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1st Place: Development of a Feasibility Study of Tele-Education for Ensuring Correct Bronchodilator Use

Katie Gibbs

Robert Kruklitis MD
Lehigh Valley Health Network, Robert.Kruklitis@lvhn.org

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Development of a Feasibility Study of Tele-Education for Ensuring Correct Bronchodilator Use

Katie Gibbs[1], Robert Kruklitis MD, PhD, FCCP[1,2]

[1]Department of Medicine, LVPG Pulmonary and Critical Care
[2]Research Scholar Program Mentor

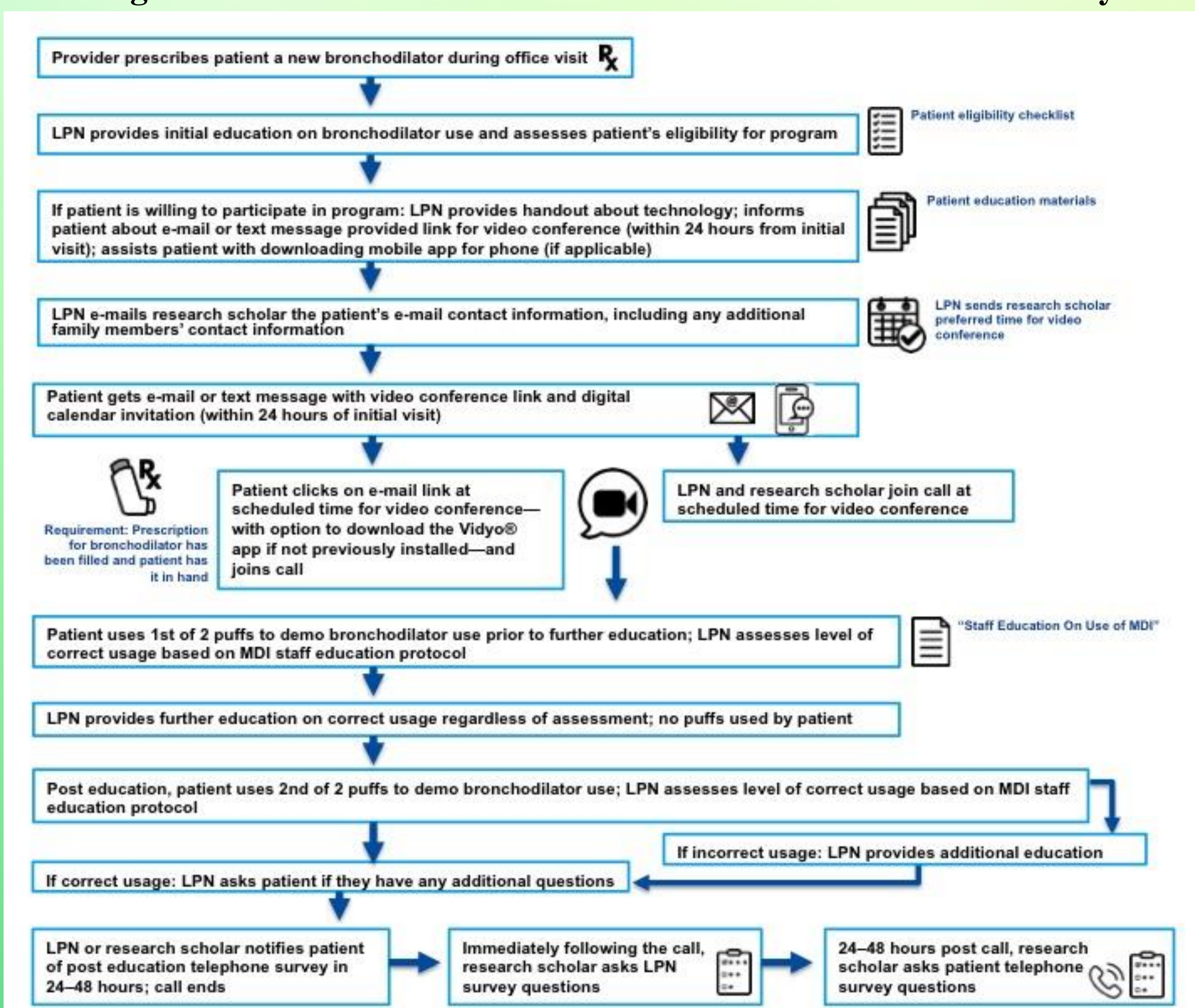**Lehigh Valley Health Network, Allentown, Pennsylvania**

Background

- 40-80% of information provided by health care providers is forgotten immediately
- 50% of information provided by health care providers is recalled incorrectly
- Maximum amount of correct information retained by patients is 20-40%
- 25% of patients never receive any instruction on the proper technique for inhaler use
- 92% of patients using Dry Powder Inhalers do not utilize proper technique

Objectives

- Identify 10-12 pulmonary outpatients prescribed a new bronchodilator
- Create a home-based pilot study that allows the implementation of a tele-education visit for the first at home use of a new bronchodilator using LVHN's Video Visit platform
- Enhance the education of patients on the appropriate technique for using inhaled bronchodilators
- Demonstrate the success of video visit technology and the potential effects on healthcare

Methods

Figure 1. Workflow for Bronchodilator Tele-Education Pilot Study

Results

Table 1. Patient Demographics and Baseline Characteristics

Characteristic	Total Patients	Eligible Patients
Sex (n/%)		
Men	8 (73%)	3 (50%)
Women	3 (27%)	3 (50%)
Age (years)		
Median	68	63
Range	45-88	45-84
Prior bronchodilator experience		
Number (%)	73%	83%
Access to required technology		
Number (%)	82%	100%

Figure 2. Time Required to Complete Bronchodilator Tele-Education Encounter

Table 2. Success of Tele-education on Patient Bronchodilator Technique

	Patient used medicine correctly prior to tele-education	Patient used medicine correctly after tele-education	Patient had increased confidence in bronchodilator use post-education	Patient stated additional education helped him/her understand when and how to use the medicine	Patient had additional questions for the LPN	LPN determined tele-health encounter was beneficial for patient
Patient 1		X	X	X	X	X
Patient 2	X	N/A[1]	X	X	X	X
Patient 3	X	X	X	X		X
Patient 4	X	X	X	X		X
Patient 5	N/A[2]	N/A[2]	N/A[2]	N/A[2]	N/A[2]	N/A[2]
Patient 6	N/A[2]	N/A[2]	N/A[2]	N/A[2]	N/A[2]	N/A[2]

[1] was only prescribed 1 puff of medication
[2] did not complete tele-education

Table 3. Success of Video Visit Platform

	Successful connection to pulmonary educator (LPN)	Successful completion of tele-education	Found technology easy to use	Would use the technology to connect to LVHN again
Patient 1	X	X	X	X
Patient 2	X	X	X	X
Patient 3	X	X	X	X
Patient 4	X	X	X	X
Patient 5			N/A[1]	N/A[1]
Patient 6			N/A[1]	N/A[1]

[1] did not complete patient survey

Conclusions

- Tele-education can be a beneficial and feasible option for a widespread range of patients
- Average amount of time required to complete entire encounter was 19 minutes
- Patients responded best to text message reminder and text message provided link
- Patient education materials should be remodeled to be more direct
- 100% of patients found that tele-education increased their confidence in using their bronchodilator

Future Directions

- Follow up with patients 1-4 in 4-6 months
- Modify technology to allow automated text message reminder
- Reduce connection time
- Test program with cohort of patients with older median age
- Expand program to other departments

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