sparse. In 1979, there were only two psychiatrists, five medical officers with some training in psychiatry, and 40 mental health nurses to serve the needs of the entire country. To meet this challenge, a system was devised to establish mental health services within the existing primary health care system. Between 1980 and 1983, with financial support from WHO and Denmark, the country instituted a plan to train primary care health workers in two pilot regions and to implement mental health services (138).

An evaluation of the diagnosis and treatment practices in the early stages of the Mental Health Programme found the following. Of 4615 patients in the

two pilot regions, 3.9% received a psychiatric diagnosis (83). Of these, neurosis (mainly anxiety neurosis) was the most common diagnosis (41.7%), followed by psychosis (14.4%), epilepsy (13.9%), substance abuse (9.4%), depression (2.8%), mental retardation (0.6%), and “other” conditions (17.2%). While the clinical accuracy of these diagnoses was not determined, these estimates seem low compared to other samples of primary care patients in Africa (see Table 2, page 42). One reason might have been that virtually no patients presented complaints of feeling sad or depressed. Instead, they reported dizziness, palpitations, or insomnia. The distribution of diagnoses is also noteworthy. Although common mental disorders (anxiety and depression) were the most frequent diagnoses, the frequency of psychosis and epilepsy far exceeded what would be expected in the general population.

In the absence of data on treatment outcomes, the pattern of treatment interventions can serve as a proxy and be informative about the relative success of the programme. Psychiatric treatment was given to 8.6% (396) of the patients, although only 7.0% (323) presented psychiatric complaints and fewer still, 3.9% (180), received a psychiatric diagnosis. Of those with a psychiatric diagnosis, 81.1% (146) received some kind of psychiatric treatment. In sum, this means that a large number of patients were given psychotropic medication (only 13 patients received psychotherapy) although they did not have a mental disorder, and 18.9% (34) of the patients with a recognized psychiatric condition did not receive any treatment at all. Data on actual treatments were even more troubling. Of the 396 patients who received psychiatric treatment, fully 225 were given phenobarbital, a standard treatment for epilepsy, although only 25 patients were diagnosed with that condition. Antipsychotic drugs were administered to 97 patients, although only 45 patients presented with psychotic complaints and only 26 were given a diagnosis of psychosis (83).

In fairness to the Tanzanian Mental Health Programme, one member of the evaluation team noted that the prescription of appropriate drugs depended “on the availability of particular drugs at any point in time” and, although the Tanzanian National Mental Health Project attempted “to ensure the provision of at least one type of medication for each target disease”, the drug supply was erratic, at best (139). Furthermore, the development of the programme faced a host of difficulties. While the Evaluation Team experienced travel delays, communication difficulties and equipment breakdowns, their problems were nothing compared to what the people running the programme faced. Maurice Bloch, one of the evaluators of the programme, commented (139):

The trained personnel, the medical assistants, and rural medical aides, might not have water on tap at the health center or dispensary, no supplies of kerosene for months on end to keep the

refrigerator running, frequent absence of crucial drugs, difficulties transferring patients to hospital, and isolation in terms of supervision and support. The patients frequently have to cover great distances on foot while suffering pain and discomfort, and lacking in education, have difficulty in understanding and complying with a treatment regimen.

Indeed, Bloch concluded that the difficulties experienced by the Evaluation Team provided important insights on the problem of establishing a mental health programme in one of the poorest countries in the world and gave him an appreciation of the efforts that were made by the Tanzanians. Despite all the problems, the evaluation report was positive about the programme (138):

The experience of the Tanzanian mental health program... represents an important milestone in the development of mental health care in the African region, and is likely to be of benefit to public health planners in the Third World by providing an example of a strategy and technology that can be adapted to a variety of settings.

From the perspective of what is now 18 years since the evaluation of the programme, we must regard this optimism with caution. The report was presented very much as a study which would provide baseline data to measure the progress of the programme over time (83). The inevitable difficulties of a new initiative were to be accepted since they were expected to fade away as the programme matured. We do not know, however, if this maturation ever took place since there were no follow-up evaluations. The review by Kilonzo & Simmons (15) reports that the pilot programme brought about a “dramatic drop” in the numbers of patients admitted to three regional psychiatric units in 1983 — and these authors make it clear that Tanzania continues with its commitment to the broad provision of mental health services. But we do not know whether the weaknesses of the programme were addressed or if its initial successes were institutionalized nationally.

