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Family Medicine

BRIEF REPORT

Value-Based Care Education in Family Medicine Residency Programs: A CERA Study of Program Directors

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ABSTRACT

Background and Objectives: Primary care is shifting to value-based care (VBC) payment models, which measure and prioritize quality outcomes and cost efficiency. These models include functions such as interdisciplinary teamwork, proactive panel management, and measurement of total cost of care, with the specific aim of improving quality and reducing health care costs. Graduating residents will require training in the key principles of VBC to succeed in many primary care settings. This research study explored current training practices in VBC within family medicine residency programs.

Methods: A Council of Academic Family Medicine Educational Research Alliance study of family medicine program directors assessed the current state of VBC education. The survey questions assessed whether programs had a formal VBC curriculum, what elements of VBC are taught and how, and the present barriers and facilitators to VBC education.

Results: The overall response rate for the survey was 45.39% (320/705). Most respondents (92.2%) agreed that teaching VBC within their residency curriculum was important, but only 26.9% of programs have established a formal VBC curriculum. The most frequently taught element is the "evaluation and management of quality outcomes" (80.9%), and VBC is mostly taught through didactics (79.7%). The most frequently reported barrier to teaching VBC was the lack of time within the curriculum and/or competing priorities (37.5%).

Conclusions: Residency programs in primary care specialties would benefit from a formal VBC curriculum appropriate for graduate medical education. This curriculum should include assessment tools for residents that include objective measures for VBC skills and training.

INTRODUCTION

Value-based care (VBC) is a type of health care model that measures and incentivizes quality outcomes and cost efficiency rather than volume of services. VBC integrates interdisciplinary teamwork, proactive panel management, and cost measurement to improve quality and reduce overall health care costs.[1–4] The Centers for Medicare and Medicaid Services aims for 100% of traditional Medicare and the majority of Medicaid beneficiaries to be part of accountable care relationships for quality and total cost of care by 2030.[5] Many residents ultimately will practice in VBC settings, making training on its principles essential. However, literature on how VBC is taught in primary care residency programs is limited.[6–8] This study explores the current state of VBC education in family medicine residency curricula.

METHODS

The research team, consisting of experts in graduate medical education and VBC, developed a six-item, cross-sectional survey to assess VBC education in family medicine residency programs. The survey asked program directors to assess the presence and content of VBC curricula, teaching methods, and barriers and facilitators to VBC education. This survey was part of the 2024 Council of Academic Family Medicine Educational Research Alliance (CERA) national survey.[9] Invitations were sent to all Accreditation Council for Graduate Medical Education-accredited US family medicine residency program directors. The CERA steering committee evaluated questions for consistency with the overall subproject aim, readability, and existing evidence of reliability and validity. Pretesting was done on family medicine educators who were not part

of the target population. Questions were modified following pretesting for flow, timing, and readability. A total of 767 programs existed at the time of the survey; after removal of invalid responses, the sample size was reduced to 705. Upon review of the 382 responses received, we found a total of 320 respondents who completed the entire survey. We analyzed the data with SPSS (IBM) using descriptive statistics and association tests, including univariate c^2 tests and Spearman's ρ. The American Academy of Family Physicians Institutional Review Board approved this project in April 2024, with data collected from April 30 to June 7, 2024.

RESULTS

The overall response rate was 45.39% (320/705). Program characteristics and director demographics are described in Table 1. Of the respondents, 92.2% agreed on the importance of teaching VBC, and 26.9% of programs had a formal VBC curriculum. However, 95% of programs taught some VBC elements, with the most commonly taught topics being "evaluation and management of quality outcomes" (80.9%) and "working effectively with interdisciplinary teams" (80.0%; Table 2). Other topics, such as managing patient care costs (40%) and VBC's intersection with health equity (24%), were less commonly taught. VBC elements were predominantly taught through didactics (79.7%) and administrative experiences, such as participation in care management meetings (55.9%; Table 3). The most common barriers to VBC education included lack of time and competing priorities (37.5%) and insufficient content expertise (29.7%). A positive institutional climate and the presence of faculty experts were seen as facilitators for including VBC topics in the curriculum.

DISCUSSION AND CONCLUSIONS

This study highlights a significant gap between the perceived importance of VBC education and its actual implementation. While most program directors acknowledged the importance of VBC education, fewer than 30% had a formal curriculum in place. Despite the lack of a formal curriculum, many programs incorporated at least some VBC elements. However, comprehensive VBC education is not yet widespread, suggesting that family medicine residency programs have not fully adapted to the evolving health care landscape.

The shift to value-based care models requires an expert workforce trained in VBC principles. While the *National Family Medicine Residency Graduate Report* asks graduates about their current clinical practice and to rate satisfaction with aspects of their training,[10] no existing data are available on how well family medicine graduates are prepared for VBC settings, nor how many practice in such environments. Beyond panel management and interdisciplinary collaboration, primary care residency curricula should include core VBC elements like managing hospitalization and emergency department costs, addressing health-related social needs, and integrating behavioral health. While didactic teaching is common, fewer programs incorporate clinical practice or administrative experiences, which are essential for residents to apply VBC concepts in real-world settings. Academic and community-based programs that lack value-based care environments could consider partnerships with VBC organizations to provide relevant training.

