Nationwide district-based mental health care

Case summary

In the 1990s, Belize introduced a programme in which psychiatric nurse practitioners were trained and integrated into community-based care. Although operating at district level, these practitioners conduct various primary care activities, including home visits and training of primary care workers.

The introduction of psychiatric nurse practitioners in Belize has facilitated numerous improvements: admissions to the psychiatric hospital have been reduced; outpatient services have increased; and community-based mental health prevention and promotion programmes are now in place.

While this approach has not yet resulted in a fully-integrated mental health service, a number of important lessons have been learnt. In countries where there are very few trained mental health specialists, a two stage approach, where primary care practitioner skills are built over time, may be more appropriate than attempting to reach fully integrated mental health care in one stage.

The next phase of the programme will strengthen psychiatric nurse practitioners’ direct interactions with primary care practitioners, to increase their awareness and train them to manage mental health issues within their general practices.

1. National context

Belize’s national context is summarized in Table 2.6. It is a country of numerous cultures, languages, and ethnic groups. The largest ethnic groups are Mestizo (49%) and Creole (25%). It is the only English-speaking country in Central America. The majority of its citizens speak English, while smaller groups speak Creole, Spanish or several indigenous dialects. The adult literacy rate, similar for men and women, is 77%.

Belize’s economy has depended traditionally on agriculture (in particular bananas, sugar and citrus), but is now diversifying towards tourism, other service industries and shrimp farming, and most recently, oil exploration.
From 1997 to 2000, Belize developed strategies to achieve health sector reform. In 1998, the government declared the Health Sector Reform Project as a main strategy to improve the health status of the population by improving the efficiency, equity, and quality of health care services and promoting healthier lifestyles.\(^2\)

While significant progress has been achieved in several of the social indicators, the alleviation of poverty continues to be a major challenge for the country. Poverty levels were unchanged from 1996 to 2002 at 34%\(^{3,5}\).

**2. Health context**

Belize’s health status is summarized in Table 2.7. The country is facing new public health challenges with a growing prevalence of chronic, noncommunicable diseases.\(^6\) Meanwhile, with the exception of HIV/AIDS, communicable diseases are declining.\(^6\) Leading causes of death in the country are heart disease, perinatal conditions, stroke, lower respiratory infections, and road traffic accidents.\(^7\)

The Government of Belize is the main provider of health services and medication. User health care costs within the public health service are hence minimal. The national health care system

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**Table 2.6**  Belize: national context at a glance

<table>
<thead>
<tr>
<th>Population: 270 000 (48% urban) (^a)</th>
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<tbody>
<tr>
<td>Annual population growth rate: 2.3% (^a)</td>
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<tr>
<td>Fertility rate: 3.0 per woman (^a)</td>
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<tr>
<td>Adult literacy rate: data not available (^a)</td>
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<tr>
<td>Gross national income per capita: Purchasing Power Parity International $: 6740 (^a)</td>
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<tr>
<td>Population living on less than US$ 1 per day: data not available (^a)</td>
</tr>
<tr>
<td>World Bank income group: upper-middle-income economy (^b)</td>
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<tr>
<td>Human Development Index: 0.778; rank 80/177 countries (^c)</td>
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</table>

**Sources:**


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**Table 2.7**  Belize: health context at a glance

<table>
<thead>
<tr>
<th>Life expectancy at birth: 67 years for males/74 years for females</th>
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<tr>
<td>Total expenditure on health per capita (International $, 2004): 339</td>
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<tr>
<td>Total expenditure on health as a percentage of GDP (2004): 5.1%</td>
</tr>
</tbody>
</table>

is based on principles of equity, affordability, accessibility, quality, and sustainability through effective partnerships with other private and public entities. The private sector is growing, mainly in urban areas; health services are financed directly through user fees or through private health insurance.

The number of health workers has increased in the last decade, due mainly to the addition of Cuban and Nigerian health professionals as a result of technical cooperation agreements. More than half of the Cuban health providers have been deployed to rural areas, bringing for the first time continuous health services to remote communities. This programme has allowed the Government of Belize to reduce the inequities in the distribution of health resources and to increase the accessibility of health care to the general population.