5.7 Botswana

From 1891 — following the beginning of British rule — until 1946, persons with mental disorders were generally confined in prisons. When an asylum was finally constructed in Lobatse, it soon became overcrowded. Worse, the facility could not care for severely disturbed persons because the lack of a psychiatrist and psychiatric nurses made it impossible to provide appropriate treatment. Therefore, most of these patients continued to be kept in prisons. When the hospital finally managed to hire a psychiatrist, the severely disturbed persons were released from the prisons and brought to the hospital. This made the overall situation worse, however, because the hospital quickly

became even more overcrowded than before. By 1978, there were 496 patients in the hospital, although it had a capacity for only 120.

In 1977, WHO initiated a programme of technical assistance to Botswana (and other countries of Africa) to promote the development of psychiatric care (140). Rather than following the models set out elsewhere, the services that were implemented in Botswana (in 1980) utilized psychiatric nurses to work in each of six psychiatric catchment areas. After establishing operational bases at the main district hospitals, the nurses' first task was to create a services network that incorporated all of the primary care facilities in the region. This entailed visiting each health facility to meet with staff, as well as community leaders. The nurses then scheduled regular visits to as many of the primary care facilities as possible. These regular visits comprised the main strategy for the implementation of the new community-based psychiatric services.

Prior to each regular visit, a health worker would inform the community that the psychiatric nurse would be seeing patients in the clinic or health post. On the day of the visit, the health worker would go around the village to remind people again. The psychiatric nurses carried out their clinical work at the local primary care facility. They did not see patients on their own, but always worked together with the local staff. This was an important aspect of the strategy. Because it was not possible to visit local primary care facilities more than once a month, it was crucial that staff became familiar with basic psychiatric concepts and techniques so that they would be able to intervene in emergencies and help patients maintain their treatment regimens. These practical demonstrations were supplemented, whenever possible, by formal instruction. As was the case in training nurses in Cali, Colombia (27,28), an emphasis on practical experience was found to be particularly useful.

The programme in Botswana was careful not to insist that health workers become "psychiatrically self-sufficient"; however (140),

[S]taff were much more willing to handle psychiatric problems themselves if they knew that a specialized worker would arrive at a predictable time to review their management. The knowledge of imminent expert review increased self-confidence substantially, for staff didn't feel they had to cope with problems forever, but just until assistance came to hand.

Although the need for ongoing supervision was recognized in the WHO Collaborative Study (19), it was seen as an activity that was required to address problems posed by the health workers' lack of understanding about mental disorders and their treatment. The implication was that health workers

would, eventually, become “psychiatrically self-sufficient”. No such expectation was implicit to the Botswana model; a specialist was ultimately responsible for patient care while the local health workers were responsible for providing the routine, ongoing care.

The programme did not have the resources to undertake outcome and services research. However, its success can be judged within the parameters of its objectives: the decentralization of mental health services and a reduction in the number of patients using the hospital in Lobatse. In 1977, the hospital was the only facility in Botswana that offered specialized psychiatric services. By 1982, 80% (145) of the country’s hospitals, health centres, and clinics were included in the programme — two-thirds of them were visited by psychiatric nurses on a monthly basis and the remainder were visited every two months. (This is one of the few examples of a mental health demonstration project in the developing world that has been generalized to a national level.) The country’s only psychiatrist also made regular rounds in the catchment areas and was called in to consult on particularly difficult cases. With the increase of services in primary care, the demand for psychiatric hospital beds dropped by more than 75% and use of the mental hospital’s outpatient department decreased substantially as patients came to rely on services offered in other facilities that were closer to their homes.

Despite the apparent success of the programme in Botswana, its long-term sustainability remains in question. As far as this author could determine, the programme stayed intact until the mid-1990s, but one must wonder whether it has been overwhelmed by the AIDS epidemic. First, widespread grief and bereavement are surely putting a great burden on the services. Second, the AIDS epidemic must be commanding the use of most of the available health resources. Third, health workers, reportedly, have suffered disproportionately high rates of HIV infection, thus further decreasing the available resources. Finally, the epidemic and structural adjustment programmes have probably made it difficult to maintain sufficient supplies of the psychotropic medication which is essential in the management of severe mental illness (141).

