

# Comparing the Outcomes of a Two-Day High-Value Care Elective Course for Pre-Clinical Medical Students through Online and In-Person Formats



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## Introduction



As **increasing healthcare costs** continue to pose challenges to patients and providers, medical schools have worked to emphasize **high-value care (HVC) principles**.



During the **pandemic**, schools faced a new challenge of delivering their curriculum in **hybrid or online formats**



A **HVC course** for pre-clinical medical students was developed and **taught virtually in 2020** and **in-person in 2021**.

## Methods

The objectives of this study were to assess the **impact of the in-person course** on students' HVC knowledge, attitudes, and self-efficacy and compare the outcomes to those demonstrated by **the virtual course**.

Each course included:

- Introductory lectures about HVC
- Healthcare **financing** and **delivery**
- Case-based activity using the **"Choosing Wisely" app**
- Assessing HVC in the **literature**
- Practical tips for having **value conversations** in the **clinical setting**
- **Physician panel** in which physicians discussed using HVC in their practice across various specialties

## Results

For the in-person course, all 32 students completed a pre-survey to determine any previous knowledge of **HVC** and the **"Choosing Wisely" program**. Their attitudes towards cost-conscious care were evaluated using previously published survey items (Hunderfund et al. 2015). **24 students (75%) completed the post-course survey**. The virtual course consisted of **53 students**, who **all completed (100%)** both the **pre- and post-surveys**.

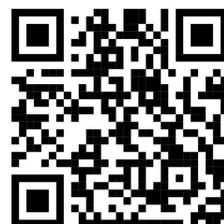
In the **in-person course**:

- The percentage of students who had seen the **"Choosing Wisely" campaign** and associated materials increased significantly from **4% to 100% (p < 0.001)**.
- For answering knowledge questions about healthcare overuse, **students were significantly more likely to answer correctly after the course** (OR: 5.91, 95% CI: 1.55-22.58; OR: 35.48, 95% CI: 1.93-651.65).
- Students were asked 21 questions about cost-conscious care: attitudes shifted towards more cost-conscious care **for 4 out of 21 questions (p < 0.05)**; for the remainder, most students demonstrated attitudes supporting cost-conscious care before the course, and afterwards, the distribution of responses remained the same.

In the **virtual course**:

- The percentage of students who had seen the **"Choosing Wisely" campaign** and associated materials increased significantly from **6% to 92% (p < 0.001)**.
- For answering knowledge questions about healthcare overuse, **students were significantly more likely to answer correctly after the course** (OR 6.80, 95% CI: 3.61-12.81).
- Students were asked 21 questions about cost-conscious care: students displayed positive shifts toward value- and cost-conscious attitudes **for all survey items (p < 0.045 for all items)**.

Raw Data for In-Person Course:



Raw Data for Virtual Course:



## Conclusions and Discussion

**Conclusions:**

- Students' **HVC knowledge, attitudes towards cost-conscious care, and HVC-related self-efficacy** improved over both the in-person and virtual courses
- The **virtual course** proved to have **more significant results** than the **in-person course**.

**Limitations:**

- Only one virtual course and one in-person course have been taught, limiting sample size and exposure
- Instructors of the virtual course completed HVC care training through the STARS program virtually, while instructors of the virtual course were able to attend an in-person, extensive conference
- The course material was first adapted for a virtual course, and not modified for in-person instruction

**Next Steps:**

- Teach a new cohort with a modified lecture series with updated information in an in-person format in 2022
- Survey students that have completed the course as soon as they complete clinical rotations to see if they have implemented HVC principles
- Encourage HVC instruction and courses at other medical schools, as well as increasing curriculum opportunities at our institution both before and during clinical exposure

**Reference:**

Leep Hunderfund, A.N., Dyrbye, L.N., Starr, S.R. et al. Attitudes toward cost-conscious care among U.S. physicians and medical students: analysis of national cross-sectional survey data by age and stage of training. *BMC Med Educ* 18, 275 (2018). <https://doi.org/10.1186/s12909-018-1388-7>

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