The Role of Health Educators in Improving the Health of PLWH

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Learning Objectives

1

Describe the key components, purpose, and goals of Health Educators in a Ryan White Clinic and how Health Educators can improve patient outcomes.

2

Discuss the published evidence that supports the use of a Health Educator in the clinical setting to improve health outcomes.

3

Report the outcomes of interventions and discuss the challenges faced and lessons learned in developing Health Educator driven interventions.

HOP Background

- The HIV Outpatient Program (HOP) is an established Ambulatory Care Department within the Infectious Disease Center of University Medical Center in New Orleans.

- The HOP Clinic serves over 1650 people living with HIV. It have been recognized nationally for providing comprehensive and interdisciplinary HIV primary care. The services provided include psychology, psychiatry, dentistry, pharmacy, social work, health education, patient navigation, lab services and medication assistance.

- Specialty services also include women's health services, pain, diabetic and pulmonary disease management as well as oncology services.

- HOP also offers Pre-Exposure Prophylaxis (or PrEP) and works with the Emergency Department to assist forensic patients in receiving Post-Exposure Prophylaxis (PEP).

- Receives Ryan White Parts A and C.

My Background

- Bachelor of Biological Sciences and a Master of Public Health with a concentration in Epidemiology

- Participated in HIV research

- Interned with community organizations

My Background

- Upon entering graduate school, I knew that I wanted to work in infectious diseases. Upon beginning my research, I learned that there was a large group of people in New Orleans who were HIV+ and had multiple comorbidities (DM, HTN, CKD, HLD).

- After learning this and working as a Research Associate, I knew that I wanted to improve the health literacy of underserved and underrepresented individuals and help them learn more about their health issues. I wanted to help PLWH discover and adopt positive health behaviors that would decrease their morbidity from these diseases.

Health Education in the HOP Clinic

- My colleague is a Registered Nurse and also has a MPH. She has been working in HIV for the past 31 years and also works on QI projects in the clinic.

- As a health educator, my goal is to work with a population that is already underserviced, marginalized and stigmatized to impact change.

- With both of the health educators in our clinic having a background in public health, we both understand the importance of data driven care. We use our data from QI projects to improve the care and support we deliver to our patients.

- Health Educators in a Ryan White Clinic provide additional support outside of the provider. Since the patient's visit may be limited due to many factors including the time in clinic visits or schedule limitations, the health educators fill any gaps in care.

My Role as a Health Educator

- Consulted on newly diagnosed HIV patients
  - HIV basics, safe sexual practices, medication and appointment adherence, safe food handling, etc.

- Consulted on out of care patients and help keep these patients in care

- Receive referrals for nutrition counseling, tobacco cessation, diabetic and hypertension management, medication adherence, health literacy and pill box fills

- Optimize patient outcomes by working with a multidisciplinary team to meet unmet needs and track patient progress

My Role as a Health Educator

I have a template where anyone can schedule patients to see me throughout the day. Clinic staff are also encouraged to "drop-in" on either of the Health Educators if they have a patient that needs to be seen immediately while they are already present in the clinic.

While I am not seeing patients, I make follow up phone calls to patients who are in the interventions that I am currently running. In addition, I follow up on patients who have several barriers to care and consistently work with them to maintain medication and appointment adherence.

I attend clinic meetings where I am able to give input on issues or breakthroughs within the clinic or with patients, give feedback and update the staff on how my department is operating.

My Role as a Health Educator

- I advocate for PLWH in the community and within the hospital were I am employed. I organize and execute Awareness Tables in the hospital where individuals can come up and talk to my colleagues and I about HIV basics and PrEP, as well as pick up free condoms and get a free HIV test.

- Furthermore, I develop and offer presentations on HIV and Stigma to healthcare workers in the hospital and invite outside organizations to participate. My main objective is to present clear and concise facts on HIV as well as deflate any myths that prevent healthcare workers from providing optimal healthcare to PLWH.

Health Educator Role Summary

- Health Educators intensify medical care by bridging any gaps in care that cannot be addressed during a patient's visit with their physician.

- Health Educators address negative health behaviors and help to manage co-morbidities in order to improve overall health of patients.

- Upon referral, the health educator meets with the patient face to face and completes an assessment that includes specific goals. Continued face to face meetings occur until the goals are met.