6. Cost-effectiveness study

This example is not of a programme, but of research to evaluate the cost and outcomes of mental disorders in four rural communities — two in Bangalore (India) and two in Rawalpindi (Pakistan) (43). Two of the communities (one in each country) had standard primary care clinics, while the other two communities had clinics in which mental health services had been integrated into routine care. The study determined the prevalence of common mental disorders among adults in each of the communities and found rates of 12% to

39% (see Table 1, page 41). Subjects who met diagnostic criteria were informed of their health status and given information about where to seek care and treatment options, as well as advice about psychological problems, e.g. alcohol or drug dependency in a spouse. Data on disability, health care costs (both direct and indirect), and health-seeking behaviour were also gathered. These baseline data showed not only the great extent of psychiatric morbidity, particularly in the Rawalpindi sites, but that common mental disorders were associated with significant costs and disabilities. When all economic measures were combined, the cost of common mental disorders at baseline was equivalent to 7–14 days of an agricultural worker's wages in India and about 20 days of wages in Pakistan.

Three months later, the subjects were re-interviewed. As expected, the overall health service costs increased at three of the four sites — probably as a result of the subjects being referred to care at baseline. However, these increased costs were more than offset by substantial decreases in family costs associated with mental disorders in all the sites. Depression scores declined at three of the sites. The site where there was virtually no change was the one in Pakistan which had mental health services. Disability and quality of life scores display the same pattern: improvements in three sites, but none at the Pakistan site with mental health services.

These findings are difficult to interpret. Although one would expect that the sites which had integrated their mental health services into primary care would have better outcomes, the researchers noted the striking finding that patients in the standard care sites displayed improvements in measures of symptomatology, disability, and quality of life. Indeed, patients showed the greatest improvement in depression scores in a standard care site, while those that showed virtually no improvement of any kind were in an integrated care site. The investigators suggested that the very act of diagnosing common mental disorders in individuals and then advising them to seek care may have had a powerful therapeutic effect by itself (43). This may explain the changes in the standard care sites where, presumably, mental disorders were not being recognized in primary care: once diagnosed and informed about treatment, the patients were better able to act on their own behalf and thus showed improvement over the course of the research. Nevertheless, how do these results relate to the effectiveness of the integrated mental health services in primary care? Patients at only one of these two sites showed improvement. Was this a failure of the mental health services? Or was it the result of other factors? And what brought about improvements in the standard care sites? What were the outcomes of specific interventions? Answers to these questions would inform the development of mental health services in primary care.

Another problem with this research, and one that is critical to future policies in this area is that only a low proportion of persons were even using government primary care health services, either the standard or integrated models (43). Therefore, even where patients showed improvement, one cannot be certain whether the improvements were associated with the care the patients received in the government clinics or from private practitioners (modern and traditional) — or were they cases of spontaneous remission?

7. Epilepsy in primary care

Even though epilepsy is not usually considered a mental health problem in the West, it has long been considered a priority mental health condition in the developing world (8,142). Although some controversy exists about the appropriateness of treating it with phenobarbital (143,144), this inexpensive and effective medication is widely regarded as the firstline drug of treatment in poor countries and has been demonstrated to be safe and effective in controlled trials (145). As noted above, primary care mental health programmes in India, Iran, Tanzania, Guinea-Bissau, and Nepal have used phenobarbital, although its long-term effects were not well documented.

One programme in India did, however, document the effects of an epilepsy treatment programme in primary care. In 1977, the Community Mental Health Unit of NIMHANS began epilepsy treatment programmes in four health centres in Bangalore District. Between 1979 and 1988, more than 3500 patients received care (146). An evaluation of the programme (1983 to 1985) showed that most patients were treated with phenobarbital (70%), while a few were treated with diphenyl hydantoin (5%), or a combination of the two (19%). The remaining patients received other anticonvulsant drugs (5%) or nothing at all (1%). About 6.5% of the patients reported distressing side-effects that included drowsiness and behavioural problems. A follow-up study (147) found that almost 40% of patients dropped out during the first year — and almost three-quarters of these left after their first contact with the primary care centre. (Distance from the residence to the primary care centre was found to be a significant factor in whether patients stayed with the programme.) About 41% of the sample, however, completed three years of treatment. Of these, 57% were free of seizures by the end of the first year, 66% by the end of the second year, and 75% by the end of the third; 45% were free of seizures during the entire three years. The investigators concluded that this project demonstrated the feasibility of treating epilepsy at the primary care level using a simple medication regimen. There is no reason to doubt this conclusion. One can only hope that the lessons of this study will be used to guide future programmes in raising the treatment completion rate and lowering the rates of side-effects.

