Exploring the Educational Value of Clinical Vignettes from the Society of General Internal Medicine National Meeting in the Internal Medicine Clerkship:

A Pilot Study

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INTRODUCTION: Whether the clinical vignettes presented at the Society of General Internal Medicine (SGIM) annual meeting could be of educational value to third year students in the Internal Medicine clerkship has not been studied.

OBJECTIVE: To explore the relevance and learning value of clinical vignettes from the SGIM national meeting in the Internal Medicine clerkship.

SETTING: Third year Ambulatory Internal Medicine clerkship at one academic medical center (academic year 2005 to 2006).

METHODS: Students were introduced to the clinical vignette and oriented to the database of clinical vignettes available through the SGIM annual meeting website. Students then reviewed 5 to 10 clinical vignettes using a worksheet, and rated the learning value of each vignette using a 5-point Likert scale (1=least, 5=greatest). A single investigator evaluated congruence of the vignette with the Clerkship Directors of Internal Medicine (CDIM)-SGIM curriculum to assess relevance.

MAIN RESULTS: A total of 42 students evaluated 371 clinical vignettes from the 2004 and 2005 meetings. The clinical vignettes were curriculum-congruent in 42.6% ($n=175$), and clearly incongruent in 40.4% ($n=164$). The mean rating for learning value was $3.8 (\pm 1.0)$ (5 signifying greatest learning value). Curriculum-congruent vignettes had a higher mean learning value compared with curriculum-incongruent vignettes (4.0 vs 3.6, Student's t -test, $P=.017$).

CONCLUSION: The clinical vignettes presented at the national SGIM meeting offer clinical content that is relevant and of some educational value for third year clerkship students. Based on this pilot study, the educational value and strategies for their use in the clinical clerkships deserve further study.

KEY WORDS: medical education; medical student education; curriculum.

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Many physician organizations encourage the presentation of clinical vignettes as a mechanism for encouraging junior clinicians to attend and contribute to the national meeting.^{1,2} Despite much work put into developing the clinical vignette, sharing of the clinical vignette usually ends with the presentation at the meeting.^{3,4} We explored whether clinical vignettes presented at a national meeting of the Society of General Internal Medicine (SGIM) had relevance and learning value for third year medical students in an Internal Medicine clerkship. Based on our experience in this pilot study, we

suggest learning activities that showcase the value of this resource in medical education.

METHODS

SGIM Clinical Vignettes

Clinical vignettes have been presented at the SGIM national meeting since the year 2000 and have been available online through the SGIM website since the 2003 national meeting. Criteria for acceptance of the clinical vignette for the national meeting include clarity and creativity of the presentation, significance of the learning objectives, and relevance to clinical practice.¹

Clerkship Setting

The Ambulatory Internal Medicine Clerkship at Wake Forest University School of Medicine (WFUSM) is a 4 week required rotation for third year medical students. Seven to 10 students are on the rotation at any one time. For each rotation during April 2005 to March 2006, at 1 of the clerkship conferences, the clerkship director (J.L.W.) oriented the students to the database of clinical vignettes available at the meeting website.

Students were then given a worksheet for reviewing vignettes (On-line Appendix 1), and 10 vignettes were assigned to each student. Vignettes were assigned consecutively by their numerical order on the SGIM/COS (Community of Science) website. Information collected by the students on their own time and written on the worksheet included (a) the stated learning objectives of the clinical vignette, (b) clinical setting where the patient initially presented (outpatient setting, emergency department, hospital), (c) presenting symptoms, (d) final diagnosis, and (e) how the final diagnosis was made. Vignettes were not discussed in small groups. Students from a total of 8 rotations were thus surveyed. Students from the last 4 of the 8 rotations were asked to use a 5-point Likert scale (1=least, 5=greatest) to rate the learning value of the clinical vignette for third year medical students (no a priori definition was given).

Assessment of Relevance of Clinical Vignettes

The CDIM (Clerkship Directors of Internal Medicine)-SGIM curriculum, first published in 2001, offers a set of 20 training problems meant to represent core content areas for the Internal Medicine clerkship⁵ (On-line Appendix 2). This national curriculum has served clerkship directors as a guide for Internal Medicine clerkships throughout the country.^{6,7} A single investigator (J.L.W.) evaluated congruence of the vignette with the CDIM-SGIM curriculum to assess relevance. This

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Table 1. Characteristics of Clinical Vignettes from the 2004 and 2005 National Meetings of the Society of General Internal Medicine (n=371)

Characteristic	n (%)
Clinical setting	
Not discernible	130 (35.0)
Hospital	88 (25.7)
Emergency department	72 (19.4)
Outpatient setting	66 (17.7)
Case classification*	
Infectious disease	68 (19.0)
Neurology	27 (10.5)
Cardiology	29 (8.1)
Adverse drug event	28 (7.8)
Endocrinology	28 (7.8)
Rheumatology	26 (7.2)
Gastroenterology	24 (6.7)
Vascular	24 (6.7)
Other	24 (6.7)
Respiratory	17 (4.8)
Congruence with SGIM-CDIM curriculum	
Yes	175 (42.6)
No	164 (40.4)
Not classifiable	32 (8.6)
Learning value†	
1	1 (0.1)
2	16 (10.0)
3	36 (23.7)
4	62 (40.8)
5	37 (24.3)

*The denominator varies by analysis because of missing data.

*The percentages do not total 100% because vignettes could have been placed into multiple categories.

†Only a subset of students were asked to rate the learning value of the vignette. The perceived learning value using a 5-point Likert scale (1, least, 5, most learning value). The median value was 4 and interquartile range = 2.0. Values represent ratings by 16 students on 159 vignettes. SGIM, Society of General Internal Medicine; CDIM, Clerkship Directors of Internal Medicine.

investigator used the student worksheets to compare the presenting symptoms, learning objectives, and final diagnosis with the established training problems of the curriculum. Clinical vignettes were judged as either congruent with the curriculum, not congruent, or unable to tell from the student summary.

