Investigación original / Original research

Pan American Journal of Public Health

Primary care performance in Dominica

James Macinko,[1] *Geronimo Jimenez,*[2] *and Mario Cruz-Peñate*[3]

Suggested citation Macinko J, Jimenez G, Cruz-Peñate M. Primary care performance in Dominica. Rev Panam Salud Publica. 2015;37(2):104–12.

ABSTRACT

Objective. *To document the structure and functions of primary care (PC) in the country of Dominica using the Primary Care Assessment Tools (PCAT), a set of questionnaires that evaluate PC functions.*

Methods. *This cross-sectional study combined data from two surveys. The systems PCAT (S-PCAT) survey gathered national-level data from key informants about health system characteristics and PC performance. The provider version (P-PCAT) survey collected data on PC performance from health providers (nurses and physicians) at all PC facilities in the country. Provider-level data were aggregated to obtain national and district-level results for PC domains scored from 0.00 (worst) to 1.00 (best).*

Results. *From the systems perspective, results showed several knowledge gaps in PC policy, financing, and structure. Key informants gave "Good" (adequate) ratings for "first-contact" care (0.74), continuity of care (0.77), comprehensive care (0.70), and coordinated care (0.78); middling scores for family-centered care and community-oriented care (0.65); and low scores for access to care (0.57). PC providers assessed access to care (which included "first-contact" care, in the P-PCAT surveys) (0.84), continuity of care (0.86), information systems (0.84), family-centered care (0.92), and community-oriented care (0.85) as "Very Good"; comprehensive care as "Good" (0.79); and coordinated care as "Reasonable" (0.68). Overall, the scores for the country's health districts were good, although the ratings varied by specific PC domain.*

Conclusions. *The assessments described here were carried out with relatively little expense and have provided important inputs into strategic planning, strategies for improving PC, and identification of priority areas for further investigation. This two-staged approach could be adapted and used in other countries.*

Key words Primary health care; health systems; health care quality, access, and evaluation; Dominica.

Primary care (PC) is often considered a cornerstone of health care systems, and measurement of its performance plays a critical role in improving system effectiveness, efficiency and patient-centeredness (1). International evidence suggests that health systems based on strong primary health care (i.e., using PC as a comprehensive strategy for organizing a system to promote health) have better and more equitable health outcomes, are more efficient, and can achieve higher user satisfaction than health systems with only a weak PC orientation (2).

Dominica is an island nation located in the Western Caribbean. The population was 72 862 in 2010 (3). Literacy rates are 94% due to universal primary and secondary education. Life expectancy has reached 76 years and the country's human development index is 0.74. Nevertheless, the country suffers from high rates of unemployment (14%) and poverty (29%) (4). Health services are financed and delivered mainly through the Dominican Ministry of Health (MoH), and a national social security system provides a safety net for the population. Private health care services in the country are limited and comprised mostly by private practitioners in the capital city of Roseau providing outpatient care. Private facilities include a 28-bed hospital, a medical laboratory, and a number of pharmacies (3).

[1] Center for Health Sciences, Fielding School of Public Health, University of California–Los Angeles, Los Angeles, California, United States of America. Send correspondence to: James Macinko, jmacinko@ucla.edu

[2] Department of Nutrition, Food Studies, and Public Health, Steinhardt School of Culture, Education, and Human Development, New York University, New York, New York, United States of America.

[3] Health Systems and Services Consultant, Pan American Health Organization, San Jose, Costa Rica.

Dominica, like many other countries in the region, has committed to strengthening health systems via enhanced PC (5). In November 2010, the MoH launched the National Strategic Plan for Health 2010–2019, which identified priorities including training and development of staff in critical clinical and administrative areas; reorienting delivery models to achieve greater efficiency and effectiveness; improving planning, monitoring, and evaluation; and developing an efficient, automated health information system.

PC services are provided in Dominica through a network of 52 public health centers and two district hospitals located across the country. For service delivery, the country is divided into seven official health districts grouped into two administrative regions. For research purposes, the authors of the study reported here further divided the Roseau health district into four sub-districts: Roseau North, Roseau South, Roseau Central, and Roseau Valley. Each official health district has four to seven Type I clinics and one Type II health facility. Type I clinics serve a population of 600–3 000 persons within a radius of about 6 km and are staffed by a district nurse or midwife. Services include medical care; home visits; family planning; maternity services; and child health, including immunization, nutrition, health education, school health, mental health, and dental care. Type II health facilities are staffed by a resident doctor, a family nurse practitioner, an environmental health officer, a pharmacist, and community health workers. Type II facilities offer more technology, and more specialist care, such as psychiatry and ophthalmology (3).

This study documents the structure and functions of PC in the country of Dominica using the Primary Care Assessment Tools (PCAT), a set of questionnaires that evaluate PC functions. This assessment is intended as an input to the country's national strategic plan and provides a model for other countries seeking to undertake similar PC assessments.

