

Expanding the Frontiers of Distributed Medical Education (DME) in Psychiatry: Perspectives on Facilitators, Obstacles, and Influential Factors Affecting Psychiatrists' Willingness to Engage in Scholarly Activities

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Abstract

Background

Distributed Medical Education (DME), a decentralized model focused on smaller cities and communities, has been implemented worldwide to bridge the gap in psychiatric education. However, successful implementation and expansion of DME requires a thorough understanding of enablers, barriers, and the factors influencing psychiatrists' participation in scholarly activities, with faculty engagement playing a crucial role. This study aims to explore the expansion of DME in psychiatry, specifically focusing on these aspects.

Methodology

: This cross-sectional study was conducted as part of an environmental scan of Dalhousie Faculty of Medicine's DME programs in Nova Scotia and New Brunswick. Quantitative data was collected through online surveys administered to psychiatrists from eight administrative health zones in both provinces. The surveys gathered information on sociodemographic factors, practice-related characteristics, and medical education. Statistical analyses, including descriptive analysis, chi-square tests and logistic regression, were performed to identify associations and predictors.

Results

The study included 60 psychiatrists practicing in both provinces. The findings reveal a gender imbalance in the psychiatric workforce, with a majority of participants (40/58, 69%) being male. International medical graduates made significant contributions to the psychiatric workforce (39/60, 65%). A considerable number of psychiatrists (43/59, 72.9%) held academic appointments, reflecting a strong academic presence. General adult psychiatry emerged as the primary specialization (37/58, 63.8%), and just above a third reported practicing psychotherapy (22/58, 37.9%). Factors such as availability for formal training, holding academic appointments, and practicing psychotherapy influenced psychiatrists' willingness to engage in scholarly activities.

Conclusion

This study provides valuable insights into the profiles and perspectives of psychiatrists regarding e DME in the Maritimes Provinces. Implementing the recommendations stemming from this research has the potential to enhance medical education and optimize psychiatrists' engagement in scholarly activities, ultimately contributing to the development of a comprehensive and equitable mental health system.

BACKGROUND

The increasing global recognition of mental health as a prominent public health concern has highlighted the need for medical students to receive comprehensive training in psychiatry to effectively address the growing burden of mental health disorders worldwide [1]. However, the conventional medical education system, primarily centered in large urban areas, has often failed to adequately meet the healthcare needs of smaller cities and communities [2]. To bridge this gap, Distributed Medical Education (DME), a decentralized model of health education integrated into and accountable to local communities, has been implemented and expanded across Canada and other parts of the world [3]. This approach to medical education emerged in the 1970's as a dynamic solution to address the evolving requirements of healthcare training and delivery by dispersing educational activities across multiple sites, aiming to enhance access, promote regional healthcare equity, and foster a diverse healthcare workforce [2]. In the Canadian context, the integration of DME into undergraduate and postgraduate medical education in most medical schools has been a significant advancement in promoting regional healthcare recruitment and retention. Despite these efforts, the distribution of physicians across the country remains imbalanced, with only 9.4% of physicians practicing in rural areas, compared to 21.1% of Canadians residing in rural and small towns [4]. When it comes to the number of specialists, the urban-rural disparity in specialist numbers and distribution becomes evident when examining the physician-to-population ratios for different segments of the Canadian populace. Approximately 30.3% of Canadians reside in rural regions where the specialist-to-population ratios fall within the range of 0.1 to 5.0/10,000, while 24.2% inhabit urban areas where this ratio expands to 15.1 to 30.0/10,000 [5].

The situation in Atlantic Canada closely mirrors national medical education and healthcare challenges. Traditionally, the main training site for the Dalhousie University psychiatry residency has been Halifax, Nova Scotia, with residents spending shorter amounts of time in other sites outside the main academic center. Recognizing the growing population and the need to fill existing vacancies in the psychiatry residency program, the governments of Nova Scotia (NS) and New Brunswick (NB), which are two of the most populous provinces in the Atlantic region, approached Dalhousie University to request an increase in the number of psychiatry residency training positions. The Dalhousie Faculty of Medicine is now distributed on two campuses: Halifax, NS, and Saint John, NB. A third distributed campus in Cape Breton, NS, is planned to start receiving students by 2025. The further increase in training spots would be accomplished through expanding the amount of DME, and might involve developing programs based primarily outside Halifax. The governments' requests align with the principles underlying the Dalhousie Department of Psychiatry's

Transformational Plan [6], which aims to extend its academic mandate by enhancing medical education, research, and knowledge translation activities at distributed learning sites in NS and NB. These coordinated efforts aim to improve psychiatrist recruitment and retention while also meeting the region's healthcare demands.

However, the expansion of DME sites in psychiatry education requires careful consideration to identify enablers that contribute to success and barriers that need to be addressed. Faculty engagement plays a pivotal role at distributed sites, and academic departments must effectively engage and integrate distributed faculty into formal scholarly activities in a way that is inclusive and respectful of the informal scholarly activities that may already exist. It is crucial to avoid pitfalls such as insufficient engagement, unclear expectations, and resistance to change. Conversely, clear strategic planning and collaborative governance involving provincial health authorities are vital factors that must be pursued in this process [6, 7]. Attending to faculty members' perspectives regarding DME may facilitate the adoption of a growth mindset, openness to new approaches, and active participation in professional development to navigate challenges. By embracing these principles, faculty members can enhance their engagement, promote effective teaching practices, and make valuable contributions to the success of DME programs [8].

Despite an existing body of literature on DME in Canada, there is limited understanding of the specific factors impacting upon the expansion of DME within the context of Atlantic Canada, particularly from the perspective of physicians. In order to fill this gap, this study aimed to further explore DME in psychiatry by examining sociodemographic and practice-related characteristics of the psychiatrists involved in DME, their perspectives regarding enablers and barriers influencing its expansion, and psychiatrists' willingness to start or continue taking part in scholarly activities, such as clinical training, supervision, teaching, and examinations. By expanding our understanding of DME in psychiatry, this study seeks to contribute to the ongoing dialogue surrounding DME, guiding the future of medical education to meet the evolving healthcare landscape in Atlantic Canada and beyond.

METHODS

Study Design

This cross-sectional study was part of an environmental scan completed at the Dalhousie Faculty of Medicine's Department of Psychiatry distributed education sites in NS and NB. The environmental scan adopted a formal information search approach [9] and an explanatory design [10], including quantitative and qualitative data, collected through online surveys and focus groups meetings, respectively. This report includes the a dataset of the quantitative data, focused on scholarly activities. This study has received an exemption from the Dalhousie University Research Ethics Board in accordance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans article 2.5 [11].

Study Settings and Participants

This study involved psychiatrists from seven administrative health zones (four in NS and four in NB) engaged in medical education in distributed sites. The distributed medical education sites affiliated with Dalhousie University Faculty of Medicine include mental health and addiction treatment facilities in Nova Scotia's Eastern, Western, and Northern zones, as well as four health zones in New Brunswick. Respondents from different sites, from small rural communities to medium-sized regional centers were included in the study, ensuring representation of the various DME sites in the two Provinces.

Study Procedures and Data Collection

Members of the Nova Scotia and New Brunswick Psychiatry Academic Council developed and revised an online survey using OPINIO [12]. The survey was then distributed to all psychiatrists working within the seven DME administrative health zones via their clinical department heads. To maximize the response rate, psychiatrists were invited by their clinical department heads to complete the surveys during monthly psychiatrists' meetings for each zone as a group activity. Each psychiatrist was given time to complete the survey anonymously on their personal cell phone or computer. For those unable to attend the meeting, a second electronic reminder was sent to ensure they completed the survey. Data collection took place between January and February 2023. Respondents were informed that survey completion was voluntary and that the data collected would be used for research purposes.