- Limited research on the impact of health educators among PLWH. Research on multidisciplinary clinics who have health educators (sometimes named case managers) improve patient outcomes (retention in care, active engagement in care, appointment adherence). [1,2,3,4]

- Peer educators improve PLWH outcomes. [5] Patients trust guidance that comes from a person who has had similar experiences as them.

- Documented that diabetes should be approached differently in PLWH due to several reasons including lipodystrophy, dyslipidemia, pill burden, etc. [6]

- Patients who have a large support system have better outcomes with adherence. [7]

Health Education for PLWH

Interventions

For this quality improvement project, there will be four interventions:

1. Improving smoking cessation in the clinic by referring patients to health education to participate in counseling sessions

2. Improve hemoglobin A1C levels by improving knowledge of diabetic basics, managing adherence to insulin and discussing diet and exercise modifications

3. Improve viral suppression in the clinic by intensifying regular medical care

4. Improve adherence to medications by increasing health literacy i.e. educating patients on the names and purpose of their medications and following up at each visit.

***Was not able to initiate this intervention due to COVID-19.

Tobacco Cessation Intervention

- Cigarette smoking is more prevalent in PLWH than the general population.

- Research shows that cigarette smoking among PLWH may not only accelerate well-known consequences of smoking cigarettes, but may also place PLWH at risk for many serious HIV- related comorbidities.

- The HOP clinic cares for over 1,600 PLWH with a large proportion of smokers (recent estimates 61% current, 16% former).

- In literature, control group cessation rates between 5-10%. [8]

- Our goal was to assess the outcomes of our new clinic-wide smoking cessation intervention.

- We proposed a prospective intervention that gave patients the option of Nicotine Replacement Therapy (NRT) vs. pharmacologic agents in conjunction with counseling sessions from Health Educators in the clinic.

- We hypothesize that our intervention will increase smoking cessation among our patients.

Methods

- Initially, a multidisciplinary committee met to design a cessation pathway to increase smoking cessation in the clinic.

- The pathway began with an assessment of smoking during triage (Figure 1).

- Upon referral, participants were enrolled in the Smoking Cessation Trust (SCT), which is a free program for patients who have been smoking before 1988 (N=55) and provides NRT.

- Participants who were born after 1980 (N=16) received their pharmacologics through the Ryan White formulary.

- The intervention consisted of a baseline interview and follow-up counseling sessions with the health educators.

- Participants received their NRT or pharmacologic agent after the baseline interview.

Methods

Session 1

- During the counseling sessions, patient's were asked questions such as:
  - What is your reason for wanting to quit smoking?
  - What are your triggers for smoking?
  - What are the short and long term consequences for smoking?

- A target quit date was set and reviewed methods that the patient would use to quit by that date
  - Pt encouraged to quit by Sessions 2 or 3 (sessions were held between 1-2 weeks of each other)

- Reviewed strategies to reduce and quit tobacco- patient encouraged to track what strategies worked and which ones didn't

Methods

Session 2

- Reviewed negative health effects of smoking

- Reviewed possible nicotine withdrawal symptoms and how to manage them

- Strategies to reduce and quit tobacco
  - Manage your behavior
  - Manage you thinking
  - Manage your emotion

Methods

Sessions 3-5

- Reviewed weekly progress, potential barriers the patient faced and how did they overcome them

- Coping mechanisms- Positive thinking

- Discussed methods to help make quitting easier
  - Decrease caffeine and alcohol intake
  - Manage emotions- relaxation techniques (exercise for potential weight gain)

- Rewards for successes- short vs long term

- Review and adjust behaviors

- Maintain cessation

Methods

- Participants (N=71) were PLWH from our clinic who currently smoked cigarettes and were referred from May 1, 2018 through May 30, 2020.

- Quitting smoking and decreasing the amount smoked was ascertained through self-reporting.

- 35 participants met with H. ED for a baseline interview and attended counseling sessions while 36 participants only met with H. ED for baseline interview.

- Both groups received follow-up phone calls every 3 months to determine if they quit or decreased the amount they smoked.