8. Depression in primary care

It is always dangerous to take mental health service models and policies developed in the West and attempt to apply them to the developing countries. Yet, there is also a danger in formulating models and policies for the developing world while disregarding research evidence from the West. In the absence of data from developing countries about the effectiveness of interventions for depression in primary care, a review of the fairly extensive Western research literature on this topic will be informative.

Numerous surveys in the West have found high prevalence rates of common mental disorders among patients in primary care (41,90,91,148-150), and at least 10% of all primary care patients have major depression (151). This represents a significant public health problem since depression may be chronic or subject to frequent relapses (152-156), affect family and work significantly, increase the risk for accidents, and is marked by extensive disability and increased mortality (30-42,151). Public health concerns about depression are heightened because most cases of depression go unrecognized and untreated in primary care (29,88,157). Even when cases are recognized, patients usually receive suboptimal care (158-160).

Over the past decade, clinical guidelines have been established for detecting and treating depression in primary care patients (161-164). The most recent review of the literature (as of the end of 2000) concludes as follows (151):

High-quality care for medical outpatients with depression is both achievable and affordable. Primary care physicians can provide the essential elements of effective care for depression, including education of patients, prescriptions of medications, systematic follow-up, and appropriate use of specialists and resources. This comprehensive approach will improve patients' physical and psychological well-being.

While there is no reason to doubt this conclusion, achieving consistently effective treatments for depression in primary care is not a straightforward task (165). Having established the extent of depression among primary care patients, the disability associated with it, its lack of detection by physicians and, even when diagnosed, the inadequate treatment regimens often prescribed, the logical first step in addressing the problem would appear to be the training of primary care physicians in the diagnosis of depression and the treatments that have been proven to be efficacious. Yet, training does not necessarily have the expected results. Increasing physicians' rates of detection of depression will only be beneficial if the available treatments are

effective (87). Moreover, since undetected cases tend to have mild depression — and the benefits of treating it are uncertain (166), improving the detection rates may not improve the outcomes overall. As noted by David Goldberg, “Before one can conclude that the high nonrecognition rate really matters, it is necessary to show that detected illnesses have a better outcome than undetected ones” (167). In view of that, Wayne Katon suggests that future efforts should focus on providing detected cases with adequate treatment (168).

Nor does physician training necessarily improve the nature of care itself (169,170), and even when training has been shown to improve patient outcomes, its effects are only short term (24,171). From this evidence, Elizabeth Lin concludes, “Efforts to implement depression guidelines through physician education alone... have not achieved improvement in physician practice or patient outcomes” (172), and she goes on to suggest that depression treatment programmes in primary care must take a multifaceted approach to be effective. For example, one intervention that targeted physicians (education and specialist consultations), patients (education), and process of care (behavioural treatment, counselling, increased number of visits) improved the outcomes for major depression (but not for minor depression) and the levels of patient satisfaction with care (173,174). Another study by the same group of researchers found that a similar programme was effective in treating patients who were at risk for persistent depression (175). The implementation of Quality Improvement Programs (including institutional commitment of resources to care, training of primary care staff, provision of educational materials, workshops, ongoing supervision from the research team, and screening of patients by the research team) has also been shown to improve the clinical outcomes and social functioning of depressed patients over a period of one year (176).

What does this tell us about the effectiveness of mental health services in primary care in the developing world? Of course, one must be careful when extrapolating results from one setting to another. Nevertheless, the research from North America and Europe certainly addresses the difficulty of treating depression. By itself, training is apparently not enough to effect long-term improvements in treatment. Much more is required. At the very least, to ensure effective care all the following are required: ongoing supervision (176), allocation of increased resources for follow-up (173-175), adequate supplies of a range of medication, education of patients, staff who can offer supportive care, and access to consult psychiatrists on difficult cases (151).