Outcome Measures

The outcomes of interest comprised of frequency distribution of participants' sociodemographic information, practice-related characteristics, payment-related variables, medical education variables, and training-related variables. Factors related to the participants' willingness to start or continue taking part in scholarly activities, as well as perceived barriers hindering them from receiving trainees in their practice were also assessed.

The study also aimed to establish associations and potential predictors between participants' characteristics and five key aspects related to their willingness to engage in scholarly activities needed to expand DME. Specifically, the five study outcomes were the following:

1. Willingness to start or continue participating in clinical training and supervision of psychiatry residents;
2. Willingness to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents;
3. Willingness to start or continue participating in skills-based examinations for psychiatry residents;

4. Willingness to participate in training and supervision of Canadian-trained psychiatrists undertaking a one-year Dalhousie University accredited fellowship experience in an area of their expertise; and
5. Willingness to participate in the training and supervision of internationally trained psychiatrists seeking to undertake the Dalhousie University accredited fellowships.

Statistical analysis

Results were analyzed using SPSS version 28 [13]. Descriptive analysis was performed for all the variables in this study, data were summarized and reported as frequency distribution using numbers and percentages. All study data were grouped into seven main categories; participants' characteristics, practice related variables, payment related variables, medical education variables, training related variables, barriers, and outcome variables. Chi square or the Fischer Exact test with two-tailed significance ($p \leq 0.05$) was used to define the distribution of selected categorical variables against the five study outcome variables. Five models of multivariate binary logistic regression analyses were employed to identify potential significant predictors for each outcome variable, while controlling for other variables. The variables that showed either significance ($p \leq 0.05$) or near significance ($0.05 < p < 0.2$) obtained from the univariate Chi-squared analysis, were included into the respective regression model. Odds ratios (OR) and confidence intervals were reported to determine whether a particular variable is an associative factor for each study outcome, controlling for the rest of the variables. Correlational analysis was performed prior to the regression analyses, to exclude any strong intercorrelations to avoid redundancy (Spearman's correlation coefficient of 0.7 to 1.0 or - 0.7 to - 1.0) among predictor variables. There was no imputation of missing data and complete responses were reported.

RESULTS

The study respondents included 60 psychiatrists out of a total of 120 psychiatrists in NS and NB practicing outside of Nova Scotia's Central Zone representing a survey response rate of 50%. Frequency distribution of the seven categories of study variables is demonstrated in tables and figures as shown in Table 1&2, and Fig. 1&2:

Table 1 demonstrates the frequency distribution of participants' characteristics, practice related variables, and payment related variables, as follows:

1. Participants' characteristics: the majority of the study participants were men (40/58, 69%), working in Nova Scotia (32/60, 53.3%), with approximately one third of them working in Nova Scotia's Western Zone (18/60, 30%), and over half identifying themselves as International Medical Graduates (IMG) (39/60, 65%). Half of this cohort majority also indicated they acquired specialist training in Canada (31/59, 52.5%). Most participants reported having an academic appointment with the Department of Psychiatry at Dalhousie University (43/59, 72.9%); and the majority reported having an academic rank of assistant professor (34/43, 79.1%), and were quite interested in eventually applying for promotion to a higher academic rank (11/43, 25.6%). Among those who do not have an academic rank, the highest proportion reported that they definitely would like an academic appointment with the Department of Psychiatry at Dalhousie (7/16, 43.7%).
2. Practice related variables: most participants had scope of practice or primary specialization in general adult Psychiatry (37/58, 63.8%), with no secondary specialization (19/58, 32.8%). Just above a third of participants reported practicing psychotherapy (22/58, 37.9%); most of them were willing to supervise a resident for a longitudinal psychotherapy case (15/22, 68.2%). The majority practiced Cognitive Behavioral Therapy (CBT) as an example of modality of psychotherapy employed (18/57, 30%).
3. Payment related variables: For most study participants, the primary mode of payment for the delivered psychiatric services was salary with benefits (e.g., pension) (19/58, 32.8%), and no secondary mode of payment for the delivered psychiatric services (28/58, 48.3%).

Table 1

Frequency distribution of participants' characteristics, practice related and payment-related variables

Variables	N	Percentage
1) Participants' characteristics		
Gender	18	31%
Woman	40	69%
Man		
Province	32	53.3%
Nova Scotia	28	46.7%
New Brunswick		
Health Authority Zone	8	13.3%
HZ1 NB: Moncton/SE area	12	20.0%
HZ2 NB: Fundy Shore and Saint John Area	7	11.7%
HZ3 NB: Fredericton and River Valley Area	1	1.7%
HZ7 NB: Miramichi Area	6	10.0%
Eastern Zone NS	8	13.3%
Northern Zone NS	18	30.0%
Western Zone NS		
Type of medical graduates	39	65%
International Medical Graduates (CMB)	21	35%
Canadian Medical Graduates (CMG)		
Type of completed specialist training	28	47.5%
International specialist training	31	52.5%
Canadian specialist training		
Having an academic appointment with the Department of Psychiatry at Dalhousie University	43	72.9%
Yes	16	27.1%
No		
Academic rank	1	2.3%
Adjunct	34	79.1%
Assistant Professor	3	7%
Associate Professor	1	2.3%
Lecturer	4	9.3%
Unsure		
Interest in eventually applying for promotion to a higher academic rank (of those who have an academic rank)	5	11.6%
Extremely interested	8	18.6%
Moderately interested	11	25.6%
Quite interested	9	20.9%
Slightly interested	10	23.3%
Not at all interested		

CBT: Cognitive Behavioral Therapy; **DBT:** Dialectical Behavioral Therapy

Variables	N	Percentage
1) Participants' characteristics		
Gender	18	31%
Woman	40	69%
Man		
Would like an academic appointment with the Department of Psychiatry at Dalhousie University (of those who do not have an academic rank)	7	43.7%
Definitely	2	12.5%
Possibly	5	31.3%
Probably	2	12.5%
Probably Not		
2) Practice related variables		
Primary specialization or scope of practice	37	63.8%
General Adult Psychiatry	15	25.9%
Child and Adolescent Psychiatry	3	5.2%
Geriatric Psychiatry	3	5.2%
Other (e.g., Forensic and Psychotherapy)		
Secondary specialization or scope of practice	5	8.6%
Addiction Psychiatry	3	5.2%
Child and Adolescent Psychiatry	2	3.4%
Consultation Liaison Psychiatry	4	6.9%
Emergency Psychiatry	9	15.5%
General Adult Psychiatry	5	8.6%
Geriatric Psychiatry	19	32.8%
I do not have a secondary specialization	11	19.0%
Other (e.g., Trauma, Forensic, and early Psychosis program)		
Practicing psychotherapy	22	37.9%
Yes	36	62.1%
No		

Variables	N	Percentage
1) Participants' characteristics		
Gender	18	31%
Woman	40	69%
Man		
Modalities of psychotherapy employed*	18	30%
CBT	6	10%
DBT	7	11.7%
Family Therapy	1	1.7%
Group Therapy	8	13.3%
Interpersonal Therapy	9	15%
Psychodynamic Psychotherapy	8	13.3%
Other		
If you practice psychotherapy, would you be interested in providing supervision to a resident for a longitudinal psychotherapy case?	15	68.2%
Yes	7	31.8%
No		
3) Payment related variables		
Primary mode of payment for the delivered psychiatric services	19	32.8%
Salary with benefits (e.g., pension)	10	17.2%
Fee for service	8	13.8%
Sessional fees	13	22.4%
Alternate Funding Plan	8	13.8%
Other		
Secondary mode of payment for the delivered psychiatric services	1	1.7%
Alternate Funding Plan	21	36.2%
Fee for service	3	5.2%
Other, please specify:	3	5.2%
Salary with benefits (e.g., pension)	2	3.4%
Sessional fees	28	48.3%
There is no secondary mode of payment		
CBT: Cognitive Behavioral Therapy; DBT: Dialectical Behavioral Therapy		

Figure 1 demonstrates mental health services that study participants work in. From the figure, Psychiatry outpatient services was selected by the majority of the participants as their work-in service (n = 41).

