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Online geriatric education for health professions students

INTRODUCTION

The specialty of geriatric medicine emphasizes interdisciplinary care to achieve patient-centered goals. Learners in geriatrics often participate in teams alongside other health professionals and health professions (HP) students.[1] With the aging population, there is a demand for all members of the healthcare workforce to be educated in geriatric principles of care.[2] There are published competencies for medical students, internal medicine (IM) and family medicine (FM) residents, and nurse practitioners (NP) and physician assistant (PA) students.[3–5]

Aquifer Geriatrics (AG), the national curriculum of the American Geriatrics Society[6] was originally designed for allopathic (MD) students; however, the cases were modified to be learner agnostic. AG consists of 27 competency-based, peer-reviewed, online case-based modules with embedded engagement questions and more recently, self-assessment questions in each case. AG allows for self-directed learning, complements learning from clinical experience, and fills the void created by the paucity of geriatrics educators in disseminating the 5Ms of geriatrics (Mind, Mobility, Medications, Multicomplexity, and Matters Most).[7] The curriculum addresses broad-ranging objectives including cognitive and behavioral skill development relevant to learners in all HP caring for older adults.

The AG cases have recently had substantial growth in use by non-MD students[8] especially by Doctor of Osteopathy (DO) students, IM and FM residents, Geriatrics Fellows, and NP and PA students. This letter describes the extent and pattern of use of AG cases and the level of satisfaction stratified by discipline, to inform the growth of AG to be inclusive of the various HP students' professional competencies.

METHODS

Case completion, HP discipline obtained during program enrollment, and user satisfaction data for 26 AG cases from November 19, 2018 to June 30, 2021 was obtained from the Aquifer database. Case 27-Advance Care Planning, published in August 2020, was not included in the analysis. Of the three end-of-case questions ("This case was a valuable use of my time," "I will apply what I learned to patient care," and "I would recommend this case to another student") required of every AG case completion, we used the rating for the question, "I would recommend this case to another student," on a 1–5 Likert scale as a marker of learner satisfaction and as a proxy for perceived value of learning. We dichotomized the response by combining ratings of "4″ and "5″ to designate high level of satisfaction. The top five cases completed by each discipline were identified, along with the percentage of students completing each case. The University of Chicago IRB approved this project.

RESULTS

Twenty-nine thousand eight hundred ninety-one students completed online AG cases during the study period. MD students (51.7%) were the highest utilizers of AG cases, followed by PA (23%), DO (18.6%), and NP (6.7%) learners.

As shown in Table 1, the dementia case was among the top five completed cases across all HP groups. The depression case was among the top five for DO, NP and PA students, but not for MD students. Delirium was noted in the top five among MD, DO and PA groups, but not for NP students. The anticoagulants case was highly utilized by NP and PA students. The DO group (59%) had the highest proportion of students completing the top case compared to MD (44%), NP (39%), and PA (37%) groups.

TABLE 1 Aquifer case usage (November 19, 2018–June 30, 2021)

		MD	PA	DO	NP
Number of unique students (n, %)	29,891 (100)	15,458 (51.7)	6859 (23.0)	5571 (18.6)	2003 (6.7)
Top five completed cases by discipline (% of all learners in that discipline)	1	Dementia (44.3)	Depression (36.6)	Delirium (59.1)	Anticoagulants (38.7)
	2	Prognosis and screening (34.3)	Anticoagulants (34.1)	Depression (57.9)	Urinary incontinence (36.8)
	3	Functional status/ home safety (31.5)	Dementia (33.9)	Dementia (48.8)	Depression (30.8)
	4	Falls (31.1)	Elder abuse (32.2)	Urinary tract infection (34.8)	Dementia (27.8)
	5	Delirium (30.1)	Delirium (31.7)	Agitation (34.2)	Benign prostatic hyperplasia/ urinary concerns (27.5)

Abbreviations: DO, Doctor of Osteopathy; MD, Medical Doctor; NP, nurse practitioners; PA, physician assistant.

The cases with the highest level of satisfaction (rated highly by ≥85%) were anticoagulants, dementia, depression, elder abuse, abdominal pain, and nursing home acquired pneumonia. Only the osteopathic evaluation of neck pain case received lower satisfaction rating relative to others (rated highly by 65%). When stratified by HP, 82% (MD), 73% (DO), 95% (NP), and 88% (PA) students rated cases highly.

DISCUSSION

This analysis found that AG cases, which were designed to fulfill medical student competencies, were not only highly utilized by all HP students, but also associated with high levels of satisfaction across disciplines. HP students often would recommend the content in the AG cases to others, indicating they found it relevant and meaningful. The topics most often completed by learners varied somewhat, likely reflecting how their faculty assigned cases.

Virtual learning has been demonstrated as an effective way to teach geriatrics.[6,8,9] The COVID-19 pandemic hastened the adoption of virtual learning by HP programs with durable effects, as even after the return to in-person rotations, case utilization is greater than fourfold higher compared to pre-pandemic levels.[8] Given similarities in geriatric competencies, AG has the ability to serve as an integrated virtual platform to meet educational goals of all HP students.

Limitations include the lack of information about how AG cases were integrated into the curriculum and assigned by course directors in individual institutions and disciplines, which could impact overall usage and satisfaction.

In summary, whether MD, DO, NP, or PA students, learners were highly satisfied with AG cases. Developing online learning that is highly utilized and well regarded by all geriatric practitioners is a primary goal of academic geriatrics. This work suggests that the AG cases could be used and evaluated as a common curriculum for HP students.

AUTHOR CONTRIBUTIONS

All authors contributed to study concept and design, acquisition of subjects and data, analysis and interpretation of data, and preparation of manuscript.

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CONFLICT OF INTEREST

The authors have no interests to declare.

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