This research forces us to consider a number of issues. Will the resources necessary to make for the effective treatment of depression in primary care be

available to mental health programmes for the low-income populations of the world? Given the evidence from the West, can one expect that relatively brief training programmes, limited and erratic supplies of psychopharmaceuticals, scant personnel trained in effective forms of psychotherapy, few (if any) resources for follow-up of patients, and occasional supervision by mental health specialists will result in improved care for depressed patients in the developing world? Only long-term, rigorous evaluations of existing programmes will provide definitive answers. But surely the upshot of this review is that our notions about what constitutes effective primary care interventions for depression need to be broadened, and mental health policies for developing countries must take the available research into account.

9. Conclusions

This review of the effectiveness of primary care mental health services in the developing world can be summed up by the following statements. There is evidence that epilepsy can be treated effectively in primary care settings in the developing world, but the evidence for the effective treatment of both common and severe mental disorders is largely indirect since reports on mental health programmes in the developing world have generally lacked substantive evaluation research components. In the absence of adequate data on the effectiveness of specific interventions for specific conditions, the success of existing primary care mental health programmes is difficult to assess. This does not mean abandoning the policy of integrating mental health services into primary care. Such a recommendation would be irresponsible. The lack of mental health resources in the developing world makes integration the only realistic option. Yet, care must be taken in how that policy is implemented. With that caution in mind, and based on a review of the literature, discussion with colleagues, and some observations of mental health programmes in Nepal, India, and the United Republic of Tanzania, the following proposals are set forth.

First, the priorities must take account of local needs. Depression, psychosis, and epilepsy have been identified most often as the conditions to be targeted by programmes, but particular social, political, economic, and cultural environments may demand that other conditions take priority. The HIV/AIDS epidemic in Africa, for example, demands that attention be paid to traumas due to grief and the emotional needs of orphans. Furthermore, the kinds of treatment provided may need to change depending on psychosocial environments. It would be futile to rely on the use of medications or psychotherapy while ignoring social conditions, e.g. displacement, violence, gender inequities and poverty, which generate distress. Mental health services must encompass social interventions that improve the well-being of individuals, families, and communities. Culture and local psychosocial

environments must be taken into account in the assessment of syndromes, in the everyday adherence to treatment, and in the delivery of care.

Second, there is no single model for mental health services in primary care. The training and service programmes that were implemented in several countries under the auspices of the WHO Collaborative Study on Strategies for Extending Mental Health Care — and followed by other programmes — were very different from the model followed in Botswana. In the former, primary care health workers were trained in the recognition and management of mental disorders. Following the training, the health workers initiated treatment for a limited number of conditions with occasional supervision from mental health specialists. In Botswana, psychiatric nurses became responsible for mental health services in primary care clinics. The nurses worked with local health workers, providing guidance in the recognition and management of mental disorders, but the nurses were ultimately responsible for patient care with periodic supervision by a consultant psychiatrist. In other words, the Botswana programme did not expect primary health workers to shoulder the responsibility for another set of conditions; they were asked only to assist in the work of the psychiatric nurses.

Third, the nature and extent of mental health training for primary care health workers vary tremendously. Nurses in Colombia received up to 185 hours of training while health workers in India received less than 10 hours. At different times and in different programmes the emphasis has been placed on either theoretical or practical modes of training. Given the lack of evidence regarding what types of training bring about effective treatments and good outcomes, we do not know about what type of training is best; that is, whether any of it results in significant improvements in care. Examining the best methods of training must be made a priority. One must also be careful to examine whether increased rates of diagnostic sensitivity lead to better clinical outcomes. What is the point if recognition does not result in effective treatment? In view of generally high rates of diagnostic specificity among health workers in the developing world, would it be better to stress improving treatment regimens for those cases they correctly identify even without training?

Fourth, programme development is shaped by a variety of factors — the mental disorders chosen as priority conditions, the availability of supervisory personnel, and local mental health resources. For example, a programme that can utilize the resources of a nearby psychiatric facility and its highly trained personnel will not be appropriate in remote regions or in countries with few mental health specialists. Programmes developed in urban settings will not be easily adapted to rural areas — and vice versa. A programme situated in a

region or country which is experiencing rapid social changes or political upheavals will need to focus on different conditions and training issues than a programme in a relatively stable social environment. Some programmes may choose to concentrate their efforts on community-level interventions, while others may emphasize clinical work. The “right” programme will be the one that is developed according to the needs and wishes of the community which it is serving, rather than one that follows a generic model.