Table 2 demonstrates the frequency distribution of medical education, training related variables, and outcome measures, as follows:

4) Medical education variables: Most participants did not receive formal training in medical education (35/58, 60.3%). Among those who had received formal training in medical education (n = 22), the highest level of medical education was received from education events such as conferences and online Continued Medical Education (CME) activities (12/23, 52.2%). Most participants reported knowledge and or skills in curriculum delivery (e.g., virtual teaching, small group teaching, simulation-based teaching) (29/60, 48.3%). The majority of study participants reported they would like to participate in curriculum delivery (37/60, 61.7%).

5) Training related variables: the majority of participants reported they provide clinical training and supervision of medical students (42/60, 70%), and report they have had more than 10 years of experience in clinical training or supervision of medical learners (30/55, 54.5%). Most participants were familiar with the Royal College of Physicians and Surgeons of Canada (RCPSC) Competency by Design for residency training, (45/55, 81.8%), and were available to participate in this formal training to facilitate involvement in psychiatry residency training (42/55, 76.4%).

The majority of survey respondents (32/54, 70.4%) reported they were moderately to slightly adequate with respect to infrastructure and team set-up of service for psychiatry resident training. Infrastructure requirements include office space for residents and interview rooms that comply with Royal College accreditation safety standards. Most participants reported that two to four months was the appropriate length of placement for a Psychiatry resident on rotation with their team (19/54, 35.2%). Several potential benefits of having psychiatry residents train on participants' service were reported; the highest rated being their contribution to on-call service and the ability for the experience to help with long-term recruitment and retention into local communities (43/60, 71.7%, each).

6) Outcome variables: Overall, the majority of participants reported they were interested in participating in clinical training and supervision of psychiatry residents (49/54, 90.7%). They also indicated they were interested in a variety of educational activities from participating in the provision of lectures or skills-based teaching for psychiatry residents (44/54, 81.5%); participating in skills-based examinations of psychiatry residents (43/54, 71.7%); in the training and supervision of Canadian-trained psychiatrists and internationally trained psychiatrists in Dalhousie University's one year accredited fellowship experience (44/53, 83.0%, each),

Table 2
Frequency distribution of medical education, training related variables, and outcome measures.

4) Medical education variables	N	%
Received formal training in medical education	23	39.7%
Yes	35	60.3%
No		
Highest level of medical education received, if applicable	2	8.7%
Bachelor's degree	3	13.0%
Certificate	2	8.7%
Graduate diploma	4	17.4%
Master's degree	12	52.2%
Other		
Area of medical education having knowledge or skills in*	18	30%
I do not have knowledge and/or skills in medical education	10	16.7%
Curriculum development (e.g., developing courses/modules, writing objectives)	29	48.3%
Curriculum delivery (e.g., virtual teaching, small group teaching, simulation-based teaching)	17	28.3%
Assessment (e.g., writing exam questions, writing OSCE cases)	8	13.3%
Program evaluation	7	11.7%
Other		
Areas of medical education would like to participate in	16	26.7%
I do not have knowledge and/or skills in medical education	16	26.7%
Curriculum development (e.g., developing courses/modules, writing objectives)	37	61.7%
Curriculum delivery (e.g., virtual teaching, small group teaching, simulation-based teaching)	23	38.3%
Assessment (e.g., writing exam questions, writing OSCE cases)	14	23.3%
Program evaluation	4	6.7%
Other		
5) Training related variables		
Clinical training and supervision of learners that the participants currently participate in	5	8.3%
Participant does not participate in clinical training or supervision of learners	42	70%
Medical Students	20	33.3%
Psychiatry Residents	33	55.0%
Family Medicine Residents	11	18.3%
Allied Mental Health Professionals	2	3.3%
Canadian Fellows	0	0.0%
International fellows	2	3.3%
Other		

*Multiple response question with reported relative frequency by choice

4) Medical education variables	N	%
Received formal training in medical education	23	39.7%
Yes	35	60.3%
No		
Highest level of medical education received, if applicable	2	8.7%
Bachelor's degree	3	13.0%
Certificate	2	8.7%
Graduate diploma	4	17.4%
Master's degree	12	52.2%
Other		
Years of experience in clinical training or supervision of medical learners	30	54.5%
More than 10 years	9	16.4%
6–10 years	9	16.4%
3–5 years	5	9.1%
1–2 years	2	3.6%
0 years		
Familiarity with the RCPSC Competency by Design for residency training	45	81.8%
Yes	10	18.2%
No		
Availability to participate in formal training in the RCPSC Competency by Design to facilitate involvement in psychiatry residency training	42	76.4%
Yes	13	23.6%
No		
Considering the infrastructure and team set up of participants' service to be adequate for psychiatry resident training (Requirements include office space for residents and interview rooms that comply with Royal College accreditation safety standards.)	4	7.4%
Extremely adequate	16	29.6%
Moderately adequate	14	25.9%
Quite adequate	16	29.6%
Slightly adequate	4	7.4%
Not at all adequate		
Perceived appropriate length of placement for a Psychiatry resident on rotation with their team	12	22.2%
Four to six months	19	35.2%
Two to four months	14	25.9%
One to two months	9	16.7%
Other, please specify:		

*Multiple response question with reported relative frequency by choice

4) Medical education variables	N	%
Received formal training in medical education	23	39.7%
Yes	35	60.3%
No		
Highest level of medical education received, if applicable	2	8.7%
Bachelor's degree	3	13.0%
Certificate	2	8.7%
Graduate diploma	4	17.4%
Master's degree	12	52.2%
Other		
Potential benefits of having psychiatry residents train on participants' service*	0	0.0%
Potential benefits of having psychiatry residents train on participants' service*	20	33.3%
Increases the profile of the local service	30	50.0%
Contribution to on-call	33	55.0%
Creates opportunities for learning by members of the interdisciplinary team	34	56.7%
Contribution to quality improvement, research, or scholarly work	34	56.7%
Creates opportunities for learning by medical students	38	63.3%
Creates opportunities for teaching	39	65.0%
Enrichment of the interdisciplinary team	40	66.7%
Creates opportunities for learning by psychiatrists	43	71.7%
Contribution to regular patient care	43	71.7%
Could help in the long term with recruitment and retention issues locally		
6) Outcome measures		
Willingness to participate in clinical training and supervision of psychiatry residents	49	90.7%
Yes	5	9.3%
No		
Willingness to participate in the provision of lectures or skills-based teaching for psychiatry residents	44	81.5%
Yes	10	18.5%
No		
Willingness to start or continue participating in skills-based examinations of psychiatry residents	43	71.7%
Yes	11	18.3%
No		
Willingness to participate in training and supervision of Canadian-trained psychiatrists undertaking a one-year Dalhousie University accredited fellowship experience in area of expertise	44	83.0%
Yes	9	17.0%
No		
Willingness to participate in the training and supervision of internationally trained psychiatrists seeking to undertake the Dalhousie University accredited Fellowships	44	83.0%
Yes	9	17.0%
No		
*Multiple response question with reported relative frequency by choice		

7) Barriers: Fig. 2 demonstrates the barriers hindering participants or other psychiatrists in their zone from receiving trainees in their practice. The lack of protected time for teaching/training was a major barrier reported by study participants; this impacted survey participants from contributing to the training and supervision of psychiatry residents (39/60, 65.0%); as well as other psychiatrists in their zone from contributing to the training and supervision of psychiatry residents (34/60, 56.7%). This also impacted survey participants' (28/60, 46.7%) and their colleagues' (30/60, 50%) ability to receive Canadian-trained psychiatric fellows on their team. Finally, the lack of protected time also influenced participants (35/60, 58.3%) and their colleagues (38/60, 63.3%) from receiving internationally trained psychiatric fellows on their team

Association analysis

To examine the factors that could be related and potentially predict the study outcomes, association analyses of the selected variables were run against the five outcome variables of the study. Table 3 and Table 4 demonstrate the results of the association analyses of these variables against residents' related outcome variables and fellowship related outcome variables, respectively.