On the basis of the student worksheet, one investigator (J.L.W.) classified the vignette into 1 of 7 categories of disease (Table 1). These categories were chosen based on the established subspecialties of Internal Medicine, and each vignette could be assigned up to 2 categories. The learning value of the vignettes were analyzed and presented as mean ($\pm$ 1 SD) and as ordinal data. Associations between perceived value of the clinical vignette, and presenting setting, disease category and curriculum congruence were determined using the Student's *t*-test and ANOVA for comparing means.

All analyses were conducted using JMP-SAS (version 5.10a, SAS Institute Inc., Cary, NC).

RESULTS

During their Ambulatory Internal Medicine clerkship (academic year 2005 to 2006), a total of 42 students reviewed 371 clinical vignettes (170 from the 2004 meeting and 201 from the 2005 meeting). Missing data and differing student assignments affected the denominator for subsequent analyses. Based on the student worksheets, the hospital setting,

the emergency department, and the outpatient setting were all well represented (Table 1). The most frequent disease categories were Infectious Disease and Neurology (Table 1). With complete data available for 357 vignettes, 43% (175/357) of clinical vignettes were classified as congruent with the CDIM-SGIM curriculum, while 40% (164/357) of vignettes were classified as not congruent with the curriculum. Thirty-two clinical vignettes could not be classified as clearly congruent or incongruent with the curriculum.

For the 17 students who rated the learning value of each abstract (*n*=159 ratings), the mean rating was 3.8 ($\pm$ 1.0) on the 5-point Likert scale (median=4, interquartile range=2.0). The mean rating for each student ranged from 3.1 to 5.0. Approximately 10% of vignettes had low learning value (1 or 2 on the 5-point Likert scale) (Table 1). Clinical vignettes that were judged as congruent with the CDIM-SGIM curriculum had a higher mean learning value on the 5-point Likert scale compared with those that were not congruent (4.0 vs 3.6, Student's *t*-test, *P*=.017). There was no statistically significant association between the presenting clinical setting and the perceived learning value (data not shown).

DISCUSSION

The popularity of clinical vignettes at the SGIM National meeting is a result, in part, of their perceived educational value to attendees and presenters. The decision by JGIM editors to highlight the educational value of clinical vignettes by publishing vignettes in greater depth further validates this idea.⁴ However, whether the vignettes from the national meeting could be relevant or of educational value to third year students in an Internal Medicine clerkship was the focus of our pilot study.

In exploring whether these clinical vignettes were appropriate for educating third year medical students, we considered whether the clinical vignettes were (1) congruent with the CDIM-SGIM clerkship curriculum, and (2) perceived as having learning value by third year students. Our findings suggest the vignettes are indeed appropriate for clerkship education. Nearly half of clinical vignettes were congruent with the existing curriculum, and incongruent vignettes had almost as much learning value as those that were congruent. However, a small proportion of vignettes were judged to have low learning value by the students.

The limitations of our analysis deserve mention. First, our findings come from a single institution where the investigators' interest in the subject and the novelty of the teaching strategy may have biased the estimate of perceived learning value. Second, our analyses are based on the student summary of the clinical vignette, not the actual clinical vignette itself. Third, the student's perspective of learning value may not be the best measure of educational merit.

Our findings suggest that the clinical vignettes presented at the national SGIM meeting offer clinical content that is relevant and of some educational value for third year clerkship students. However, further proof of the educational value of the clinical vignettes from the national meeting is desirable. Future studies of their educational value will not likely include clinical outcomes, as is the case with most educational interventions. However, studies of improvement in knowledge could target outcomes such as symptom analysis, differential diagnosis, or clinical reasoning. Such studies could actually be performed during the clerkship with a pretest-posttest design

and group randomization across multiple institutions. Additionally, exploring how clerkship directors view the value of these vignettes and why students rated some vignettes as having low learning value should be explored in future studies.

While better proof of the educational value may or may not be forthcoming, how the vignettes could be made more useful for clinician-educators should be explored as well. The first task of monitoring and ensuring the quality of the clinical vignettes to be used for medical education is already in place. Filtering of the clinical vignettes through acceptance criteria and mentoring, as is done for the national SGIM meeting, ensures a certain level of quality. Codifying the clinical vignettes by curricular domain, presenting clinical setting, and symptom category would allow better targeting for the clinician educator interested in using the vignettes. Making the vignettes easier to search and making the vignettes database available electronically would further improve their accessibility and usefulness for the clinician-educator.⁸

The relevant educational settings and strategies for the use of clinical vignettes depends largely on the imagination of the clinician-educator. Using the clinical vignette to teach clinical language, case presentation, clinical reasoning, and the scope of Internal Medicine were easy targets, at least with our pilot. Using the clinical vignettes (case reports) for teaching evidence-based medicine could also include lessons on the hierarchy of evidence for clinical decision making and for understanding the value of case reports.^{9,10}

Attention to the continuing value of the clinical vignettes in education is important. Compared with other potential curricular resources, these reports from the front lines of clinical care bring a spontaneity, personality, and connectedness to other learners that has advantage over stale curricular materials. They reflect a wonderment and curiosity on the part of

clinicians that should attract bright students. To quote Vanderbroucke, "case reporting for medical education is great fun. Like much of medical reasoning, it has a detective-like quality. It brings a smile of recognition, or of satisfactory understanding, to the faces of the presenter and audience."¹¹

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Supplementary Material

The following supplementary material is available for this article online at www.blackwellsynergy.com

Appendix 1.

Appendix 2.