Figure 1: Pathway for the SCT

Nurses initiate discussion while triaging. Questions asked:
- **Do you smoke cigarettes? If yes,**
- **Assess Stage of Change. Ask which of these applies to them:**
  - **I am not ready to quit smoking (PRE- CONTEMPLATION)**
  - **I am thinking about quitting smoking (CONTEMPLATION)**
  - **I am getting ready to quit smoking/ decreased the amount I was smoking before (PREPARATION)**
  - **I quit smoking and am working hard (ACTION)**

Nurses: Notify the provider which stage they are in.

Provider: The provider will approach the patient based on which stage they are in. Patients in the Contemplation or Preparation stage were referred to H. ED for more information about the SCT. Patients who were ready to quit (Preparation) were referred to H. ED be signed up for the SCT.

Action- Patients complete modules and receive phone calls until in Maintenance stage.

Results

Table 1: Baseline Demographics (N=71)	
Age (years, range)	50 (26-69)

Sex (n, %)
   Male
   Female
	
	 47 (66.2%)
	 24 (33.8%)

Race (n, %)
   African-American
   White
	
	 62 (87.3%)
	 9 (12.7%)

Years Smoking Cigarettes (mean)	30

Results

Table 2: NRT and pharmacologic agents (n)	
Chantix	22
Chantix and Patches	3
Chantix and Lozenges	1
Gum	4
Lozenges	4
Patches	18
Patches and Gum	3
Patches and Wellbutrin	2
Wellbutrin	5
Nothing	9

Results

- Of the 71 participants, 62 participants received pharmacologic/NRT agents.

- Among all participants, 22 (30%) individuals quit smoking cigarettes within 3 months of completing the baseline interview and receiving pharmacologic/NRT agents.

- Of the 22 participants who quit smoking, 14 (63%) participated in the intervention.

- Among all participants, 19% both quit smoking and participated in the intervention.

- Of the participants who did not quit (n= 49), 23 (46%) decreased the amount they smoked per day by 50% or greater. This is 32% of the entire participant group.

Conclusions

- A multidisciplinary intervention consisting of an assessment, counseling, and pharmacologic therapy and/or NRT can improve cessation in PLWH that smoke (19%).

- Receiving pharmacologic/NRT agents and follow-up phone calls can improve cessation in PLWH that smoke (11%).

- A smoking cessation intervention can assist patients in cutting the amount of cigarettes they smoke in half or more than half (33%).

- Behavioral interventions may increase smoking cessation rates as compared to rates in control groups without an intervention (5-10%).

- Challenges- LTFU, desire to quit decreased due to multiple factors

- Future studies are needed to confirm these results among larger populations.

Diabetes Intervention

- Due to improvements in anti-retroviral therapy (ART), PLWH are living longer. Because of this, they have an increased risk of developing metabolic diseases, including diabetes. Risk factors for diabetes among PLWH are specific ART (including older PI and NRTI), lipodystrophy and a co-infection with Hepatitis C. [9]

- Recent estimates showed that approximately 81 individuals had a documented diagnosis of diabetes in our clinic.

- We proposed that an intervention aimed at increasing better glucose control as evidenced by decreasing hemoglobin A1C levels of patients and increasing knowledge of diabetic management.

Methods

- This intervention was interrupted by COVID-19 outbreak- data incomplete

- Patients (N=8) were referred and enrolled beginning in August 2019- March 2020

Methods

- Practitioners were asked to refer all patients who had a hemoglobin A1C level of 10 or greater to the health educators.

- Brief introductory visit to explain that we will be helping them decrease their hemoglobin A1C levels.

- Three different topics were covered at three separate visit. Visits occurred within 1-2 weeks of each other.
  - Session 1- Diabetes basics
  - Session 2- Insulin
  - Session 3- Diet and exercise modifications

Methods

- After completing all 3 sessions, any following sessions should be focused on the patient's immediate need(s).
  - For instance, if they are working on their diet and understand diabetes, then the health educators focused on demonstrating how to correctly inject insulin and/or making sure the patient injects it daily as they should.
  - Patients brought in glucose log and discussed the readings.

- If the patients blood sugars improved, the health educators encouraged adherence to their current regimen.

- If blood sugars are poor, the health educators attempted to determine the cause (i.e. haven't been injecting insulin, eating poorly or drinking excessive amounts alcohol, etc).

- During each health education visit, the health educators attempted to address any lacking health behaviors to correct them and re-assess at the following visit.