Association analysis related to residents' training outcome variables

Table 3 demonstrates that participants' ability to train in the RCPSC Competency by Design to facilitate involvement in psychiatry residency training variable was a significant factor associated with the three outcome variables; willingness to participate in the clinical training and supervision of psychiatry residents (Fisher Exact test: $p = .01$); the provision of lectures or skills-based teaching for psychiatry residents ($\chi^2 (1) = 8.67$; $p < .01$); and the skills-based examinations of psychiatry residents ($\chi^2 (1) = 11.83$; $p < .001$). It was found that the participants who were available to participate in formal RCPSC training to facilitate involvement in psychiatry residency training were more willing to participate in the clinical training and supervision of psychiatry residents (97.6%); the provision of lectures or skills-based teaching for psychiatry residents (90.2%); and the skills-based examinations of psychiatry residents (90.2%), when compared to participants who were not available to participate in this training, (69.2%), (53.8%), and (46.2%), respectively.

Additionally, the location of practice was significantly associated with the willingness to participate in the provision of lectures or skills-based teaching for psychiatry residents ($\chi^2 (1) = 6.50$; $p = .01$) and participating in the skills-based examinations of psychiatry residents ($\chi^2 (1) = 7.69$; $p < .01$). Participants who reported working in New Brunswick were more willing to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents (96%) and the skills-based examinations of psychiatry residents (96%), when compared to participants working in Nova Scotia (69%) and (65.5%), respectively.

Having an academic appointment with the Department of Psychiatry at Dalhousie University was significantly associated with the willingness to participate in the provision of lectures or skills-based teaching for psychiatry residents ($\chi^2 (1) = 6.35$; $p = .01$); and in skills-based examinations of psychiatry residents ($\chi^2 (1) = 4.93$; $p = .03$). It was found that the participants who had an academic appointment with the Department of Psychiatry at Dalhousie University were more willing to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents (89.7%); and in skills-based examinations of psychiatry residents (87.2%), compared to only (60%) among those who don't have an academic appointment with the Department of Psychiatry at Dalhousie University for each outcome.

Similarly, practicing psychotherapy was also significantly associated with the willingness to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents ($\chi^2 (1) = 4.31$; $p = .04$); and in skills-based examinations of psychiatry residents ($\chi^2 (1) = 5.16$; $p = .02$). Participants who are practicing psychotherapy were more willing to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents (95.2%); and in skills-based examinations of psychiatry residents (95.2%), compared to only (72.7%) and (69.7%) among those who don't practice psychotherapy, respectively.

Finally, being familiar with the RCPSC Competency by Design for residency training was significantly associated with the willingness to start or continue participating in skills-based examinations of psychiatry residents ($\chi^2 (1) = 6.64$; $p = .01$); i.e., participants who were familiar with the RCPSC training were more willing to start or continue participating in skills-based examinations of psychiatry residents (86.4%), compared to only (50%) of those who were unfamiliar with this training.

Table 3

Chi square association between the demographic and clinical variables and residents' training factors

Variables	Willingness to start or continue participating in clinical training and supervision of psychiatry residents			Willingness to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents			Willingness to start or continue participating in skills-based examinations of psychiatry residents		
	N (%)	Chi ² /Fisher Exact*	P value	N (%)	Chi ² /Fisher Exact*	P value	N (%)	Chi ² /Fisher Exact*	P value
Work-in province	25	*	.36	20	6.50	.01	19	7.69	<.01
Nova Scotia	(86.2)			(69.0)			(65.5)		
New Brunswick	24			24			24		
	(96.0)			(96.0)			(96.0)		
Work-in horizon Health Zone	8	*	.56	8	*	.10	8	*	.09
HZ1 NB: Moncton/SE area	(100.0)			(100.0)			(100.0)		
HZ2 NB: Fundy Shore and Saint John Area	10			10			10		
	(100.0)			(100.0)			(100.0)		
HZ3 NB: Fredericton and River Valley Area	6			6			6		
	(85.7)			(85.7)			(85.7)		
Eastern Zone NS	5			3			3		
	(100.0)			(60.0)			(60.0)		
Northern Zone NS	5			5			4		
	(83.3)			(83.3)			(66.7)		
Western Zone NS	15			12			12		
	(83.3)			(66.7)			(66.7)		
Type of medical graduates	31	*	.65	27	1.24	.27	26	1.75	.19
IMG	(88.6)			(77.1)			(74.3)		
CMG	18			17			17		
	(94.7)			(89.5)			(89.5)		
Type of completed specialist training	23	*	.66	20	0.69	.41	20	0.23	.63
International specialist training	(88.5)			(76.9)			(76.9)		
Canadian specialist training	26			24			23		
	(92.9)			(85.7)			(82.1)		
Having an academic appointment with the Department of Psychiatry at Dalhousie University	36	*	.61	35	6.35	.01	34	4.93	.03
Yes	(92.3)			(89.7)			(87.2)		
No	13			9			9		
	(86.7)			(60.0)			(60.0)		
Gender	16	*	.99	14	0.01	.91	14	0.11	0.74
Woman	(94.1)			(82.4)			(82.4)		
Man	33			30			29		
	(89.2)			(81.1)			(78.4)		
Primary specialization or scope of practice	30	*	.99	28	*	.60	28	*	.42
General adult Psychiatry	(88.2)			(82.4)			(82.4)		
Child and adolescent psychiatry	13			10			9		
	(92.9)			(71.4)			(64.3)		
Geriatric Psychiatry	3			3			3		
	(100.0)			(100.0)			(100.0)		
Other	3			3			3		
	(100.0)			(100.0)			(100.0)		
Practicing psychotherapy	21	*	.14	20	4.31	.04	20	5.16	.02
Yes	(100.0)			(95.2)			(95.2)		
No	28			24			23		
	(84.8)			(72.7)			(69.7)		