Fifth, as noted by Chisholm et al. (43), many people seek care from private practitioners (both traditional and biomedical) than from government-supported health clinics. Yet, this research did not investigate the care that patients were receiving from private practitioners. In making the case for the usefulness of multidisciplinary health systems research, Vikram Patel (74) notes that even though private general physicians are providing an increasing proportion of all mental health treatment to patients in the developing world, their practices are rarely the focus of research. Nor are they a group to which research findings are disseminated. The importance of this is made obvious by Veena Das (177), whose research on private physicians treating the poor in Delhi suggests that overuse and misuse of antibiotics and other drugs, including psychotropics, is widespread. Therefore, as health systems develop and change, as they are shaped by broad socioeconomic forces, mental health research must examine the treatment and policy implications of changing health systems, rather than continue to confine itself to a framework which may no longer be relevant to different socioeconomic environments.

Finally, in the absence of thorough documentation and rigorous evaluation of programmes we have too little knowledge about what works. The importance of data on *specific interventions* for *specific conditions* cannot be emphasized enough. Unless service models can be demonstrated to deliver effective treatments and care, there is little reason to believe that advocacy efforts will expand mental health services to underserved populations.

Achieving these goals will not be easy. No single model of services, no one set of interventions will be appropriate for all countries (165) — or even regions within countries. Therefore, an emphasis must be placed on developing demonstration projects that offer different locally appropriate models of mental health services. This means going beyond the usual considerations about assessed needs, mental health training, and provision of medications. Culturally appropriate forms of interpersonal and group therapies need to be examined. The demonstration projects must take into account the local cultural, social, political, environmental, and economic forces that shape and may engender distress in the day-to-day lives of the people being served. From this perspective, literacy programmes for women, land rights advocacy

for indigenous peoples, iodine supplementation, and economic initiatives, to cite a few, are vital aspects of mental health services in different areas. For example, in view of the severe gender inequities experienced by the women of India and other countries of Asia (178), is it appropriate or effective to provide only medication for the treatment of depression in women while ignoring the psychosocial environments that shape their emotional lives? (44)

Rigorous evaluation research must be included in the demonstration projects. It is not enough to demonstrate improvements in the mental health knowledge and attitudes of health workers, or the numbers of patients treated for various conditions. Data on the effectiveness of specific interventions for specific conditions are necessary to gauge the success of a programme. Primary care interventions have been demonstrated to be effective for epilepsy, but we cannot make that same claim for other mental disorders. It is true that by treating severely mentally ill people in primary care, the programme in Botswana reduced the number of patients in the nation's psychiatric hospital, but is this a sufficient indication of the effectiveness of treatment? The consequences of de-institutionalization in the USA should serve as a caution that, without information about what happens to patients afterwards, simply reducing the census of a psychiatric facility cannot be deemed a successful strategy by itself. Long-term outcome and follow-up studies would be necessary to answer that question. And what of treatment for common mental disorders, depression and anxiety in particular? Except for the evidence from the West, we have little idea about the effectiveness of primary care treatments — pharmacological, psychotherapeutic, psychosocial, or combined — for depression in the developing world. Without evidence of the effectiveness of specific interventions to relieve the burden of specific conditions, our formulations about developing mental health services in primary care must remain tentative.

If Ministries of Health are to consider support for mental health programmes seriously, data on the cost of interventions and their effectiveness are critical. Given the competing health needs in the context of scarce resources, mental disorders will not become public health priorities until evidence for the effectiveness of mental health treatments is available. Even that may not be enough. What about the family and community level benefits of mental health programmes in primary care? For example, does the treatment of depression decrease inappropriate use of primary care resources, or decrease the number of days of work lost, or decrease suicide rates? Do rehabilitation programmes help severely mentally ill persons become more productive members of their communities and make it possible for families to pursue wider economic activities? Does treatment for epilepsy improve the overall school performance of children and decrease the incidence of brain damage?