MATERIALS AND METHODS

Instruments and measures

The PCAT surveys used in this study are used to collect information from a variety of health system stakeholders in order to evaluate PC functions (6, 7). The surveys were designed to translate the broad concepts of PC into measurable indicators, reflecting eight PC domains: access to/"first-contact" care, community-oriented care, comprehensive care, continuous (ongoing) care, coordinated care, culturally competent care, family-centered care, and information systems.

The PCAT was developed at the Johns Hopkins University Bloomberg School of Public Health (Baltimore, Maryland, United States) and has been widely used there since 1998 (8). In 2004, the PCAT tools were adapted for use in Brazil (9) and Canada (10), and several studies since then have illustrated their use in those countries (11–14). In 2007, use of the PCAT was initiated in Spain (15, 16); Thailand (17); Hong Kong (18) and China (19); Argentina (20); and Uruguay (21). By 2014, more than 90 peer-reviewed articles had been published on the PCAT tools, providing further information on their psychometric properties (22–24) and cross-cultural adaptations and translations (12, 20, 25).

The authors of the study reported here gathered data in two phases using two different versions of the PCAT tools—the systems surveys (S-PCAT) and the provider surveys (P-PCAT). The two different surveys measure the same PC constructs (the eight domains and their components) but solicit data from different types of respondents. S-PCAT includes 88 questions and was designed to provide a bird's-eye view of the PC system at the national level. It is used to collect information about the overall health system; the policy framework that supports a primary health care approach; and details about the organization, financing, and delivery of PC services. P-PCAT focuses on health providers' assessments of themselves and the populations they serve. In both surveys, the questionnaires use a Likert format, with responses coded as "Definitely," "Probably," "Probably Not," "Definitely Not," and "Not Sure/Don't Know." In some of the survey questions, respondents are asked to provide a number or percentage range in their response (e.g., "percentage of patients that must pay copayments" or "number of physicians working in primary care").

Population and sampling strategies

A total of 12 key informants were identified and selected to participate in the study based on their expertise on the Dominican health care system. Between 1 July and 19 September 2011, each key informant completed an online survey, made available through the Qualtrics[4] survey platform. Key informants were identified through existing professional networks of the Pan American Health Organization and the MoH of Dominica and selected to participate in the study according to their experience in health system leadership and research positions. The study sample pool included current and former health professionals, researchers, MoH managers and administrators, government health officials, and hospital administrators.

The P-PCAT surveys were adapted for Dominica with the help of local MoH and health system personnel. A local MoH volunteer received training on the survey and the implementation process. A pilot trial of the questionnaire was then administered to a community health nurse from a health center in Roseau Central, one of the sub-districts covered in the survey. The research team prepared materials for the remainder of the study implementation, including the provider list, flyers, and paper-based surveys. The P-PCAT adapted for Dominica was then made available online via Qualtrics.com.

Data were collected from Dominica's 54 PC facilities between December 2011 and June 2013 in face-to-face interviews, using a paper-based questionnaire, and in online surveys, for respondents in facilities with an Internet connection. The sample pool included the approximately 90 certified nurse midwives in the country, nurse practitioners, registered nurses, PC nurses, family practice physicians, and general practitioners working in the 54 facilities. Data were then loaded into the online survey form to reduce errors in data entry. The 10 health districts and sub-districts ("districts") covered by the surveys included: Castle Bruce, Grand Bay, La Plaine, Portsmouth, Marigot, Roseau Central, Roseau North, Roseau South, Roseau Valley, and St. Joseph. Respondents' names were not recorded to maintain confidentiality. At least one survey was completed for each health facility, yielding a total of 73 surveys and a response rate of about 80% of the nurses and physicians stationed at the Type 1 and Type 2 PC facilities.

[4] www.qualtrics.com

Data analysis

For both surveys, responses to Likert scales were dichotomized from categorical responses ("Definitely"/"Probably" = "Yes" (scored as "1"); "Probably Not/"Definitely Not" = "No" (scored as "0")). Each PC domain for the two sets of PCAT surveys was then assessed, and the mean score for all responses for all items in that category used as the total for the category. Possible scores for each PC domain ranged from "0" (worst) (i.e., 0% of respondents answered affirmatively) to "1.0" (best) (i.e., 100% of respondents answered affirmatively). To facilitate the interpretation of the scores, the authors used the following rubric: scores from 0.90–1.00 were considered to represent excellent performance and were thus classified as "Excellent" ("no need for improvement"); scores from 0.80–0.89 were classified as "Very Good" ("some areas need improvement"); scores from 0.70–0.79 were classified as "Good" ("several areas need improvement"); scores from 0.60–0.69 were classified as "Reasonable" ("many areas need improvement"); and scores < 0.60 were classified as "Poor" ("great need for substantive improvement"). These categories were used to facilitate interpretation of the results and do not represent any gold standard. Stata version 12 (StataCorp LP, College Station, Texas, United States) was used for data analysis.