IMG: International Medical Graduate; CMG: Canadian Medical Graduate

Variables	Willingness to start or continue participating in clinical training and supervision of psychiatry residents			Willingness to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents			Willingness to start or continue participating in skills-based examinations of psychiatry residents		
	N (%)	Chi ² /Fisher Exact*	P value	N (%)	Chi ² /Fisher Exact*	P value	N (%)	Chi ² /Fisher Exact*	P value
Work-in province	25	*	.36	20	6.50	.01	19	7.69	< .01
Nova Scotia				(69.0)			(65.5)		
New Brunswick	24			24			24		
	(96.0)			(96.0)			(96.0)		
Primary mode of payment for the delivered psychiatric services	17	*	.44	16	*	.67	15	*	.81
	(94.4)			(88.9)			(83.3)		
Salary with benefits (e.g., pension)	7			6			7		
	(77.8)			(66.7)			(77.8)		
Fee for service									
Sessional fees	8			7			7		
	(100.0)			(87.5)			(87.5)		
Alternate Funding Plan	10			9			8		
	(83.3)			(75.0)			(66.7)		
Other	7			6			6		
	(100.0)			(85.7)			(85.7)		
Received any formal training in medical education	19	*	.99	16	0.64	.43	15	1.43	.23
	(90.5)			(76.2)			(71.4)		
Yes	30			28			28		
	(90.9)			(84.8)			(84.8)		
No									
Years of experience in clinical training or supervision of medical learners	26	*	.33	25	*	.57	23	*	.62
	(89.7)			(86.2)			(79.3)		
More than 10 years	9			7			7		
	(100.0)			(77.8)			(77.8)		
6–10 years									
3–5 years	8			7			7		
	(88.9)			(77.8)			(77.8)		
1–2 years	5			4			5		
	(100.0)			(80.0)			(100.0)		
0 years	1			1			1		
	(50.0)			(50.0)			(50.0)		
Familiarity with the RCPSC Competency by Design for residency training	40	*	.99	37	1.07	.30	38	6.64	.01
	(90.9)			(84.1)			(86.4)		
Yes	9			7			5		
	(90.0)			(70.0)			(50.0)		
No									
Availability to participate in formal training in the RCPSC Competency by Design to facilitate involvement in psychiatry residency training	40	*	.01	37	8.67	< .01	37	11.83	< .001
	(97.6)			(90.2)			(90.2)		
Yes	9			7			6		
	(69.2)			(53.8)			(46.2)		
No									

IMG: International Medical Graduate; CMG: Canadian Medical Graduate

Association analysis related to fellowship training outcome variables

In regard to the fellowship training outcome variables, Table 4 shows that study participants' availability to participate in formal RCPSC training was significantly associated with their willingness to participate in training and supervision of Canadian-trained psychiatrists undertaking a one-year Dalhousie University accredited fellowship experience in area of expertise ($\chi^2 (1) = 10.40; p < .01$) and their willingness to participate in the training and supervision of internationally trained psychiatrists seeking to undertake the Dalhousie University accredited Fellowships ($\chi^2 (1) = 10.40; p < .01$). It was found that the participants who were available to participate in formal training in the RCPSC Competency by Design to facilitate involvement in psychiatry residency training were more willing to participate in training and supervision of Canadian-trained and

internationally trained psychiatrists undertaking a one-year Dalhousie University accredited fellowship experience in area of expertise (92.5% each), when compared to participants who were not available to participate in this training (53.8% each).

Table 4
Chi square association between the demographic and clinical variables and fellowship training factors

Variables	Willingness to participate in training and supervision of Canadian-trained psychiatrists undertaking a one-year Dalhousie University accredited fellowship experience in area of expertise			Willingness to participate in the training and supervision of internationally trained psychiatrists seeking to undertake the Dalhousie University accredited Fellowships		
	N (%)	Chi ² value	P value	N (%)	Chi ² value	P value
Work-in province	22 (75.9)	*	.16	22 (75.9)	*	.16
Nova Scotia	22 (91.7)			22 (91.7)		
New Brunswick						
Work-in horizon Health Zone	6 (85.7)	*	.54	6 (85.7)	*	.74
HZ1 NB: Moncton/SE area	10 (100.0)			9 (90.0)		
HZ2 NB: Fundy Shore and Saint John Area	6 (85.7)			7 (100.0)		
HZ3 NB: Fredericton and River Valley Area	4 (80.0)			4 (80.0)		
Eastern Zone NS	4 (66.7)			5 (83.3)		
Northern Zone NS	14 (77.8)			13 (72.2)		
Western Zone NS						
Type of medical graduates	28 (82.4)	0.03	.86	29 (85.3)	0.35	.56
IMG	16 (84.2)			15 (78.9)		
CMG						
Type of completed specialist training	22 (88.0)	*	.47	23 (92.0)	*	.15
International specialist training	22 (78.6)			21 (75.0)		
Canadian specialist training						
Having an academic appointment with the Department of Psychiatry at Dalhousie University	31 (81.6)	0.20	.66	32 (84.2)	0.14	.71
Yes	13 (86.7)			12 (80.0)		
No						
Gender	14 (82.4)	0.01	.93	13 (76.5)	0.76	.38
Woman	30 (83.3)			31 (86.1)		
Man						
Primary specialization or scope of practice	25 (75.8)	*	.51	25 (75.8)	*	.13
General adult Psychiatry	13 (92.9)			14 (100.0)		
Child and adolescent psychiatry	3 (100.0)			2 (66.7)		
Geriatric Psychiatry	3 (100.0)			3 (100.0)		
Other						
Practicing psychotherapy	18 (90.0)	1.11	.29	18 (90.0)	1.11	.29
Yes	26 (78.8)			26 (78.8)		
No						

IMG: International Medical Graduate; CMG: Canadian Medical Graduate

Variables	Willingness to participate in training and supervision of Canadian-trained psychiatrists undertaking a one-year Dalhousie University accredited fellowship experience in area of expertise			Willingness to participate in the training and supervision of internationally trained psychiatrists seeking to undertake the Dalhousie University accredited Fellowships		
	N (%)	Chi ² value	P value	N (%)	Chi ² value	P value
Work-in province	22 (75.9)	*	.16	22 (75.9)	*	.16
Nova Scotia	22 (91.7)			22 (91.7)		
New Brunswick						
Primary mode of payment for the delivered psychiatric services	15 (88.2)	*	.63	15 (88.2)	*	.35
Salary with benefits (e.g., pension)	7 (77.8)			8 (88.9)		
Fee for service	6 (75.0)			5 (62.5)		
Sessional fees						
Alternate Funding Plan						
Other						
	9 (75.0)			9 (75.0)		
	7 (100.0)			7 (100.0)		
Received any formal training in medical education	15 (75.0)	1.47	.23	15 (75.0)	1.47	.23
Yes	29 (87.9)			29 (87.9)		
No						
Years of experience in clinical training or supervision of medical learners	22 (78.6)	*	.51	24 (85.7)	*	.62
More than 10 years	8 (88.9)			7 (77.8)		
6–10 years	8 (88.9)			8 (88.9)		
3–5 years	5 (100.0)			4 (80.0)		
1–2 years	1 (50.0)			1 (50.0)		
0 years						
Familiarity with the RCPSC Competency by Design for residency training	37 (86.0)	1.48	.22	36 (83.7)	0.08	.78
Yes	7 (70.0)			8 (80.0)		
No						
Availability to participate in formal training in the RCPSC Competency by Design to facilitate involvement in psychiatry residency training	37 (92.5)	10.40	<.01	37 (92.5)	10.40	<.01
Yes	7 (53.8)			7 (53.8)		
No						

IMG: International Medical Graduate; CMG: Canadian Medical Graduate

Multivariate binary logistic regression analyses

From Table 3 and Table 4, there were several variables that showed a nearing significance with the outcome variables ($0.05 < p < 0.2$), therefore, they were incorporated along with the variables that demonstrated statistical significance ($p \leq .05$) on the Chi-squared analyses into five logistic regression models (one model for each outcome measure).

The correlation analysis run prior to the regression analysis revealed that two variables (Work-in province and Work-in horizon Health Zone) showed a high inter-correlation ($r_s r \geq 0.7$), subsequently, the latter variable was removed from the corresponding logistic regression model whenever both variables were eligible candidates for regression analysis to avoid redundancy. Similarly, another pair of variables (Type of medical graduates and Type of completed specialist training) showed a high inter-correlation thus the first variable was removed from the corresponding logistic regression model whenever both variables were eligible candidates for regression analysis.