**Mental health**

There is a paucity of epidemiological data on mental disorders in Belize in internationally accessible literature. It is known, however, that mental health consultations are prompted mainly by clinical depression, psychotic disorders, anxiety disorders, stress-related disorders, and substance abuse. Harmful alcohol use is regarded as problematic for the country, particularly among men who drink four times more alcohol than women. Family violence is fast becoming a serious public health problem. The number of cases increased during the period of 2000 to 2006. More than 82% of the victims were females and most cases occurred in urban areas.

The main goal of the mental health programme is to serve the needs of people with mental disorders, enhance their quality of life, and create networks that guarantee the delivery of care within the community. Services are organized and implemented through the Director of Health Services of the Ministry of Health, and administered within four geographical regions.

The new Government of Belize plans to establish a Department of Mental Health within the Ministry of Health, as well as acute mental health units and support systems at all regional hospitals.

**3. Primary care and integration of mental health**

The Belize primary care infrastructure consists of three polyclinics, 37 health centres and 43 public rural health posts. The health centres provide ambulatory services, pre- and postnatal care, immunization services, and general health education. In addition, some specialist services are offered in selective health centres. These include hypertension, diabetes, tuberculosis, sexually transmitted disease and HIV/AIDS services; referrals and follow-up are also provided. Most centres also offer outreach services through mobile clinics that visit smaller and more remote villages every four to six weeks. These mobile clinics account for about 40% of the centres’ service delivery.

The objectives of primary care for mental health in Belize are to:

- provide accessible mental health services to urban and rural communities;
- help individuals and families during crisis;
- prevent or reduce the disabling effects of mental disorders;
- reduce the need for hospital admissions;
- identify and treat mental disorders at an early stage;
- use existing human resources to achieve the greatest possible benefits.
4. Best practice

Local context

Health care delivery is provided by a network of eight government hospitals, including a national referral hospital and a psychiatric hospital, and five private hospitals. The eight public hospitals are divided into four regions (Northern Region, Central Region, Western Region, and Southern Region). The Karl Heusner Memorial Hospital is the national referral hospital and the general hospital for the Central Region. Most inpatient psychiatric services are provided at Rockview Hospital, the national mental hospital, based in the Central Region, and in the acute psychiatric ward in Belmopan Hospital, located in the Western Region. Two psychiatric nurses provide mental health services in seven of the eight district hospitals. Thirty-seven health centres are located throughout the country, mainly within the rural areas. The centres have a permanent public health nurse, and are supplemented by mobile health services, community nursing aides, voluntary collaborators, and traditional birth attendants.

Description of services offered

The mental health service is community-oriented and provides preventive mental health care, outpatient services, crisis management, consultation to schools, and outreach services. It also addresses other public health issues such as attempted suicide, domestic violence, rape, and pre- and post-test counselling for HIV/AIDS.

Seven of the eight district hospitals have at least two psychiatric nurse practitioners located on the premises of the hospital. Generally, one nurse attends to patients at the outpatient clinic at the hospital, while the other provides primary care services for mental health to the community, mainly through mobile clinics at the health centres, home visits and other community activities. The presence of psychiatric nurses at the hospitals helps to provide mental health care to all patients in need. Psychiatry is slowly growing acceptance, and the role of the psychiatric nurse is expanding as they provide counselling to patients with mental disorders, victims of domestic violence and rape, and people undergoing testing for HIV, as well as responding to national situations that have the potential to cause mental distress.

The psychiatrist visits the district hospitals on a rotating basis to provide supervision, assess difficult cases, and give lectures to health workers providing general health care at the district hospitals.

At weekends, and during public and bank holidays, the nurses are required to be on call. If needed, the emergency doctor contacts them. The consultant psychiatrist is on second call, and is always available by telephone. In situations where nurses are not available, arrangements are made in advance for patients to follow up with community nurses. In emergency cases, the psychiatrist takes the first call.