The results are displayed in graphic and tabular format. ArcGIS 10 (Esri, Redlands, California, United States) was used to produce maps that display variations in PC performance by district. The authors 1) combined an existing geo-referenced Dominica "shapefile" (an Esri geospatial vector data format) with an image file from the MoH that was divided into health districts; 2) erased the administrative divisions; and 3) juxtaposed both files, manually tracing the health districts to create a new geo-referenced shapefile scaled to each health district. Tests of statistically significant differences in scores across health districts were obtained using Kruskal–Wallis one-way analysis of variance.

Finally, three validity checks were performed. The first involved a comparison of the results from the S-PCAT surveys to those of the P-PCAT surveys. The second was a review of the results from the S-PCAT surveys with representatives of the MoH. The third was presentation and detailed discussion of all results with a wide variety of stakeholders at the Dominica national consultation on primary health care held in late 2013.

The University Committee on Activities Involving Human Subjects at New York University (New York, NY, United States) declared this study exempt from human subjects review because it collected no personal health or other identifying information.

RESULTS

Key informant views of PC system characteristics and PC domain performance

Most informants agreed that Dominica has a national PC policy or strategy. The average estimated allocation of government health resources directed to PC among survey respondents in this group was about one-third (27%), but there was a wide variance of views about the actual percentage (standard deviation 20.89). The key informants viewed PC in Dominica as received primarily through government-operated health services (79%) with some participation by the private sector (13%). They also agreed that PC coverage in the country was universal (i.e., the percentage of the population with no reliable source of PC was estimated at 0%).

There was less agreement among the key informants regarding human resources. When asked whether all medical schools in Dominica had a department of PC or family medicine, 56% said they did and 44% said they did not. However, most respondents said that medical students received training in PC outside hospitals (89%) and that nurses received training for PC in community settings (91%). According to the respondents, staffing of PC facilities varied across different facilities, with about 30% staffed by nurses only and the remaining facilities relying on a combination of nurses, community/village health workers, and one or several physicians.

With regard to health care financing, the respondents said 1) the majority of doctors and nurses in government facilities were paid a salary as opposed to fees per service, and 2) a copayment was required for a small percentage of visits (about 3%).

On the topics of record-keeping, pharmaceuticals, and equipment, the respondents said they believed that most government PC facilities usually had an adequate supply of essential drugs and basic equipment (85% and 83% respectively) and that all Dominica government facilities were required to keep a register of the patients they see each year.

As shown in Table 1, according to the key informants (i.e., the "systems" perspective), Dominica's total PC score (the mean score for all PC domains) was 0.69. Of the four core PC domains (access, continuous care, coordinated care, and comprehensive care), only the access area was scored below 0.70, indicating the other three domains were rated as having "Good" (adequate) performance. Other domains that received scores near the adequate level were information systems, family-centered care, and community-oriented care. The key informants agreed that the access area—which received poor scores for performance relative to all other domains—needed major improvement.

Health care providers' assessment of PC performance

Dominica received a "Very Good" overall PC score (0.81) for all of the provider (P-PCAT) surveys, according to the scoring rubric. Tables 2a, 2b, and

TABLE 1. Survey respondent ratings (scores) for eight domains of primary care (PC), by Primary Care Assessment Tools (PCAT) survey type, Dominica, 2013[a,b]

Domain	PCAT survey	
	Systems-PCAT (n = 11)	Provider-PCAT (n = 73)
Access to care	0.57	0.84
"First contact" care[c]	0.74	—[d]
Continuous (ongoing) care	0.77	0.86
Coordinated care	0.78	0.68
Information systems	0.67	0.84
Comprehensive care	0.70	0.79
Family-centered care	0.65	0.92
Community-oriented care	0.65	0.85
Culturally competent care	—	0.70
Total score	0.69	0.81

[a] Domain scores range from 0 to 1 and represent the mean proportions of respondent agreement across all questions (components) for each domain. The total score is the mean of all domain scores for each of the two survey types.
[b] Some questions in the Provider-PCAT surveys are not included in the Systems-PCAT surveys and vice versa.
[c] In the Systems-PCAT surveys, questions about "first-contact" care were asked and scored separately from "access to care"; in the Provider-PCAT surveys, they were included as part of "access to care."
[d] Not applicable.

2c show the results for each of the eight PC domains at the national level (the total or mean score). The family-centered care domain received the highest overall score, and another five domains received scores corresponding to "Very Good" performance. The comprehensive care and culturally competent care domains received scores below 0.80, indicating "Good" performance (i.e., several areas needing improvement). Only the coordinated care domain received a score below 0.70, indicating a great need for substantial improvements in that area.