The five regression models produced the following results (detailed regression models are available as appendix in the supplementary material section):

1. The model predicting the *willingness to start or continue participating in clinical training and supervision of psychiatry residents* was statistically significant; χ^2 (df = 2; n = 54) = 11.63, $p < .01$, accounting for 19.4% (Cox and Snell R^2) to 42.1% (Nagelkerke R^2) of the variance; and correctly classified 90.7% of the cases.
2. The model predicting the *Willingness to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents* was statistically significant; χ^2 (df = 4; n = 54) = 16.73, $p < .01$, accounting for 26.6% (Cox and Snell R^2) to 43.2% (Nagelkerke R^2) of the variance; and correctly classified 81.5% of the cases.
3. The model predicting the *Willingness to start or continue participating in skills-based examinations of psychiatry residents* was statistically significant; χ^2 (df = 6; n = 54) = 29.29, $p < .001$, accounting for 41.9% (Cox and Snell R^2) to 65.8% (Nagelkerke R^2) of the variance; and correctly classified 88.9% of the cases.
4. The model predicting the *Willingness to participate in training and supervision of Canadian-trained psychiatrists undertaking a one-year Dalhousie University accredited fellowship experience in area of expertise* was statistically significant; χ^2 (df = 2; n = 53) = 10.39, $p < .01$, accounting for 17.8% (Cox and Snell R^2) to 29.8% (Nagelkerke R^2) of the variance; and correctly classified 81.1% of the cases.
5. The model predicting the *Willingness to participate in the training and supervision of internationally trained psychiatrists seeking to undertake the Dalhousie University accredited Fellowships* was statistically significant; χ^2 (df = 6; n = 53) = 29.20, $p < .001$, accounting for 42.4% (Cox and Snell R^2) to 70.8% (Nagelkerke R^2) of the variance; and correctly classified 90.6% of the cases.

Table 5 demonstrates the summary of the results of five logistic regression models used to predict the willingness of the respondents to start or continue participating in clinical training and supervision of psychiatry residents; to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents; to start or continue participating in skills-based examinations of psychiatry residents; to participate in training and supervision of Canadian-trained psychiatrists undertaking a one-year Dalhousie University accredited fellowship experience in area of expertise; and to participate in the training and supervision of internationally trained psychiatrists seeking to undertake the Dalhousie University accredited Fellowships.

After controlling other variables in the respective regression models (Appendix), only one variable (*Availability to participate in formal training in the RCPSC Competency by Design to facilitate involvement in psychiatry residency training*) was a significant predictor of four out of five outcome variables (Table 5).

The respondents who expressed their availability to participate in formal RCPSC training were nearly fifteen times (OR: 14.67; 95% CI: 1.37-156.89) more willing to start or continue participating in clinical training and supervision of psychiatry residents, compared to the respondents who reported non-availability to participate in this training, while controlling for other variables in the model.

Similarly, the respondents who expressed their availability to participate in this formal training were independently about six times (OR: 5.58; 95% CI: 1.03–30.19) more willing to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents; they were also seventeen times (OR: 16.96; 95% CI: 1.20-238.98) more willing to start or continue participating in skills-based examinations for psychiatry residents; and about ten times (OR: 9.53; 95% CI: 1.86-48.69) more willing to participate in training and supervision of Canadian-trained psychiatrists undertaking a one-year Dalhousie University accredited fellowship experience in area of expertise, when compared to the respondents who reported non-availability to participate in this training, while controlling for other variables in the respective models.

In regards to the willingness to participate in the training and supervision of internationally trained psychiatrists seeking to undertake the Dalhousie University accredited Fellowships, no significant factor was reported to predict this outcome in the related regression model.

Table 5

Significant predictor(s) from five multivariate logistic regression models for the respondents' likelihood to report willingness to participate in various initiatives for Psychiatry residents and fellows

Predictor(s)	Willingness to start or continue participating in clinical training and supervision of psychiatry residents			Willingness to start or continue participating in the provision of lectures or skills-based teaching for psychiatry residents			Willingness to start or continue participating in skills-based examinations of psychiatry residents			Willingness to participate in training and supervision of Canadian-trained psychiatrists undertaking a one-year Dalhousie University accredited fellowship experience in area of expertise			Willingness to participate in the training and supervision of internationally trained psychiatrists seeking to undertake the Dalhousie University accredited Fellowships		
	OR	95% CI	P value	OR	95% CI	P value	OR	95% CI	P value	OR	95% CI	P value	OR	95% CI	P value
Availability to participate in formal training in the RCPSC Competency by Design to facilitate involvement in psychiatry residency training	14.67	1.37-156.89	.03	5.58	1.03-30.19	.046	16.96	1.20-238.98	.04	9.53	1.86-48.69	<.01	-	-	-
C.I.: confidence interval															
P value: Significance at $p \leq .05$															

DISCUSSION

This study examined sociodemographic and practice-related characteristics of psychiatrists working at Dalhousie DME sites in, as well as their perspectives regarding enablers and barriers influencing its expansion. Comparisons with existing literature reveal both similarities and unique findings, shedding light on important considerations for future developments in medical education.

Regarding sociodemographic characteristics, the study revealed that the majority of participants were male, which aligns with the data from the Health Workforce Database showing a predominance of male psychiatrists in Canada [14]. However, it is worth noting that there is a larger difference in the gender distribution of psychiatrists between the studied sample and the rest of Canada. While the national proportion of male and female psychiatrists is approximately 53% and 47% respectively [14], this specific group exhibits a more pronounced gender imbalance, with 69% being male and only 31% female.

Location of practice information suggests that the current geographical distribution of psychiatrists in the region reflects an imbalance of psychiatrists between the two provinces. The average number of psychiatrists is 14.5/100,000 habitants in Nova Scotia and 6.6/100,000 in New Brunswick [15]. Although Nova Scotia has a slightly higher number of psychiatrists per capita when compared to the national average of 13.2/100,000 [15], these practitioners tend to cluster into larger cities, leaving rural areas underserved [16]. Limited availability of psychiatrists as mentors, supervisors, and educators hampers the opportunities for medical learners, including residents and students, to receive comprehensive and specialized training in these underserved areas. The lack of exposure to diverse clinical experiences and expert guidance may impede the development of future psychiatrists and their ability to meet the mental healthcare needs of the population [17]. Without a substantial influx of new psychiatrists to these locations, the current imbalance of psychiatrists between urban and rural areas across the Maritimes is expected to worsen in the future.

The substantial representation of international medical graduates (IMG) with Canadian specialist training highlights the contribution of international medical graduates to the psychiatric workforce. When it comes to all physicians, IMGs make up about one-quarter of Canada's doctors, and for some provinces, this ratio is considerably higher—46% in Saskatchewan and 38% in Newfoundland and Labrador [18]. In Nova Scotia and New Brunswick, this number accounts for approximately 30% and 22%. Back to the results of this study, it is evident that male psychiatrists have a higher likelihood of receiving their training outside Canada. This observation suggests a specific trend: Canadian-trained female psychiatrists are less inclined to work in rural areas, and the overseas-recruited psychiatrists predominantly consist of males. It is worth noting that at Dalhousie, our program accommodates more female residents than male ones.

Notably, a significant proportion of participants held academic appointments with the Department of Psychiatry at Dalhousie University, suggesting a strong academic presence among the study participants. This finding emphasizes the importance of academic affiliations for psychiatrists involved in medical education and research. The participants' interest in applying for promotions and the desire for academic appointments further demonstrate their dedication to academic pursuits.