Measured outcomes

Engagement (active vs. passive)

Baseline vs last hemoglobin A1C

Weight loss (diet and exercise modifications)

Results

Table 1: Patient Demographics (N=8)	
Mean Age (years, range)	48.9 (33-65)

Sex (n, %)
   Male
   Female
	
	5 (62.5)
	3 (37.5)

Race (n, %)
   African American
   Hispanic
	
	6 (75%)
	2 (25%)

Mean baseline A1C (%)	12.26
Mean final A1C (%)	10.5
Mean baseline weight (lbs)	221.54
Mean final weight (lbs)	226.88

Results

Table 2: Pre and Post Hemoglobin A1C and Weight (N=8)								
Participants	Baseline A1C (%)	Final A1C (%)	Difference	Baseline Weight (lbs)	Final Weight (lbs)	Difference	Number of health education visits	Time spent with health educators (months)
1	10	9.7	-0.3	146	153	+7	2	1
2	13.1	12.6	-3.9	295	295	0	5	5
3	14.1	9.8	-4.3	249	253	+4	6	3
4	12.3	12.0	-0.3	201.5	214.2	+12.7	6	7
5	13.0	7.4	-5.6	230	237.8	+7.8	9	7
6	10.0	12.2	+2.3	173	168	-5	6	4
7	14.8	11.7	-3.1	337	361	+24	2	6
8	10.8	11.9	+1.1	140.8	133	-7.8	2	4

Correlation coefficient for hemoglobin A1C and number of health education visits= **-0.42**

Figure 1: Correlation Between Hemoglobin A1c and Number of Health Education Visits

$y = -0.5274x + 0.6107$
$R^2 = 0.2068$
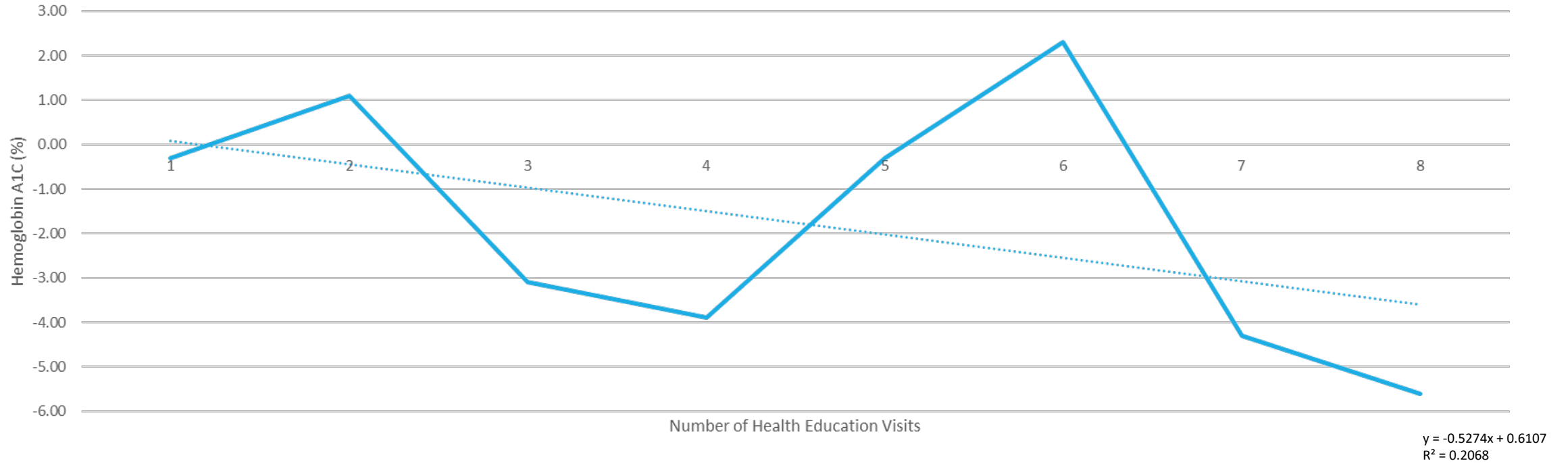
Linear Relationship

Results

- The mean difference in Hemoglobin A1c levels among patients is -1.76% with the largest decrease being 5.6%.

- The mean difference in weight change among patients is 5.34 pounds with the largest weight loss being -7.8 pounds.

- On average, the amount of time spent with the patients in the intervention was 4.63 months (range 1-7 months).