Based on the assessments of individual components for each domain, some seem to require additional attention. For the access domain, the lowest scores (0.67, 0.71, and 0.50) corresponded respectively to 1) whether or not facilities were open on weekends, 2) whether or not facilities were open after working hours, and 3) whether patients generally had to wait for more than half an hour for PC services. For the continuous care domain, providers rated their knowledge of 1) their patients' employment situation and 2) all medications they took as 0.64 and 0.67 respectively, the lowest scores for that domain.

For the coordinated care domain, three components received the lowest performance ratings: sending laboratory test results back to the PC office, PC provider knowledge about patients' specialist visits, and PC providers receiving information from specialists. Each of these components received scores below 0.55. For information systems, the use of flow charts and periodic audits of medical records received scores below 0.65, and the use of printed guidelines on patients' records received a score below 0.60.

For the comprehensive care domain, respondents said very few PC facilities provided on-site services for wart removal, drug abuse treatment, nutrition counseling, IUD insertion, tests for environmental pollutants, or tympanocentesis.

The family-centered care domain only received one low performance score—for use of familiograms (0.40). Community-orientated care received low scores for use of patient and community surveys (0.54 and 0.60 respectively), and coordination with local agencies or cultural groups to promote healthy living and prevention (0.54). For the culturally competent care domain, presence of staff diversity, culturally sensitive materials, and staff training received scores below 0.70, while diversity services and presence of translators/interpreters were rated as having "Poor" performance (with scores of 0.57 and 0.35 respectively), suggesting greater need for improvement.

TABLE 2a. Survey respondent ratings (scores) for four core domains of primary care (PC) and their components, by Primary Care Assessment Tools (PCAT) survey type, Dominica, 2013[a,b]

Domain / component	PCAT survey	
	Systems-PCAT (n = 11)	Provider-PCAT (n = 73)
Access to "first-contact" care		
Open on weekends	0.37	0.67
Open later weekday hours	0.23	0.71
Patients seen same day	0.76	1.00
Phone advice when open	—[c]	0.97
Phone access when closed	—	0.99
Weekend access when facility closed	—	0.84
Night access when facility closed	—	0.84
Easy to set up appointment	—	1.00
Patients generally wait < 30 minutes	0.60	0.50
At least one nurse always present	0.87	—
At least one physician always present	0.45	—
Continuous (ongoing) care		
Patients see same clinician each visit	0.84	0.72
Provider understands patients' questions	—	0.99
Patients comprehend provider's advice and questions	—	1.00
Patients can call and talk to provider who knows them best	—	1.00
Provider gives patients enough time to communicate worries	—	0.94
Patients feel comfortable communicating worries to provider	—	1.00
Providers know patients "very well"	—	0.94
Providers know who lives with patients	—	0.82
Provider knows patients' most important problems	—	0.90
Knowledge of patients' complete medical history	—	0.68
Knowledge of patients' employment situation	—	0.64
Knowledge about patients' ability to pay for medications	—	0.87
Knowledge of all medications patients take	—	0.67
Facilities have patient registries to identify populations for which they are responsible	0.84	—
Facilities ensure patient information is always available	0.80	—
Coordinated care		
Office phones / sends test results	—	0.17
Providers know patients' visits to specialist	—	0.25
When referral needed, providers discuss places to go	—	1.00
Referral appointment help in office	—	0.96
Providers give referral documentation for specialists	—	0.97
Providers receive information from specialists	—	0.52
Providers discuss / follow-up results from specialists	—	0.86
Organized systems for referring patients back to PC	0.90	—
Referral systems are followed	0.67	—
Organized systems for transfer of patient information back to PC	0.70	—
Information systems are followed	0.71	—
Organized system for transfer of lab and diagnostic tests back to PC provider	0.80	—
Tests systems are followed	0.88	—
Information systems		
Patients bring medical records	—	0.99
Providers allow patients to view medical records	—	0.99
Patients' records always available	—	0.96
Use of flow charts for lab results	—	0.61
Use of printed guidelines in patients' records	—	0.57
Periodic audits of medical records	—	0.63
Problem lists in patients' records	—	0.83
Medication lists in patients' records	—	0.91
Facilities monitor growth and record vaccinations	0.98	—
Facilities use paper medical record	0.98	—
Facilities use electronic medical record	0.08	—
Medical records include results of tests obtained outside PC facility	0.66	—

[a] Domain scores range from 0 to 1 and represent the mean proportions of respondent agreement across all questions (components) for each domain. The total score is the mean of all domain scores for each of the two survey types.
[b] Some questions in the Provider-PCAT surveys are not included in the Systems-PCAT surveys and vice versa.
[c] Not applicable.

