# IMPACT OF PHARMACIST-LED STANDARDIZED MEDICATION TEACHING VIDEOS ON PATIENT AND CLINICIAN EXPERIENCE

**Kendra Huculak**[1,2] BScPharm, PharmD Student; **Dr. Sean Spina**[2,3] BScPharm, ACPR, PharmD, FCSHP; **Tasha Mckelvey**[2] BScNursing; **Trevor Elton**[2], BScPharm, ACPR

[1]Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Edmonton, Alberta; [2]Royal Jubilee Hospital, Island Health, Victoria, British Columbia; [3]Faculty of Pharmacy, University of British Columbia, Vancouver, British Columbia

## BACKGROUND

- Pharmacists within Island Health collectively fill more than 160,000 orders per year for warfarin, Direct Oral Anticoagulants, Angiotensin-Converting Enzyme Inhibitors, Angiotensin II Receptor Blockers, Beta-Blockers and Statins. Subsequently, clinicians are inundated with the time spent to teach each patient about these medications, which may lead to rushed interactions and suboptimal knowledge translation.[1]
- Video-based education has been shown to be at least as effective as traditional methods of medical education, and allows the opportunity for information to be consistently delivered, and replayed as often as needed.[2,3,4]
- In an effort to offer a standardized and reproducible approach to medication teaching, Island Health medication teaching videos featuring a clinical pharmacist, ranging from 10-13 minutes, were developed for the aforementioned medications.[2]
- These videos are available on Island Health's website, allowing nursing, pharmacists and physicians ease of access to display for patients when required.[5]

## OBJECTIVES

Analyze the impact of implementing standardized medication teaching videos on patient and clinician experience.

Identify benefits and barriers to implementing standardized medication teaching videos in an acute care setting.

## METHODS

- Survey-based quality improvement (QI) initiative
- Practice Setting: Heart Health Nursing Units, Royal Jubilee Hospital, Victoria, BC, Canada
- Survey administration, data collection and analysis completed through REDCap™
- Ethics approval granted by Island Health Quality Improvement Ethics Board

**Table 1:** Participant Selection

**Patient Selection**

**Aug. 8 – Oct. 4, 2019:** Survey offered by staff to any patient discharged on relevant medication(s) on affected wards
- 2 reminder emails distributed to staff within above timeframe, in addition to frequent reminders during nursing report

**Oct. 4, 2019:** 17 surveys submitted; 5 incomplete

Final number of respondents: **12**

**Clinician Selection**

**Sept. 17 – Oct. 4, 2019:** Survey emailed to all affected staff (pharmacists, nurses, physicians), which totaled approximately 150

**Sept. 30, 2019:** 1 reminder email sent to staff, in addition to verbal reminder during nursing reports

**Oct. 4, 2019**: 7 surveys submitted; all complete

Final number of respondents**: 7**

**Survey Design**

**Patient:** 21 questions
- combination of 20 multiple choice and 1 free response
- completed on iPads

**Clinician:** 14 questions
- combination of 11 multiple choice and 3 free response

**Figure 1:** Survey Design

## RESULTS

**Table 2:** Patient Respondent Summary

| | % (n) |
|---|---|
| Male | 75% (9) |
| Age | 50-59: 25% (3)<br>60-69: 25% (3)<br>70-79: 25% (3)<br>80+: 25% (3) |
| Number of video(s) watched | 1: 83.3% (10)<br>2: 0% (0)<br>3: 16.7% (2) |
| **Total** | **n = 12** |

**Table 3:** Clinician Respondent Summary

| | % (n) |
|---|---|
| Registered Nurse (RN) | 71.4% (5) |
| Licensed Practical Nurse (LPN) | 0.0% (0) |
| Pharmacist | 14.3% (1) |
| Physician | 0.0% (0) |
| Leader (Clinical Nurse Educator, Clinical Nurse Leader) | 14.3% (1) |
| **Total** | **n = 7** |

## RESULTS CONTINUED

### PATIENT SURVEY RESPONSES

**Table 4:** Proportion of respondents who stated they "Agree" or "Strongly Agree" with the following statements:

| | %(n) |
|---|---|
| I would recommend these medication video(s) to a friend or family member who may take these medications. | 100% (12) |
| After watching these videos, I have a better understanding about what side effects I may experience. | 91.7% (11) |
| After watching the video(s), I have a better understanding about when to seek medical attention or visit the Emergency Department (ED). | 83.3% (10) |
| I would watch this video online again if I had questions about my medication(s). | 66.7% (8) |
| After watching these videos, I feel more confident taking my prescribed medication(s). | 83.3% (10) |
| I feel that watching medication teaching video(s) is better than reading a printed handout. | 91.7% (11) |

**[Patient Comment]:**

*"I feel one of the biggest contributors to a healthier population is EDUCATION, as most folks want the best for themselves, and when people have the knowledge, they will usually act accordingly."*