Evaluation of programmes must also include documentation of the administrative, political, and social activities and decisions that are often necessary for the success of programmes. For example, why did the government of Botswana actively support a mental health programme while the government of Nepal took a more passive role? What are effective strategies to overcome the reluctance of health workers to take on additional tasks and to treat mental disorders? What methods can raise community awareness and decrease the stigma of mental disorders? How has treatment for mental disorders in primary care changed the lives of patients and their families? What are the problems faced by local programmes — e.g. barriers to care, problems with medication supplies, finances, problems with personnel — and the strategies employed to address them? These questions require the application of social science methodologies and the collection of qualitative data. Therefore anthropologists, sociologists, and political scientists must be called upon to document the demonstration projects. One cannot build on experience if one does not know what has been tried, what has succeeded, and what has failed. We therefore need detailed, critical case histories of programmes.

In most countries of the developing world, the resources necessary to meet these objectives are limited. It is crucial that governments and research institutions in the wealthy nations commit funds to and for the establishment and operation of demonstration projects. Funds are crucial to create an international cadre of mental health researchers who can administer the projects and then evaluate them thoroughly. We must also convince governments, international agencies, and private foundations to transform successful demonstration projects into local, regional, and national programmes. Without a commitment to sustain and expand successful programmes, demonstration projects have little purpose. Indeed, establishing an effective programme for a limited time may cause as much harm as good.

Demonstrating what is most effective in primary care mental health services in the developing world requires a major research effort. It demands a willingness to critically examine old assumptions and to investigate the relative effectiveness of various strategies and interventions. That is the easy conclusion. But what of those individuals who are suffering from mental disorders *now*? Surely, they and their families will not be comforted by the notion that research will bring salvation at some point in the future. What can be done in the meantime? What general principles emerge from the attempts to integrate mental health services into primary care?

Some answers are outlined below as recommendations for action.

10. Recommendations

- Investment of resources must be directed towards *systems of care*, rather than individuals. For example, high turnover rates of health staff dilute the results. No programme can mitigate the effects of losing up to 50% of staff who have been trained. Simply training more individuals is not an effective strategy. Attention must be directed at supporting and retaining the staff.
- A constant theme in the examples presented above is the need for *supervision* by mental health specialists. Differential diagnosis can pose challenges, especially when patients present with somatic symptoms. The treatment of all mental disorders, including epilepsy, requires the care provider to be attuned to the side-effects and the need to adjust or change treatment regimens. Acute episodes must be treated differently from what is required to maintain benefits. Mental health specialists are needed to provide backup and advice to health workers who are challenged by limited resources and large numbers of patients with many needs.
- Programmes must *follow up* patients closely and be flexible in the delivery of care. As described above, one epilepsy treatment programme in India lost more than 40% of its patients in the first year of treatment. The cost of attrition, at both individual and community levels, may be more than offset by the cost of keeping patients in treatment.
- *Outreach* is also essential. All types of mental disorders are associated with significant treatment gaps. That is, far fewer individuals are in treatment than one would expect from well-established prevalence rates for mental disorders. This gap can be narrowed, presumably, through public education and making services more accessible. The cost of outreach is probably more than offset by the costs of failing to treat individuals in need.
- Follow-up and outreach can only be achieved if programmes are *sensitive and responsive to local needs*. In remote rural areas, it may be necessary to have health staff travel to see the patients. It may require clinic hours that are realistic for the work schedules of patients. It might mean providing accommodation to family members when a patient is being treated for an acute episode.
- *Drug supplies* must be adequate and reliably replaced as they are used. Although the economic factors are most important, other factors must be considered. For example, to guard against pilferage, sound record-keeping is required. Drugs must be kept in a secure place. Careful inventory control and communications would assist in efficient and timely delivery of the needed supplies.

- While treatment in primary care will, necessarily, remain the mainstay of mental health services in the developing world, we must work, at the same time, towards the provision of *an array of services*. Drug therapy alone is not enough for severely mentally ill persons. Psychiatric rehabilitation programmes can improve their lives, and those of their families, tremendously. Mentally retarded children and adults — for whom psychotropic medications offer little — are in need of day programmes. Support groups can relieve part of the burden associated with caring for a psychotic family member.
- The chosen treatment interventions should *conform to international standards of care* (179).
- *Psychosocial environments* that engender distress or provide barriers to care (e.g. gender inequities, stigma) must be ameliorated. The manner in which this is done will be specific to each programme, but the principle is universal.
- Programmes must be initiated with the commitment that, if successful, they will be *sustained*. Too often, demonstration projects hold great promise only to disappear when funding is withdrawn or a key figure moves on to other interests.