TABLE 2b. Survey respondent ratings (scores) for the "comprehensive care" domain of primary care (PC) and its components, by Primary Care Assessment Tools (PCAT) survey type, Dominica, 2013[a,b]

Domain / component	PCAT survey	
	Systems-PCAT (n = 11)	Provider-PCAT (n = 73)
Comprehensive care		
"The PC facility is able to provide the following on-site":		
Nutrition counseling	—[c]	0.23
Immunizations	—	1.00
Eligibility screening for social service benefits	—	0.69
Dental checkup	—	0.49
Dental treatments	—	0.52
Family planning/birth control services	0.72	0.96
IUD insertion	—	0.22
Drug abuse treatment	—	0.32
Drug abuse counseling	—	0.81
Behavior / mental health treatment	0.71	0.87
Behavior / mental health counseling	—	0.90
Environmental pollutant tests	—	0.11
Simple suturing	0.86	0.97
HIV/AIDS counseling and testing	—	0.96
Tympanocentesis	—	0.06
Vector-borne disease education	—	0.97
Vision screening	—	0.94
Allergy shots	—	0.63
Ankle splinting	—	0.96
Wart removal	0.27	0.40
Pap smears	—	0.99
Sigmoidoscopy or rectal exam	—	0.56
Smoking counseling	0.30	0.93
Prenatal care	0.88	0.97
Ingrown toenail removal	0.36	0.59
Advice on advance directives	—	0.77
Aging advice	—	0.93
Nursing home suggestions	—	0.82
Supplemental food	0.56	0.59
Sleep / diet advice	0.90	1.00
Home safety education	0.44	1.00
Joint aspirations or injections	0.22	—
Normal newborn delivery	0.73	—
Removal of cysts under local anesthesia	0.26	—
"The following subjects are discussed with patients":		
Seat belt use	—	0.56
Family conflicts	—	1.00
Exercise	—	1.00
Cholesterol levels	—	0.97
Medications being taken	—	1.00
Exposure to harmful substances	—	0.94
Gun safety	—	0.26
Prevention of hot water burns	—	0.99
Fall prevention	—	1.00
Osteoporosis prevention	—	0.87
Women's health care	—	0.99
"The following subjects are discussed with patients' parents":		
Problematic behavior management	—	0.94
Changes in growth and behavior	—	0.97
Child safety (> 6 years old)	—	0.93
Child safety (6–12 years old)	—	0.83
Child safety (< 12 years old)	—	1.00

[a] Domain scores range from 0 to 1 and represent the mean proportions of respondent agreement across all questions (components) for each domain. The total score is the mean of all domain scores for each of the two survey types.
[b] Some questions in the Provider-PCAT surveys are not included in the Systems-PCAT surveys and vice versa.
[c] Not applicable.

In addition to the country's aggregate results, the study reported scores for each of the 10 health districts described above. Figure 1 shows the total (mean) score calculated for the provider (P-PCAT) surveys across the eight PC domains for each of the 10 districts. Seven of the 10 districts received an overall score of "Very Good," indicating only a few domains needed improvement. The remaining three—Roseau Central, Roseau South, and St. Joseph—received overall scores of less than 0.80. Total scores did not show statistically significant differences across the districts.

Figure 1 shows the performance of each district for each PC domain. The domains of continuous care, information systems, family-centered care, and community-oriented care received consistently high scores for all districts. Across all districts, the domains of coordinated care, comprehensive care, and culturally competent care had consistently lower scores. The access domain had the greatest variation in scores across districts. Differences in scores across districts were statistically significant ($P < 0.05$) for the domains of access, coordinated care, and family-centered care.

Figure 1 also shows the consistency of the scoring across districts for each domain. The Castle Bruce district received "Excellent" scores for four domains, "Very Good" for one domain, and "Good" for three domains. Portsmouth likewise consistently scored high in most domains. In contrast, the Roseau South district received "Very Good" scores for two domains, "Good" for five domains, and "Poor" for one domain; this district scored consistently lower than most other districts. Roseau Central exhibited the most variation across all domains.

DISCUSSION

When the study was first conducted, there was little detailed and comparable information available about primary care in Dominica. At the national level, both the key informants and the health care providers agreed that, overall, Dominica had a "Very Good" performance for all PC domains. However, there were some differences based on data source, geographic region, and specific domain components.