Because the psychiatric nurses are part of the district health teams, they have direct relationships with general practitioners, public health nurses and community nurse aides, all of whom refer to them and whom they also train in mental health issues. Although for most people the hospital is not as close as their local health centre or health post, patients do not need to travel long distances for treatment and care because care is provided within their districts. Patients...
who are unable to attend the clinic due to financial hardships and/or lack of transportation are visited by nurses as part of the mobile clinics.

Because mobile clinics are managed jointly with other community programmes, nurses give lectures to patients who attend the clinics for other reasons. Other primary care services to the community include visits to schools for teacher support and direct counselling to children with behaviour problems, meetings with community nurse assistants, and ongoing training with health care providers. They also educate police officers about mental disorders. The work with the police has become important, because the police are called to assist in situations that involve patients with mental disorders.

**The process of integration**

**The need for reform and transition to a new paradigm**

Traditionally, mental health services in Belize were concentrated on the admission of patients with mental disorders to Rockview Psychiatric Hospital. Patients with psychotic disorders tended to stay for long periods, care was custodial, and the lack of professional staff and programmes compounded the situation.

The only mental health outpatient clinic in the country was located in Belize City, within the general hospital compound. Patients who required attention needed to travel to Belize City and if admission was indicated, they were sent to Rockview Psychiatric Hospital. Patients who were admitted from the districts were sent back to their districts when discharged, and when they needed follow-up they were required to travel once again to Belize City. For patients from the southernmost district, the trip took between eight to nine hours and cost approximately US$ 10 each way by bus. The mobile team from the outpatient clinic in Belize City visited each district only once – or at most twice – each year. These factors negatively influenced patient adherence, and consequently, relapses were common. Furthermore, services covered only psychosis and severe mental disorders, and were not routinely available for more common disorders such as depression.

At the time, the mental health team consisted of a psychiatrist, a practical nurse, and a psychiatric attendant. The psychiatrist was usually of British origin, working on a two-year contract as part of the Volunteer Services Overseas (VSO). The VSO was a programme in which British and European professionals travelled to developing countries to provide community services. Generally, they came to fill a gap of professionals in the particular field in the country.

In 1992, a new paradigm of mental health was introduced in Belize. The Ministry of Health was faced with the dilemma of how to make good-quality mental health services more available and accessible within the context of a highly-centralized mental health service and very few trained mental health workers. The Ministry considered two options.

The first option was to train all primary care practitioners in basic mental health skills within the 37 public health centres and 43 public health posts. The main advantages of this approach would have been that mental health would be available wherever health care was provided and hence integrated and close to people’s homes. The main disadvantages were that training all primary care practitioners would have been a daunting task for the limited number of mental health practitioners in the country; and that the clinics were already overloaded and adding
additional responsibilities might have resulted in neglect of patients. Also, having examined examples of primary care for mental health in other developing countries, the Ministry realized that unless supervision and support were provided to the general practitioners, mental health care would not be sustained and the training investment would be wasted.

The second alternative was to train psychiatric nurse practitioners, which would be an important step towards fully integrated mental health care at the primary care level. Within this model, even if mental health care were not available in every health post or clinic, accessibility would be improved. Moreover, the need for long-stay custodial care would be reduced drastically by the decentralization of mental health care to district hospitals and to outpatient services at the hospital in each district. Psychiatric practitioners in each district could liaise with the clinics and health posts so that mental health care could become an integral part of district health care rather than requiring referral to Belize City. In addition, the psychiatric nurse practitioners could train general practitioners in their district to identify and refer mental disorders. In time, general practitioners could treat patients with mental disorders under the supervision and support of psychiatric nurse practitioners. They could also undertake mental health prevention and promotion activities.

The Ministry of Health decided that it was necessary to develop skills and expertise at a district level before moving on to a fully integrated primary care service, and hence decided on the second option. Although operating at district level, the psychiatric nurse practitioners would conduct various primary care activities, including home visits and training of general practitioners.