In conclusion, the available literature on the effectiveness of mental health services in primary care in the developing world does not provide all the answers we need. But it does offer glimpses of programmes that have, apparently, worked despite great barriers. We can also learn from the failures. Now, we must build on those experiences.

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Table 1

Prevalence of mental disorders in the developing world: Community samples

Country / region (reference)	Prevalence (%) of mental disorders	Sample
Ethiopia (59)	17.2	Adults (rural communities)
India (180)	1.6 3.3	Males (all ages) Females (all ages)
India (67)	8.7 7.4 14.7 13.8	Males (1972) Males (1992) Females (1972) Females (1992) Rural community
India (43)	18.9 12.5	Bangalore (1) Bangalore (2)
Latin America (2)	17.0-18.0	Urban populations
Lesotho (52)	22.8	Village
Nepal (126)	13.6	Village
Nepal (181)	10.8	Rural village
Nigeria (63)	23.9	Rural village
Pakistan (65)	46.0 15.0	Rural villages (women) Rural villages (men)
Pakistan (66)	66.0 25.0	Rural villages (women) Rural villages (men)
Pakistan (43)	28.0 39.0	Rawalpindi (1) Rawalpindi (2)
South Africa (182)	11.8	Community (20+ years)
South Africa (183)	27.1	Village
South Africa (184)	23.9	Community (adults)
Sudan (185)	16.6	Young adults (22–35 years)
Uganda (186)	10.8	University students
Uganda (187)	25.2	Two villages

Zimbabwe (56)	10.5	Outpatient clinic
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Table 2

Prevalence of mental disorders in the developing world: Primary Health Care samples

Country (reference)	Prevalence (%) of mental disorders	Sample
Chile (188)	53.4	PHC patients
Colombia (12)	10.8	PHC patients
Colombia (13)	29.0	PHC (children)
Ethiopia (189)	19.0	PHC patients
Guinea-Bissau (79)	12.0	PHC patients
India (12)	17.7	PHC patients
India ¹³	20.0	PHC (children)
India (26)	22.5	PHC (children)
India (100)	50.0	PHC patients
India (44)	46.5	PHC patients
Jordan (72)	61.0	PHC patients
Kenya (104)	20.0	PHC patients
Kenya (80)	32.0	Outpatients
Kenya (94)	26.0	Outpatients
Nepal (86)	23.0 28.0	Health post patients District hospital
Nicaragua (84)	47.0	PHC patients
Nigeria (190)	27.8	Outpatient clinic
Nigeria (62)	21.3	PHC patients
Nigeria (61)	19.6	Children (outpatient clinic)
Philippines (12)	16.3	PHC patients
Philippines (13)	29.0	PHC (children)
Senegal (81)	17.0 16.0	Children Adults, rural PHC

Sudan (12)	10.6	PHC patients
Sudan (13)	11.0	PHC (children)
Zimbabwe (57)	26.0	PHC patients
Zimbabwe (191)	33.0 25.0	Traditional medical attendees Primary care attendees

Documents

Gender Differences in the Epidemiology of Affective Disorders and Schizophrenia.

WHO/MSA/NAM/97.1

Nations for Mental Health: An Overview of a Strategy to Improve the Mental Health of Underserved Populations.

WHO/MSA/NAM/97.3 Rev.1

Nations for Mental Health: A Focus on Women.^{1,2}

WHO/MSA/NAM/97.4

Nations for Mental Health: Supporting Government and Policy Makers.^{1,2}

WHO/MSA/NAM/97.5

Nations for Mental Health: Schizophrenia and Public Health.^{1,2}

WHO/MSA/NAM/97.6

Nations for Mental Health: Recommendations for Evaluation.^{1,2}

WHO/MSA/NAM/98.1

Nations for Mental Health: The Mental Health of Indigenous Peoples. An International Overview.²

WHO/MNH/NAM/99.1

Mental Health and Work: Impact, Issues and Good Practices.²

WHO/MSD/MPS/00.2

Videos

Nations for Mental Health video: Sriyawathie- Rehabilitation of Chronic psychiatric patients in Sri Lanka.

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² These documents are available from our website:
http://www.who.int/mental_health/Publication_Pages/Pubs_General.htm