Effects of a Longitudinal Curriculum to Teach Health Literacy and Patient-Centered Clear Communication Habits to Medical Students

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Introduction

- One third of U.S. adults have limited health literacy, which has been shown to affect outcomes.[1]
- Curricula designed to teach medical students about health literacy and clear communication skills have produced mixed results.[2,3]
- Oregon Health and Science University (OHSU) School of Medicine was one of the first to implement a longitudinal competency-based[4,5] patient-centered communication "habits" curriculum throughout the preclinical period, starting in 2014 (Table 1).

Table 1. OHSU's Modified 4 Habits for Patient-Centered Care

-Rapport-building
-Agenda setting
-Clear communication
-Confirming understanding

Old Curriculum (pre-2013)	New Curriculum (2014 – present)
-First year: 1-hr large group didactic on Health Literacy. - Second year: 1-hr large group didactic follow-up on Health Literacy. -1-hr Skill-building small group session.	4 "habits" introduced through a series of four dedicated 2-hr* experiential small group Clinical Skills Labs (CSLs), and assessed periodically using standardized patient actors, over 18 months.

* In 2018 the 2-hour CSLs changed to 90 minutes each

Objectives:

- To assess whether OHSU's new longitudinal communication curriculum results in improved patient centered communication among students.
- To determine whether eliciting questions from patients using an open-ended or closed-ended technique is associated with encouraging or discouraging non-verbal communication, respectively.

Methods

- Videos of encounters between students and standardized patients (SPs) during Family Medicine clerkship Objective Structured Clinical Examinations (OSCEs) were used to compare student's use of the target behaviors following completion of the old vs. new curriculum.
- Criteria were developed to characterize and identify behaviors (table 2).
- Only students who's first core clerkship was Family Medicine were included, to reduce contamination from other exposures.
- Excluded from analysis were portions of cases where students did not have the opportunity to perform behaviors due to either doing an OSCE that did not allow for agenda setting (physical exam focused) or ran out of time before performing a behavior that takes place during the closing phase of the encounter.
- Roughly 20% of OSCEs in each group were also viewed by another investigator for quality assurance.
- Statistical analysis used student's t-tests and Fisher's exact test to compare between-group means.

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Results:

OSCE scenarios:

- Insomnia
- Frequent Yeast Infections
- Delivering Bad News
- Lower Back Pain
- Telemedicine
  - -Diabetes
  - -Insomnia

Figure 1. Student, Standardized Patient, and faculty observer during Family Medicine Clerkship OSCE

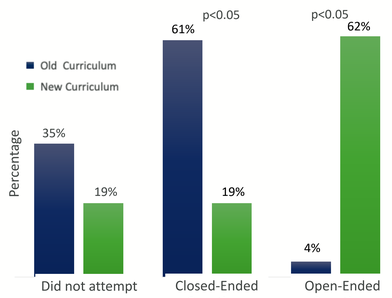
Table 2. Student Use of Patient-Centered Communication "Habit" Behaviors During OSCE Cases After Completing Old vs. New Curricula

		Number of Cases (%)		
Behavior	Rating	Old	New	p
Agenda-setting	Not done (Asks only about chief concern, or asks later in encounter, does not elicit patient's full list of concerns.	41 (98%)	20 (97%)	0.31
	Done (Elicits "all" patient concerns at outset. SP explicitly states that there are no more issues)	1 (2%)	1 (3%)	0.46
Eliciting questions	Not offered (Does not provide an opportunity for SP to ask questions in closing phase)	16 (35%)	3 (19%)	0.23
	Closed-ended (Elicits questions in a closed–ended manner. Examples: "Do you have any questions?" "Any questions?" "Questions?")	28 (61%)	3 (19%)	**0.04**
	Open-ended (Elicits questions in an open ended manner. Example: "What questions do you have?"	2 (4%)	10 (62%)	**0.02**
Teach-back	No attempt (Ends OSCE without checking the patient's understanding)	33 (87%)	8 (67%)	0.29
	Not done (Checks understanding with a closed-ended question. Examples: "Do you understand?" "Does this make sense?")	5 (13%)	3 (25%)	0.48
	Done (Uses teach-back Examples: "Can you tell me what the plan is?" "I want to make sure I've explained things clearly, what are you hearing me recommend?" "How would you explain this to a friend?")	0 (0%)	1 (8%)	0.24

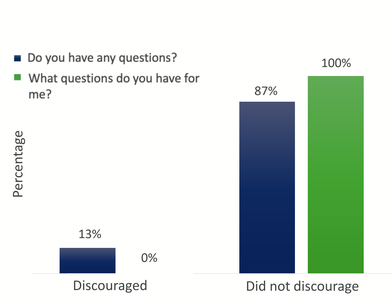
Body language while eliciting questions	Type of Questions:	Discouraging	Neutral or Encouraging	p
	Closed-ended (e.g., "Do you have any questions?"), n = 31	4 (13%)	27 (87%)	0.13
	Open-ended (e.g., "What questions do you have?"), n = 9	0 (0%)	9 (100%)	**<.0001**

Table 3. Demographics

	Old Curriculum (2015)	New Curriculum (2016-17)
Participants (n)	15	7
# OSCE cases	51	28
Average cases per student	3.4	4
Men	9	7
Women	6	0



Graph 1. Eliciting questions - comparison between old and new curricula.



Graph 2. Use of discouraging body language when eliciting questions.

Discussion and Conclusions

Study Strengths:

- Used observational data.
- Students did not know they were being observed for use of the 4 Habits behaviors, reducing potential for the Hawthorne Effect.

Study Limitations:

- The OSCE testing environment may have made the use of agenda-setting feel unnecessary. Because OSCEs were timed, many students ran out of time before they might have otherwise elicited questions from the SP, or did a teach-back.
- Sample sizes were small; study may have been underpowered.
- No women in new curriculum cohort.

Conclusions:

- Students completing the new curriculum were significantly more likely to elicit questions using an open-ended best practice approach.[4,5]
- Use of a closed-ended approach to eliciting questions, such as, "Do you have any questions?" was associated with greater use of discouraging non-verbal body language than was the use of an open-ended best practice approach, such as , "What questions do you have?"[4,5]
- Few students in either cohort demonstrated agenda-setting or use of teach-back, which may be due to factors associated with the OSCE study setting.
- Future work will analyze these encounters for the use of plan language and medical jargon.

References

1. Kutner, M., Greenberg, E., Jin, Y., & Paulsen, C. (2006). *The health literacy of America's adults: results from the 2003 National Assessment of Adult Literacy*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
2. Coleman C. Teaching Healthcare Professionals about Health Literacy: A Review of the Literature. *Nursing Outlook* 2011;59:70-78
3. Coleman C, Peterson-Perry S, Bumsted T. "Long-term Effects of a Health Literacy Curriculum for Medical Students." *Family Medicine* 2016b;48(1):49-53
4. Coleman C, Hudson S, Maine L. Health Literacy Practices and Educational Competencies for Health Professionals: A Consensus Study. *Journal of Health Communication* 2013;18:82–102
5. Coleman, C., Hudson, S., Pederson, B. (2017b). Prioritized Health Literacy and Clear Communication Practices for Health Care Professionals. *Health Literacy Research and Practice*, *1*(3):e90-e99.