**Training and human resource development**

In 1992, the Ministry started training 16 psychiatric nurse practitioners, who were already professional nurses in one of the district hospitals. They completed a 10-month programme at the Belize School of Nursing with the assistance of a psychiatric nurse practitioner from VSO. The programme was funded by the Canadian International Development Agency (CIDA) and Pan American Health Organization (PAHO). After the completion of the training, the nurses returned to their districts where they established the permanent presence of mental health services. Their presence meant more organized and consistent mental health care, and services that were strongly community-oriented. The psychiatric nurse practitioners were assigned to conduct outpatient clinics, street and home visits, as well as mental health education in schools and the community.

Because the initial training was a one-time effort, the number of psychiatric nurse practitioners slowly declined due to retirement, job changes, and promotions. At the same time, demand for services was increasing as patients became more comfortable attending the district-level clinics. In response, 13 new psychiatric nurse practitioners were trained in 2004.

The introduction of the WHO Nations for Mental Health programme in 2000 to 2001 provided important assistance to Belize in moving towards community-based and more integrated mental health care. Workshops were conducted for general practitioners, public health nurses, midwives, and community nursing aides, and materials were produced to strengthen the community mental health service. The training took pressure off the specialist mental health services, because some patients were now able to be managed successfully by general practitioners.
Belize has an ongoing relationship with PAHO for the training of psychiatric nurses and other health workers, and it also has signed a Memorandum of Understanding with Homewood Health Center in Canada which has provided computers, Internet access, books and training for psychiatric nurses. All expenses are covered by Homewood Health Center. Around 75% of the psychiatric nurse practitioners have participated in courses offered by the Homewood Health Center and their knowledge and confidence have increased in the management of mental disorders and community mental health promotion. In addition, all psychiatric nurse practitioners receive supervision from consultant psychiatrists.

Local nongovernmental organizations

The Belize Mental Health Association and district mental health consumer groups have been important advocates for mental health. The Mental Health Association is a registered nongovernmental organization that is dedicated to raising awareness about issues related to mental well-being, improving mental health services, and advocating on behalf of those with mental disorders and their families. The Mental Health Association grew out of the Mental Health Advisory Board that was appointed by the Minister of Health in 1997. The district mental health consumer groups, though still developing, have been important in lobbying for additional mental health services as well as running campaigns, for example to destigmatize mental disorders, and advocate for newer and consistent availability of psychotropic medicines.

Psychotropic medicines supply

Psychotropic medications are available in all district hospitals and in the polyclinics in Belize City, however their availability is intermittent and patients sometimes need to purchase their own medications. The national drug formulary consists of the essential list of psychotropics recommended by WHO; in addition newer psychotropics were added recently.

Psychiatric nurse practitioners have been given special prescription rights for a limited range of psychotropic medicines. Prescriptions are reviewed by a psychiatrist or general practitioner.

Funding

Typical for most programmes in Belize, funding for mental health programmes is generally inadequate to cover all needs. Additional support for training and infrastructure has been provided through agreements with other governments and organizations.

5. Evaluation/outcomes

Services available

Primary care services for mental health continue to grow. In 1993, 929 outpatient cases were recorded. By 2002, the number of cases had increased by 25%. Over 14,000 patients were seen in 2006. Figure 2.1 shows the increase in number of outpatient visits between 2001 and 2006.
Simultaneously, psychiatric hospital admissions decreased. The current number of inpatients fluctuates at any given time between 47 and 50 people, consisting mainly of patients who have no family support and live long-term at the hospital. Prior to the outpatient programme, the number of inpatients ranged between 150 and 180 people.

Among the 29 nurses who have been trained as psychiatric nurse practitioners, 19 are working currently with the mental health programme. A few have retired, others have migrated, one is working in nursing administration, and two are full-time counsellors with the HIV/AIDS programme.