In terms of practice-related variables, general adult psychiatry emerged as the primary specialization for most participants, consistent with the broader trend in psychiatry practice in Canada [19]. The practice of psychotherapy, particularly Cognitive Behavioral Therapy (CBT), was reported by a notable proportion of participants, highlighting the integration of evidence-based psychotherapy in psychiatric practice [20].

Regarding medical education and training, a significant proportion of participants reported not receiving formal training in medical education. However, many participants possessed knowledge or skills in curriculum delivery, indicating the importance of incorporating educational training for psychiatrists to effectively engage in medical education activities. The majority of participants demonstrated experience in clinical training and supervision of medical learners, highlighting their role in shaping the future generation of psychiatrists.

Enablers for participation in scholarly activities were predominantly observed among the participants, with a high willingness to engage in clinical training, supervision, and skills-based examinations for psychiatry residents. However, barriers were also identified, including the lack of protected time for teaching/training and inadequate financial incentives. These findings resonate with existing literature highlighting the challenges faced by physicians in balancing clinical practice with academic responsibilities [21–25].

Factors associated with the willingness to engage in scholarly activities

Interestingly, familiarity with the RCPSC training was significantly associated on Chi Square analysis with participants' willingness to engage in specific scholarly activities. This finding underscores the potential correlation between the interest and involvement in education and the desire to know more about Competency-Based Medical Education.

The association between participants' selected characteristics and their willingness to engage in scholarly activities further supports the importance of factors such as availability for formal training, academic appointments, and practice of psychotherapy. These factors emerged as significant predictors of participants' willingness to participate in specific scholarly activities, suggesting the need to address these variables when designing strategies to enhance engagement in medical education. The association between availability for this training and the willingness to participate in clinical training, supervision, and skills-based teaching for psychiatry residents underscores the importance of incorporating structured training programs to enhance engagement in medical education.

The province in which the psychiatrists' practice was another significant factor influencing psychiatrists' willingness to participate in the provision of lectures or skills-based teaching for psychiatry residents and skills-based examinations. Participants working in New Brunswick were more willing to engage in these activities compared to their counterparts in Nova Scotia. This finding suggests potential regional variations in the motivation and opportunities for psychiatrists to contribute to medical education. This finding supports the local needs of expanding the number of psychiatrists in New Brunswick region.

Having an academic appointment with the Department of Psychiatry at Dalhousie University was also significantly associated with the willingness to participate in the provision of lectures or skills-based teaching for psychiatry residents. This finding once more shed light on the association between academic affiliations on physicians' involvement in medical education. Psychiatrists with academic appointments often have access to resources, mentorship, and a supportive academic environment, which may foster their enthusiasm for teaching and supervision activities.

The practice of psychotherapy also emerged as a significant factor associated with psychiatrists' willingness to engage in the provision of lectures or skills-based teaching for psychiatry residents. This finding suggests that psychiatrists involved in psychotherapy practice may perceive teaching and mentoring as complementary activities that enhance their clinical expertise and professional growth. Psychiatrists specializing in psychotherapy often develop strong interpersonal and communication skills, which are highly transferable to teaching and mentoring roles. These skills include active listening, empathy, and creating a supportive and collaborative therapeutic environment. In this context, the willingness of these psychiatrists to engage in teaching and mentoring activities might be attributed to their specific skills.

Furthermore, psychiatrists who expressed they were available to participate in formal training in the RCPSC training were more willing to engage in the training and supervision of psychiatrists undertaking fellowships, both Canadian-trained and internationally trained. This finding underscores the potential cascading effect of participation in structured training programs, where psychiatrists who themselves receive specialized training are more motivated to contribute to the training and supervision of other psychiatrists. When controlling for all other variables in the regression models, availability to participate in formal training in the RCPSC training emerged as the only predictor of the psychiatrists willingness to engage in each of the scholarly activities of interest, except participation in the training and supervision of internationally trained psychiatrists seeking to undertake the Dalhousie University accredited Fellowships. This finding is significant as it provides a simple and yet most reliable way for identification of psychiatrists at DME sites to support scholarly work, including of training and supervision of medical students, residents and Canadian trained psychiatrists undertaking accredited Fellowships.

Implications for DME policy and practice

Based on the psychiatrists' perspectives on the expansion of DME within the Atlantic Canada context the following implications for DME policy and practice can be established:

1. **Bridge the Gap in Rural Zones:** Rural psychiatry shortages have an impact on medical education and community health. Attracting and retaining psychiatrists in underserved communities can improve mental health treatment and medical education. Examples include recruitment, incentives, and professional assistance. Rural residency roles and educational opportunities will help to develop a strong and long-lasting psychiatric workforce. Telemedicine and technology can also aid in the delivery of mental health care in remote locations.
2. **Allocate protected time for teaching/training:** Efforts should be made to provide psychiatrists with dedicated time for teaching and training activities. This can involve creating structured schedules or designated blocks of time specifically dedicated to educational responsibilities. By ensuring protected time, psychiatrists will be better equipped to contribute to the training and supervision of psychiatry residents and accommodate Canadian-trained and internationally trained psychiatric fellows on their teams.
3. **Address workload and resource constraints:** Efforts should be made to address workload and resource constraints that hinder psychiatrists and other professionals from participating in training initiatives. This can involve optimizing staffing levels, ensuring appropriate staffing ratios, and providing adequate resources and infrastructure to support teaching and supervision activities. By addressing these barriers, psychiatrists will have the necessary resources and support to actively contribute to the training and supervision of psychiatry residents and fellows.
4. **Promote Academic Affiliations and Competency-Based Training:** The study highlights the importance of academic affiliations and competency-based training frameworks in promoting psychiatrists' active involvement in medical education and scholarly activities. Building strong collaborations between academic institutions, medical schools, and psychiatric departments can enhance opportunities for psychiatrists to engage in teaching, supervision, and examination of psychiatry residents. Continual efforts should be made to align residency programs and training curricula with the RCPSC Competency by Design framework, ensuring that educational practices reflect the evolving needs of the field.
5. **Enhance the Quality of Psychiatric Training:** The findings emphasize the significance of factors such as psychotherapy practice and structured training programs in influencing psychiatrists' willingness to engage in teaching, supervision, and examination of psychiatry residents. Medical education initiatives should consider incorporating these factors into curriculum development and training opportunities. By providing comprehensive support and resources, medical educators can enhance the quality of psychiatric training programs and foster a culture of continuous professional development.
6. **Foster collaboration and knowledge sharing:** Encouraging collaboration and knowledge sharing among psychiatrists within the same zone can help overcome barriers related to the participation of trainees in their practice. Establishing platforms for regular communication, peer support, and sharing of best practices can create a supportive environment where psychiatrists can learn from each other's experiences and address common challenges together.

By addressing the reported barriers and implementing these recommendations, it is anticipated that the participation of psychiatrists in training and supervision activities will be enhanced, allowing for a more robust and effective DME system in psychiatry.

Strengths and Limitations

The study has several strengths that contribute to the consistency of its findings. Firstly, it adopts a comprehensive approach by employing a rigorous data collection process and ensuring the questionnaire's relevance and validity through development and revision by members of the Nova Scotia and New Brunswick Psychiatry Academic Council. Additionally, conducting data collection during psychiatrists' meetings provides an organized and conducive environment for survey completion, further enhancing the reliability of the data. The study's sample is also a strength, as it includes psychiatrists from seven administrative health zones in Nova Scotia and New Brunswick, representing a diverse range of rural and urban settings.