Comparison of the results for the two sets of surveys (P-PCAT and S-PCAT) showed that the two different perspec-

TABLE 2c. Survey respondent ratings (scores) for three domains of primary care (PC) and their components, by Primary Care Assessment Tools (PCAT) survey type, Dominica, 2013[a,b]

Domain / component	PCAT survey	
	Systems-PCAT (n = 11)	Provider-PCAT (n = 73)
Family-centered care		
Provider asks relatives' opinion about planning treatment and care	—[c]	0.99
Provider asks about family's health problems	0.93	1.00
Provider willing to meet family members to discuss health problems	—	0.99
Patient charts are arranged by family	0.19	—
"The following are included as routine in health assessment":		
Use of familiograms	—	0.40
Discussion of family health risk factors (e.g., genetics)	—	0.91
Discussion of family's economic resources	—	0.87
Discussion of social risk factors (e.g., unemployment)	0.84	0.91
Discussion of living conditions	0.84	0.96
Discussion of health status of other family members	0.93	0.96
Discussion of parenting	—	0.93
Assessment for child abuse signs	—	0.96
Assessment for family crisis indications	—	0.94
Assessment for impact of patient's health problem on family	—	0.96
Assessment for developmental level	—	1.00
Community-oriented care		
Office makes programmed visits	0.95	0.96
Office makes visits on demand	0.95	0.97
Office has knowledge about health needs of community	—	0.97
Office gets people's opinions to provide better care	0.25	0.93
Office able to change services to meet community health needs	—	0.90
Office uses mortality data to determine programs / services	—	0.93
Office uses communicable diseases data to determine services	—	1.00
Office uses immunization rates to determine programs / services	—	1.00
Office uses public health / hazards data to determine services	—	0.86
Office uses its clinical data to determine programs / services	—	0.99
Office incorporates community members in its governance	0.35	—
Office provides school-based services	0.86	—
"Office uses the following to monitor effectiveness of services":		
Patient surveys	0.25	0.54
Community surveys	0.55	0.60
Feedback from community organizations / advisory boards	—	0.72
Practice staff feedback	—	0.88
Analysis of local data / vital statistics	—	0.88
Systematic program evaluations	—	0.93
Community health workers	—	0.83
Community members on board of directors	—	0.21
"Office uses the following to reach out to the community":		
Coordination with local agencies / cultural groups	0.91	0.54
Coordination with religious organizations	—	0.91
Coordination with neighborhood groups / community leaders	—	0.93
Coordination with outreach workers	—	0.80
Culturally competent care		
Providers able to communicate with non-English speakers	—	0.77
Provider takes into account family health beliefs	—	0.94
Provider takes into account request for alternative medicine	—	0.87
"Office uses the following to address cultural diversity":	—	
Staff training	—	0.60
In-service programs	—	0.79
Culturally sensitive materials	—	0.65
Staff diversity	—	0.63
Translators / interpreters	—	0.35
Diversity services	—	0.57

[a] Domain scores range from 0 to 1 and represent the mean proportions of respondent agreement across all questions (components) for each domain. The total score is the mean of all domain scores for each of the two survey types.
[b] Some questions in the Provider-PCAT surveys are not included in the Systems-PCAT surveys and vice versa.
[c] Not applicable.