- Correlation: For every health education visit, hemoglobin A1C decreases by 0.42%.

- The patient who had the largest decrease in hemoglobin A1C spent 7 months working with a health educator and had the most health education visits (9 visits; range 2-9 visits; mean 4 visits).

Conclusions

- In conclusion, 75% of participants lowered their A1C while participating in this intervention. All participants actively participated in their care by asking questions, bringing in their glucose logs and demonstrating how to inject their insulin. A diabetic intervention may be useful in decreasing patient A1C levels and improving self-management.

- On average, patients weight increased (5.34 pounds).

- Patient A1C levels may be lowered with consistent follow-up with health educators (CC= -0.42).

- Limitations- small sample size

- Further studies are needed to study these results in a larger population for a longer span of time.

High Viral Load (HVL) Intervention

- The aim of this quality improvement project (QI) is to increase HIV viral load suppression from 0% to 85% among HIV infected patients with history of non-suppression who receive primary care at the HOP Clinic.

- The intervention began in February 2019.

- Patients with at least 1 primary care visit between September 2017 and August 2018 and showing two viral load tests higher than 1000 copies/ml were selected.

- The intervention includes an interdisciplinary team that consists of the medical provider, health educators, and patient navigators.

Methods

- 3 days prior to the PCP visit, the patient navigator called to remind the patient of the visit.
- At the scheduled visit, the patient navigator and/or health educator met with the patient.
- Health educators scheduled an adherence follow-up appointment with the patient to review adherence to ART and assist with pill-boxes.
- After the visit, the navigator followed up by phone 3 days later to ensure the patient got the ART and assessed motivations and barriers.
- Health educators engaged patients at their adherence appts and by phone.
- Barriers and other adherence issues were directed to the appropriate provider for intervention and additional visits as needed.

HVL

- Inclusion criteria- All patients with 2 viral loads >1000 copies/ml in the last 6 months from when the intervention began were included in the intervention.

- Outcome measures- HIV viral load and completion of medical and health educator appointments.

Table 1: Study population demographics and clinical characteristics 2019- 2020 (N=63)			
Characteristic	Female (n=29, 46%)	Male (n=34, 54%)	Total (n=63)
Race			
AA	26	30	56 (89%)
White	3	4	7 (11%)
Ethnicity			
Hispanic	1	0	1 (2%)
Non-Hispanic	28	34	62 (98%)
Age			
22-44	13	11	24 (38%)
45-54	10	10	20 (32%)
55+	6	13	19 (30%)
Psychiatric diagnosis	15	13	28 (44%)
Hx of substance abuse	11	15	26 (41%)
Hospitalization in the past year	10	13	23 (37%)
Difficulty understanding medication instructions	11	11	22 (35%)
Transportation needs	7	10	17 (27%)
Reestablishing HIV care	2	6	8 (13%)
Prescription medication acquisition barriers	3	4	7 (11%)

Results

Table 1: Patient's Viral Load Improvement (%) Over Time				
Viral Load	Feb 2019	July 2019	Dec 2019	Feb 2020
<200 any time	---	59%	64%	66%
<200 copies last lab	0%	57%	52%	46%
Out of care >180 days*	0%	---	16%	29%

*180 days since last medical visit; HIV clinic overall viral load suppression rate 87%

Results

- At the end of intervention 41 patients (66%) had achieved VL suppression with labs < 200 copies/mL. However, twelve patients (20%) lost their viral suppression status over time. Effect was not homogeneous.

Conclusions

- While time intensive, an interdisciplinary intervention can improve viral suppression among patients that in care but not virally suppressed.

- Limitations- almost 30% of participants fell out of care

- Often additional barriers persist for these patients which need individual assessment and attention.
  - Patients may enter into cycles requiring an intensification of support followed by intertwined periods of auto-control and self-management of the disease.
  - Improvements in viral suppression rates requires a structural approach to design and maintain intervention strategies based on patient's changing unmet needs set by health providers.
  - The one solution fits all approach is currently inefficient for the achievement of the 2020 national HIV/AIDS strategy goal to end the HIV epidemic.

Summary

Health educators are influential in managing the health of PLWH.

Bridge any gaps, identify and address unmet needs

Develop trustworthy relationships with patients

Improve patient outcomes

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