However, it is important to acknowledge certain limitations of the study. The reliance on voluntary participation introduces the possibility of selection bias. Psychiatrists with a stronger interest in medical education or more pronounced opinions on the topic may have been more likely to participate, potentially leading to the overrepresentation or underrepresentation of certain perspectives. Additionally, the study relies on self-reported data, which can be susceptible to biases such as social desirability bias or recall bias [25]. Participants' responses may not always accurately reflect their actual behaviors or opinions. While the study includes a diverse sample of psychiatrists from different settings, the findings may not be fully generalizable to all psychiatrists in the Maritimes Provinces or other regions, as regional variations in healthcare systems and educational resources can influence the willingness to engage in scholarly activities differently in different contexts. Lastly, although the study controls for various variables in the regression analyses, there may still be unmeasured factors that could confound the relationships between the predictors and outcome variables, potentially influencing the observed associations.

CONCLUSIONS

In conclusion, the study's findings provide valuable insights into the profile of psychiatrists in the Maritimes Provinces and their perspectives on DME. The implications and recommendations discussed above offer actionable steps to improve medical education in rural zones, and optimize psychiatrists' engagement in scholarly activities. By implementing these recommendations, the Maritimes Provinces can work towards building a comprehensive and equitable mental health system that meets the needs of the population and supports the growth of a skilled and diverse psychiatric workforce.

List Of Abbreviations

DME - Distributed Medical Education

NS - Nova Scotia

NB - New Brunswick

CME - Continued Medical Education

RCPCSC - Royal College of Physicians and Surgeons of Canada

IMG - International Medical Graduates

CMG - Canadian Medical Graduates

CBT - Cognitive Behavioural Therapy

Declarations

Ethics approval and consent to participate: This study has been developed and executed in accordance with the Declaration of Helsinki for research involving human participants, and received an exemption from the Dalhousie University Research Ethics Board in accordance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans article 2.5. Survey respondents were informed that survey completion was voluntary and anonymous, and that data collected would be used for research purposes. Consent was obtained upon survey completion and submission.

Consent for publication: Not applicable

Availability of data and materials: The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interests

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Figures

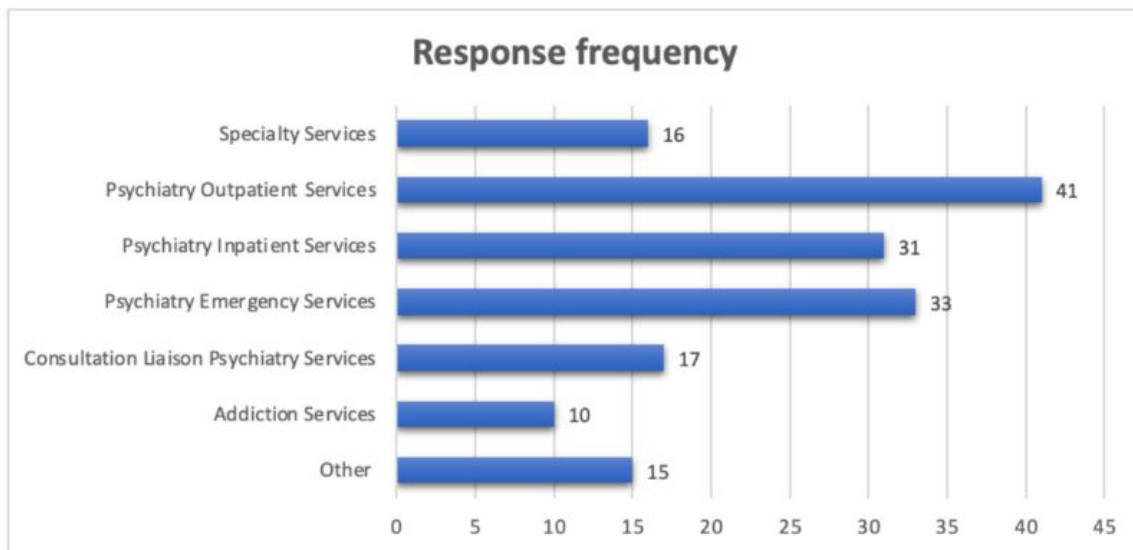


Figure 1
Mental health services where study participants work

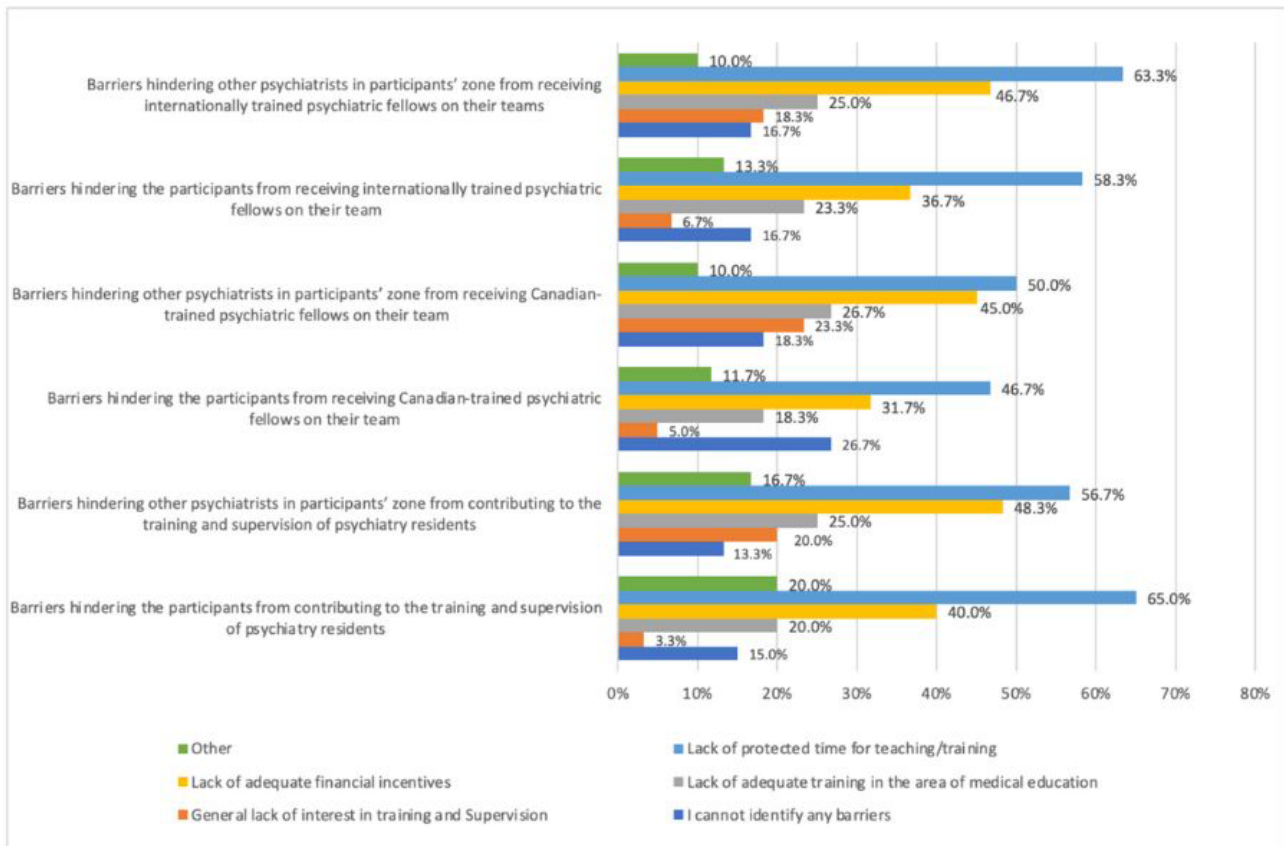


Figure 2
Barriers hindering the participants or other psychiatrists in their zone from receiving trainees in their practice

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