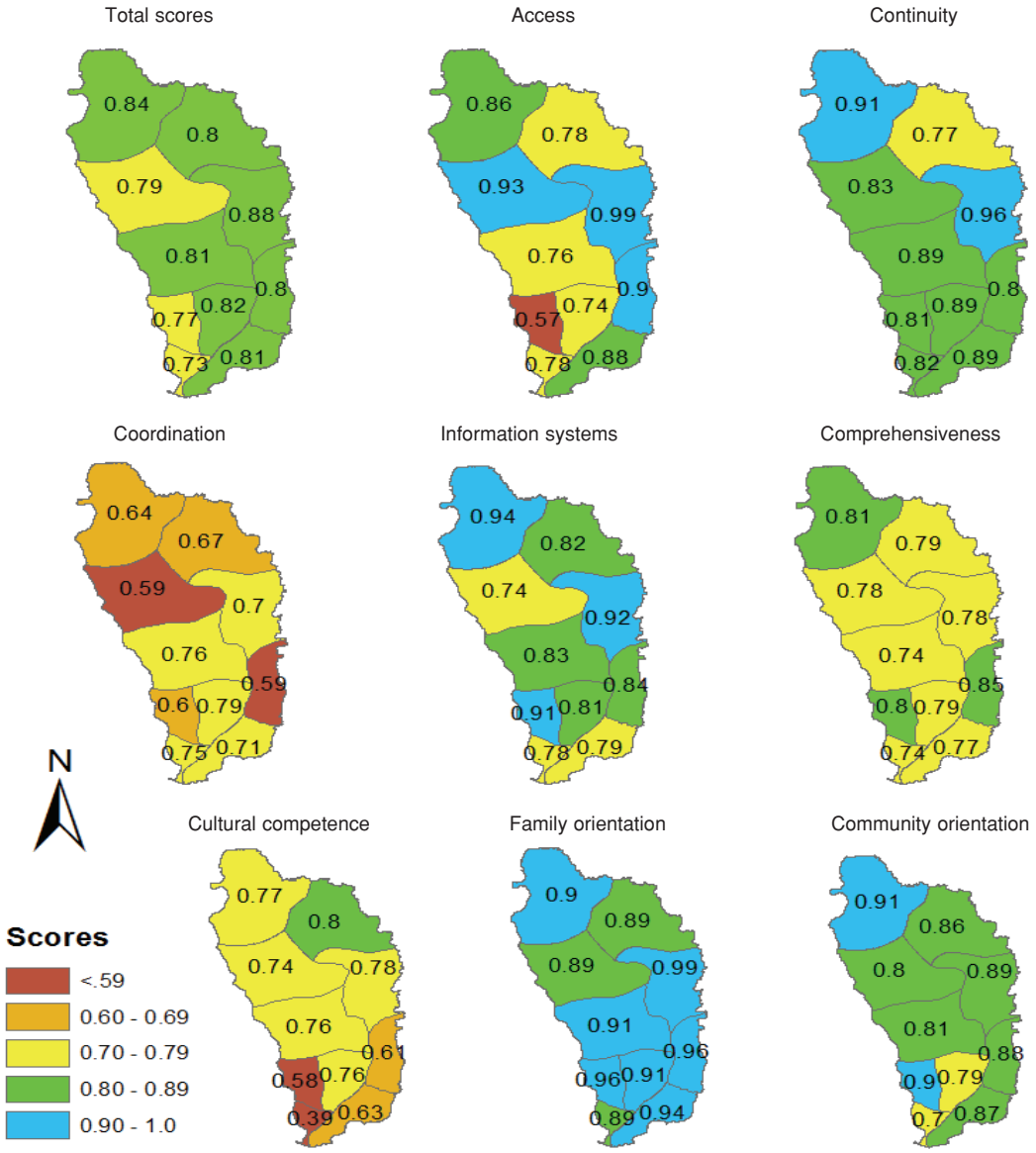
tives (systems and provider) might be complementary to each other. For example, the domains for family-centered and community-oriented care were scored the lowest by the key informants but were the highest-scored domains among providers. This suggests that even if policy mechanisms were not in place for the various domains, some attention was given to the components they comprised at the point of clinical contact. Access to care was another domain that received much lower scores from key informants versus the health providers. This outcome may reflect 1) efforts of health care providers to reach out to populations in need, or 2) providers' lack of knowledge about populations who rarely visit clinics. In general, the key informants seemed less optimistic than providers when evaluating Dominica's PC performance, possibly because in their role as managers they may be more frequently involved in resolving problems and less frequently involved in ongoing surveillance of the range of PC activities taking place across the country. In this study and others, exploring the differences between each data source was found to be an extremely productive way to foster discussion and analysis of study results among all of those involved in the health system.

The use of the PCAT tools also demonstrated that while most domains were assessed as performing well overall, specific components within them could be pinpointed in each domain as needing attention. These included increasing PC facilities' office hours and operation on weekends, increasing providers' knowledge of patients' social situations, implementing a stronger electronic medical record system, increasing the availability of counseling services for drug abuse and nutrition, and improving PC providers' knowledge about their patients' visits to specialists and about test results obtained outside the PC facility.

The study results reported here showed many similarities and a few discrepancies versus results from studies that applied the provider (P-PCAT) surveys elsewhere. The higher scores for continuous care, the middling score for access, and the lower score for culturally competent care provided by Dominican respondents were also obtained in studies in Canada (26) and the United States (Washington, D.C.) (8). Dominica scored well for family-centered care, which was also a high-scoring domain in studies performed in several Brazilian cities (27–29). The middling score for comprehensive care in Dominica was also consistent with other studies.

The PC domains for Dominica had some particularities compared to those in other studies. The most striking difference is in the area of community-

FIGURE 1. Ratings (scores) for eight domains of primary care (PC) according to respondents (*n* = 73) to the provider version of the Primary Care Assessment Tools (P-PCAT) surveys, by health district, Dominica, 2013



Source: Authors' calculations from survey responses. Dominica, 2013.

oriented care, which was one of the highest-scored domains for Dominica but one of the lowest-scored domains in the studies conducted in Canada; Washington, D.C.; and the Brazilian cities of Porto Alegre and Chapeco. The opposite was true for the coordinated care domain, which was one of the lowest-rated domains in Dominica but received middling or high scores elsewhere (30).

The current study also revealed important regional differences in PC performance. Out of Dominica's 10 health districts, seven were rated as having "Very Good" overall PC performance. The remaining three districts obtained "Good" overall performance ratings. Across all 10 districts, the ratings for family-centered care, comprehensive care, and coordinated care were the most consistent. The least consistently rated domains were access and information systems. Based on the difference in the PC ratings across Dominica's 10 districts, there are ample opportunities for Dominica's health professionals to share best practices. For example, no district in Dominica received an "Excellent" or "Very Good" score in all domains and no district had only "Poor" or "Reasonable" performance ratings in all domains. Therefore, Dominica's health districts should consider exchanging information about what works best in PC.