The primary barrier to VBC training is time and competing curricular priorities. To address this barrier, the development of a standardized VBC curriculum could help residency programs integrate and assess VBC education more effectively. For example, Holtzman et al[11] created a value-based health care elective for undergraduate medical students to introduce VBC concepts, including patient-centered outcomes, cost assessments, reimbursement models, and teamwork. In graduate medical education, the Association of American Medical Colleges' *Teaching Residents Population Health Management* report[12] offers 10 key components for a successful population health system, such as data infrastructure, social determinants of health, team-based care, and care management strategies. Incorporating these elements into residency curricula could better prepare residents for value-based care settings.

The survey sample appeared representative of the regional program demographics we could access, despite limited data on all programs and directors. However, given these limitations, we were unable to conclude that this survey sample was representative of all programs. The experiences of program directors from other primary care specialties, other faculty and staff, and residents themselves were not directly represented. The survey gathered perceptions of VBC education but did not assess specific VBC skills or evaluate educational outcomes. Additionally, in our survey question, "How are VBC topics being taught?" (Appendix), one potential response combination was omitted, and the recoding of our data may have introduced a source of methodological bias.

This study underscores the need for more comprehensive integration of VBC education into family medicine residency programs. The gap between the importance of VBC and its implementation in curricula calls for standardized training materials and clinical opportunities. To ensure that graduates are equipped for value-based care settings, future efforts should include the development of curriculum guidelines, assessment tools, and postgraduate surveys to measure the effectiveness of VBC training. Ongoing evaluation will help tailor curricula to meet the evolving demands of health care delivery.

Conflict Disclosure

Ashley Chou and Deborah Edberg are employed by CVS Health Corporation and may own stock and/or equity but have no conflicts germane to this study. Jefferson and CVS are not affiliated, and CVS did not pay Jefferson for this work.

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TABLE 1. Demographic Characteristics of Family Medicine Programs and Program Directors

Program type	% surveyed	% total
University-based	14.7	
Community-based, university-affiliated	58.8	
Community-based, nonaffiliated	24.1	
Military	1.3	
Residency program region*		
New England (NH, MA, ME, VT, RI, or CT)	3.4	2.5
Middle Atlantic (NY, PA, or NJ)	15.6	15.2
South Atlantic (PR, FL, GA, SC, NC, VA, DC, WV, DE, or MD)	15.3	17.2
East South Central (KY, TN, MS, or AL)	3.8	5.4
East North Central (WI, MI, OH, IN, or IL)	18.4	19.7
West South Central (OK, AR, LA, or TX)	11.6	10.4
West North Central (ND, MN, SD, IA, NE, KS, or MO)	8.8	6.7
Mountain (MT, ID, WY, NV, UT, AZ, CO, or NM)	8.1	7.6
Pacific (WA, OR, CA, AK, or HI)	15.0	15.2
Community size		
Less than 30,000	12.9	
30,000 to 74,999	18.5	
75,000 to 149,999	20.1	
150,000 to 499,999	22.9	
500,000 to 1 million	10.3	
More than 1 million	15.4	
Total number of residents in program		
<19	37.9	
19–31	46.4	
>31	15.7	
Program director medical degree		
MD	79.1	
DO	20.9	
Program director gender identity**		
Female/woman	55.7	46.3
Male/man	43.4	43.5
Genderqueer/gender nonconforming	0	
Nonbinary	0	
Choose not to disclose	0.9	2.0
Program director underrepresented in medicine,***		
No	86.5	77.2
Yes	13.5	15.3

*Total program demographics based on public Accreditation Council for Graduate Medical Education data
**Total program director demographics based on 614 Association of Family Medicine Residency Directors membership data
***Underrepresented in medicine means those racial and ethnic populations that are underrepresented in the medical profession relative to their numbers in the general population (Black/African American, Hispanic/Latino/of Spanish Origin, American Indian/Alaska Native/Indigenous, Native Hawaiian/other Pacific Islander, and certain Asian ethnicities).

TABLE 2. **Value-Based Care Elements Included in Family Medicine Residency Programs**

VBC elements	n	%
Evaluation and management of quality outcomes (eg, percentage of patient panel with completed preventative care measures)	259	80.9
Working effectively with interdisciplinary teams (ie, nurse managers, care coordinators, social workers, pharmacists)	256	80.0
Accurate diagnostic coding to support risk-based payments (eg, hierarchical condition categories)	203	63.4
Evaluation and management of patient care cost/utilization (eg, emergency department/hospital utilization)	128	40.0
How VBC intersects with health equity	77	24.1

Abbreviation: VBC, value-based care

TABLE 3. **How Value-Based Care Elements Are Being Taught in Family Medicine Residency Programs**

Teaching method	n	%
Didactics	255	79.7
Administrative (ie, participation in care management meetings)	211	65.9
Clinical practice (required)	194	60.6
Clinical practice (elective)	154	48.1