### CLINICIAN SURVEY RESPONSES

TIME SPENT ON MEDICATION TEACHING PRIOR TO VIDEO IMPLEMENTATION

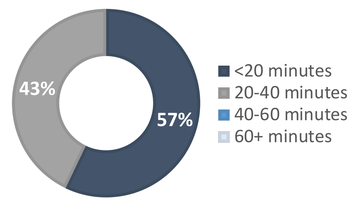


**Figure 2:** Time Spent on Medication Teaching Prior to Videos

TIME SPENT ANSWERING QUESTIONS AFTER VIDEO(S) WATCHED

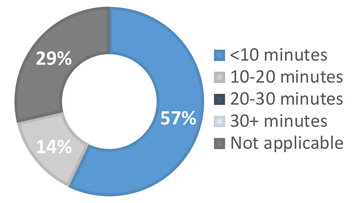


**Figure 3**: Time Spent on Medication Teaching After Video Implementation

PROPORTION OF CLINICIANS WHO STATED THEY "STRONGLY AGREE/AGREE", WERE "NEUTRAL" TO OR "STRONGLY DISAGREE/DISAGREE" WITH THE FOLLOWING STATEMENTS:

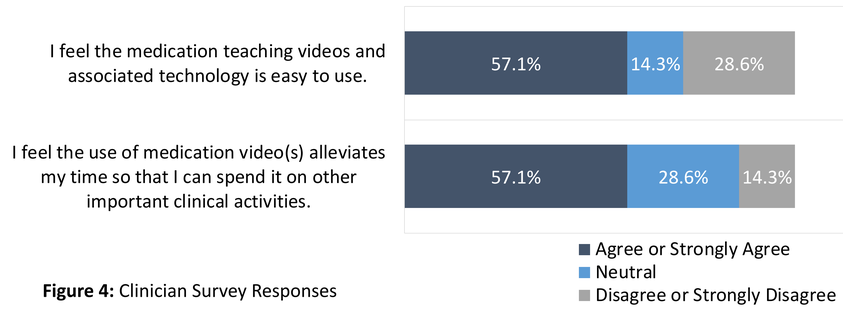


**Figure 4:** Clinician Survey Responses

**91.6%** OF PATIENT RESPONDENTS

**85.7%** OF CLINICIAN RESPONDENTS

"Agreed" or "Strongly Agreed" these videos should be expanded to other sites within Island Health

**Figure 5**: Video Expansion to Other Island Health Sites

## RESULTS CONTINUED

**Table 5**: Clinician-identified benefits and barriers to video implementation:

| BENEFITS (+) | BARRIERS (-) |
|---|---|
| + More information delivered to patients without increasing clinician time spent | - Videos are too long |
| + Videos can be replayed, even following discharge from hospital | - Ensuring accessibility, functionality and usability of technology (iPads, URL) |
| + Beneficial for individuals motivated to learn through video instruction, compared to written or verbal | - Time pressure of answering questions after video(s) |

## DISCUSSION

- A majority of patients felt more confident, understood adverse effects, and reported knowing when to seek medical attention (Table 4), suggesting adequate medication teaching practices were upheld through the playing of videos. However, patient competence would be better assessed through pre and post video surveys.
- A large proportion of patients preferred watching videos over a printed handout. Importantly, all patient respondents were fifty years old or greater (Table 2, 4).
- Clinicians commonly reported the benefit of replaying videos as often as needed at home, which is a well-described benefit of video education in medical literature (Table 5).
- Overall, clinicians reported a reduced amount of teaching time after implementing videos, freeing up time to spend on other important clinical activities (Figure 2, 3).
- A proportion of clinicians reported time pressures in answering questions after the videos played and in coordinating the playing of videos (Table 5). It is possible these pressures could be mitigated through future streamlining of video playing process and eventual familiarity with technology and workflow.

## LIMITATIONS

- High likelihood of response bias due to survey design
- Recall bias may be present
- Low generalizability due to single-centeredness and small sample size
- Given the inability to calculate number of patients who were offered the survey, it is challenging to determine whether the number of responses is capable of characterizing the patient population
- No comparison to practice patterns prior to video implementation in August 2019

## CONCLUSIONS

- Based on survey results, patient respondents had a convincingly positive response to videos, including quality and content.
- Reduced teaching time following implementation of standardized videos may alleviate clinicians to perform other important clinical activities and lead to improved patient care, while ensuring medication teaching is not compromised.
- Barriers to implementation may include the videos being too long and ensuring accessibility, functionality and usability of technology.

## APPLICATION OF RESULTS

- Our results will inform medication teaching practices at Royal Jubilee Hospital and may reform practices throughout Island Health

**NEXT STEPS**

- Larger deployment and impact assessment at another site with optimal engagement of staff and stakeholders
- Measuring impact of videos on adherence, comprehension, serious adverse effects leading to ED visits or readmission
- Quantifying sprawling usage of videos outside Island Health (for example, St. Michael's Hospital in Toronto, ON)

## REFERENCES

Available upon request. Contact huculak2@ualberta.ca