Limitations

This study had several limitations. First, the PCAT survey instruments captured the perceptions of key informants and providers, which may not be the same as the patients' perspective. As

shown in the study results, there were differences between the perspectives of health providers and those of systems-level key informants, with the providers being more optimistic in their assessments. There was no clear way to determine if this difference was influenced by social desirability, although the providers responded anonymously to the questionnaire. Second, these results reflect provider experiences at only one point in time. In this sense, the survey can be considered a baseline against which future health reforms may be evaluated. Third, there may be other aspects of PC that are important but were not measured in this study, such as infrastructure, management practices, health promotion, and community-based prevention programs. Fourth, this study could not determine why some providers reported a better performance for some PC domains and their components than others. Such differences may be due to a combination of provider factors, organizational features, and aspects of the population they serve. Understanding how and why health facilities and health districts differ is an important next step that will require additional investigation. Fifth, due to small sample sizes, only limited statistical testing could be performed on differences between scores. Studies carried out in larger countries will need to devise an appropriate sampling plan. Finally, all questions in both versions of the PCAT surveys may not be relevant to Dominica, so decision-makers should interpret the overall scores for some domains with this in mind.

Conclusions

The results of this study should be discussed with key informants, health managers, and health providers in order to disseminate and validate them. These findings should also be distributed to stakeholders in other countries and regions to stimulate the process of identifying priority areas for further investigation as well as quality improvement initiatives. The results of this study could also be used as an input for strategic planning documents for PC improvement, and/or to help identify areas that national and regional authorities should focus on in terms of future and ongoing health reforms. Finally, this study could serve as a model for PC evaluations implemented in other countries moving toward the goal of making universal access to high-quality primary care a reality.

Acknowledgments. Permission for the use of the provider (P-PCAT) surveys in Dominica was originally granted by Barbara Starfield of John Hopkins University (Baltimore, Maryland, United States). The authors would like to thank Julius Timothy, Minister of Health of Dominica; Martin Christmas, former Director of Primary Health Care services in Dominica; and Shirley Augustine, PAHO Dominica Country Program Specialist, for their guidance and cooperation in this assessment. They also thank Marvlyn Birmingham, for her extraordinary contributions to the survey implementation.

Funding. This project received funding and support from the Pan American Health Organization.

Conflicts of interest. None.

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Manuscript received on 4 September 2014. Revised version accepted for publication on 4 February 2015.

RESUMEN

Desempeño de la atención primaria en Dominica

Objetivo. Documentar la estructura y las funciones de la atención primaria (AP) en la república insular de Dominica con los cuestionarios PCAT (*Primary Care Assessment Tools* o instrumentos para evaluar la atención primaria), un conjunto de cuestionarios que evalúan las funciones de la AP.

Métodos. En este estudio transversal se combinaron los datos de dos series de encuestas. La realizada con los PCAT sobre los sistemas (S-PCAT) recopiló, a partir de informadores relevantes, datos de ámbito nacional sobre las características del sistema sanitario y el desempeño de la AP. La versión para profesionales (P-PCAT) recopiló datos sobre el desempeño de la AP a partir de los profesionales sanitarios (enfermeras y médicos) en todos los centros de AP del país. Se combinaron los datos relativos a los profesionales para obtener resultados correspondientes a los niveles de distrito y del país sobre los dominios de la AP calificados con una puntuación de entre 0,00 (peor) y 1,00 (mejor).

Resultados. Desde la perspectiva de los sistemas, los resultados demostraron varias brechas en el conocimiento de las políticas, el financiamiento y la estructura de la AP. Los informantes clave otorgaron puntuaciones "buenas" (suficientes) a la atención durante el "primer contacto" (0,74), a la continuidad de la atención (0,77), a la atención integral (0,70) y a la atención coordinada (0,78); puntuaciones medias a la atención centrada en la familia y orientada a la comunidad (0,65); y puntuaciones bajas al acceso a la atención (0,57). Los profesionales consideraron que el acceso a la atención (incluida la de "primer contacto", en las encuestas P-PCAT) (0,84), la continuidad de la atención (0,86), los sistemas de información (0,84), la atención centrada en la familia (0,92) y la atención orientada a la comunidad (0,85) son "muy buenos"; que la atención integral es "buena" (0,79); y que la atención coordinada es "correcta" (0,68). En general, las puntuaciones relativas a los distritos sanitarios del país son buenas, aunque las puntuaciones varían según el dominio de la AP.

Conclusiones. Las evaluaciones descritas, que conllevaron un gasto relativamente bajo, constituyen un aporte importante a la planificación estratégica, las estrategias para mejorar la AP y la identificación de áreas prioritarias para ulteriores investigaciones. El enfoque en dos etapas podría adaptarse y aplicarse en otros países.

Palabras clave Atención primaria de salud; sistemas de salud; calidad, acceso y evaluación de la atención de salud; Dominica.