**Patient/staff satisfaction and skills**

Three years after implementation, psychiatric nurse practitioners’ effectiveness and impact were evaluated. The study’s specific aims were to:

- determine the adequacy of the psychiatric nurse practitioners’ performance;
- assess the impact of the psychiatric nurse practitioners on mental health services;
- evaluate the psychiatric nurse practitioners’ self-perceived competence and role satisfaction.

Performance was examined through patients’ expressed satisfaction, focus groups’ perception, nurses’ knowledge of psychotropic medications and their side-effects, and differences between psychiatric nurse practitioners and controls on five skill-testing vignettes.

Results reflected patients’ confidence and satisfaction with psychiatric nurse practitioners. Most community-based patients (95%) were satisfied with the psychiatric nurse practitioners’ service and would recommend (95%) them to others with similar problems. More than half saw psychiatric nurse practitioners as the main source of information about their disorder (57%) and medications (60%). In contrast, patients contacted their physicians less frequently for these services: only 18% for information on their disorder, and 12% for information on medications.
Psychiatric nurse practitioners’ knowledge of psychotropic medicines and their side-effects was also adequate, and their use of these medicines for common psychiatric disorders was appropriate.

The nurses’ impact on mental health services was examined through patients’ perception of the availability and accessibility of services. Patients expressed satisfaction that the psychiatric nurse practitioners sometimes visited them at home and that the service they received was not restricted to the clinic alone.

Psychiatric nurse practitioners generally believed that their training programme prepared them well. They did however identify the following implementation barriers: lack of facilities and treatment for child and adolescent mental health; too few mechanisms for conflict resolution involving colleagues; lack of transportation to make regular home visits; inadequate funding for services; and other difficulties such as inadequate office space and long working hours. It was felt that these barriers were due partially to the newness of their role.

6. Conclusion

Belize’s community mental health programme provides an invaluable service in a country where there are very few psychologists and psychiatrists. The programme’s success has been primarily due to the addition of the psychiatric nurse practitioners, their ongoing supervision by the psychiatrist, and the shift towards community-based care. Mental health services are now more accessible and respectful of patients’ human rights, which in turn has resulted in Belizeans becoming more comfortable with seeking mental health services. The reduced number of patients housed in the psychiatric hospital, the concurrent increase in patients receiving treatment in their communities, and management of patients with mental disorders in general hospitals are significant milestones. Within a coordinated and comprehensive mental health programme, the psychiatric nurse practitioners offer great hope for the future of mental health in Belize.

Key lessons learnt

The introduction of psychiatric nurse practitioners has facilitated numerous improvements: admissions to the psychiatric hospital have been reduced; outpatient services have increased; and community-based mental health prevention and promotion programmes are now in place.

While this approach has not yet resulted in a fully-integrated mental health service, a number of important lessons have been learnt. In countries where there are very few trained mental health specialists, a two stage approach, where primary care worker skills are built over time, may be more appropriate than attempting to reach fully integrated mental health care in one step. Other key lessons are listed below.

- Treatment coverage for people with mental disorders can be increased significantly by introducing outpatient mental health services that are accessible and affordable.
- Nurse practitioners can be trained to provide effective mental health care including prescription of psychotropic medications. While some patients require referral to psychiatrists, the vast majority can be successfully managed by nurses trained in psychiatry.
• Psychiatric nurse practitioners can increase awareness of mental health issues, both within the formal health sector and in other sectors such as education and criminal justice.
• Having at least two psychiatric nurse practitioners in each district allows mental health promotion and prevention activities alongside treatment of patients.
• To reach the goal of fully-integrated mental health within all clinics and health posts, a fully functional and experienced group of secondary level district-based mental health practitioners is first needed. The psychiatric nurse practitioners interact directly with general practitioners to increase their awareness and train them to manage mental health issues within their practices. This approach is paying dividends, as an increasing number of general practitioners are handling less-complicated cases of people with mental disorders.
• By taking a phased approach to integrating mental health into primary care, many people are already being treated in the community rather than in hospitals, and many who previously would not have received care are now able and willing to access services. Further, expertise is being developed that will greatly facilitate the full integration into primary care when the country is ready.

References – Belize