

## **An Evaluation of Harmonicas for Health Program**

Mary-Kate Clark  
Greg Lee  
Morgan Johnson  
Dr. Srijana Bajracharya, Ithaca College  
Samantha Hillson, Tompkins County Health Department

### **Background**

This study is based on a service-learning (S-L) project that was integrated into our Development and Evaluation of Health Promotional Programs course. The Coordinator of Harmonicas for Health (HFH) of Tompkins County Health Department was chosen as our community partner. Their program objective and our course objective matched in that we both strive to improve the quality of life of our community by evaluating health promotion programs offered in the area.

The general focus of our project was respiratory health. The World Health Organization estimated 210 million individuals worldwide have Chronic Obstructive Pulmonary disease (COPD) and total deaths are expected to increase more than 30% in the next ten years (COPD Foundation, 2018). The incidence as well as mortality rate of COPD could be reduced by offering effective intervention at the local level. The HFH program was the first nationwide harmonica program created specifically for individuals with COPD and other chronic lung conditions by the COPD foundation and the Pulmonary Empowerment Program (COPD Foundation, 2018). Tompkins County has been piloting this community-based program to teach patients play the harmonica in order to exercise breathing muscles since September 2017. The purpose of our S-L project was to conduct an impact evaluation to examine the effectiveness of HFH program.

### **Methods**

We conducted a non-experimental research study using pre- and post-assessment surveys that were distributed to the participants before and after the HFH Intervention. The participants

consisted of 15 elderly COPD patients aged between 54 and 82 years old. A 15-item survey was created based on the previous survey and a logic model used for the program. The posttest had 11 patents. The survey included multiple choice, dichotomous, Likert scale, and open-ended questions to measure participants' perceived health status, satisfaction rate, and the behavior change. The Institutional Review Board approved the project. The Qualtrics Software System was used to distribute the survey and analyze data using descriptive statistics. The pre-assessment survey was mailed to participants and taken before the first class, while the post-assessment survey was given to participants on the last day of the program.

### **Results**

The majority of participants (75%) smoked in the past but do not currently smoke. The results of pre- and post-assessment data showed an improvement in participants' perceived health status that increased by 32.86% and in management strategies of respiratory health (11.9%) from the pretest scores. Most participants (86%) had a positive perception about the program. All participants (100%) agreed that "I have gained greater control of my breathing", "I would recommend this course to another person", and "The educational topics increased my knowledge."

### **Discussion/Conclusion**

It was evident that the Tompkins County COPD trends are similar to national trends and tobacco is a major factor in causing negative respiratory health outcomes. The results of pre and post survey demonstrated that HFH program has the capability to improve the perceived health status of its participants. It not only provided a support group but also education about respiratory health and skills to increase confidence in respiratory health management. Since the majority of the participants expressed their satisfaction regarding the program, there seems to be a value to making HFH program available at the community level. The small and unequal

sample size in pre and post survey did not allow us to perform a quantitative comparison.

However, the qualitative data demonstrated participants' satisfaction with the program. HFH demonstration of improving overall health on a micro-level is evidence as to why it could be expanded to other communities.

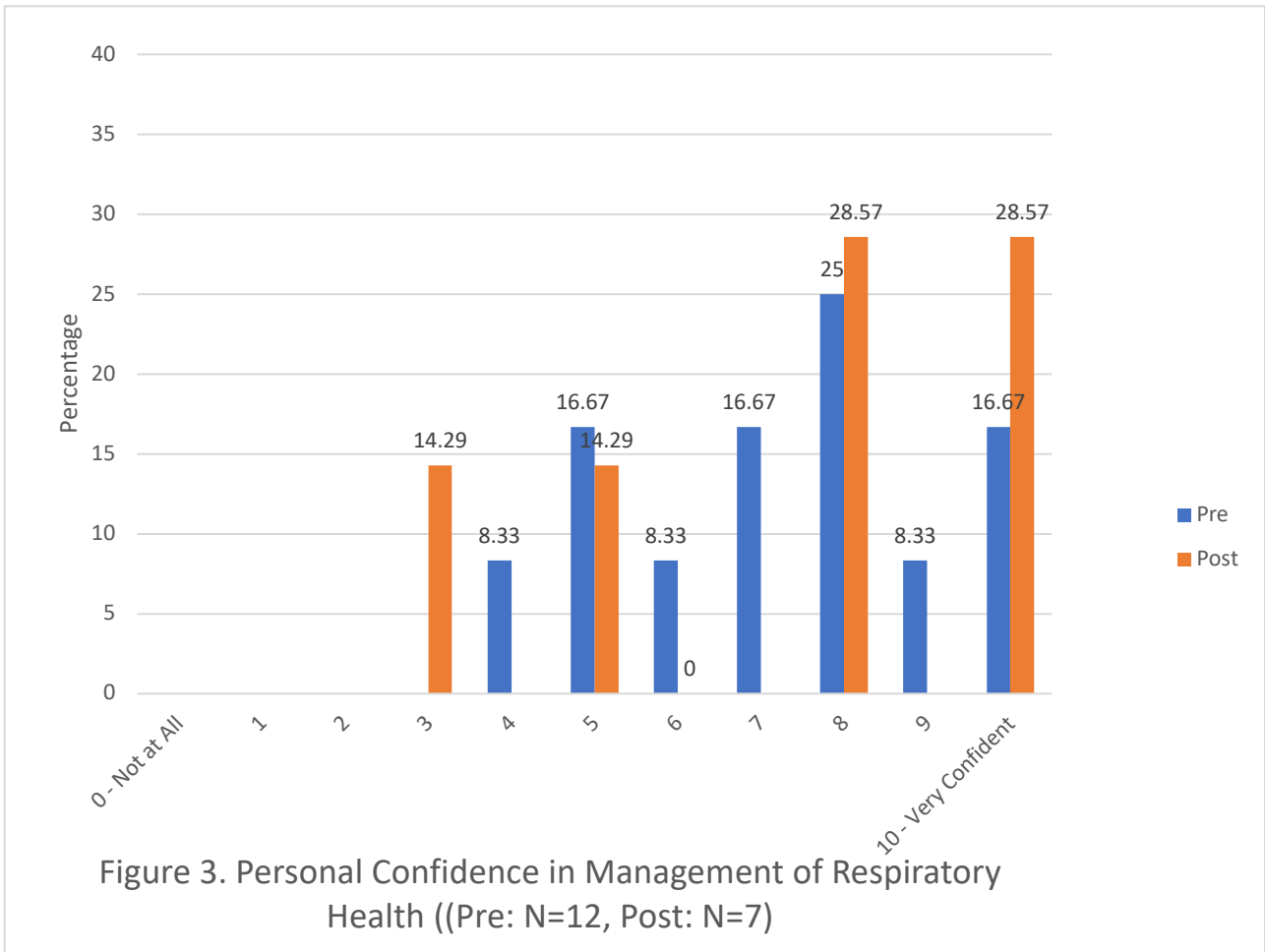
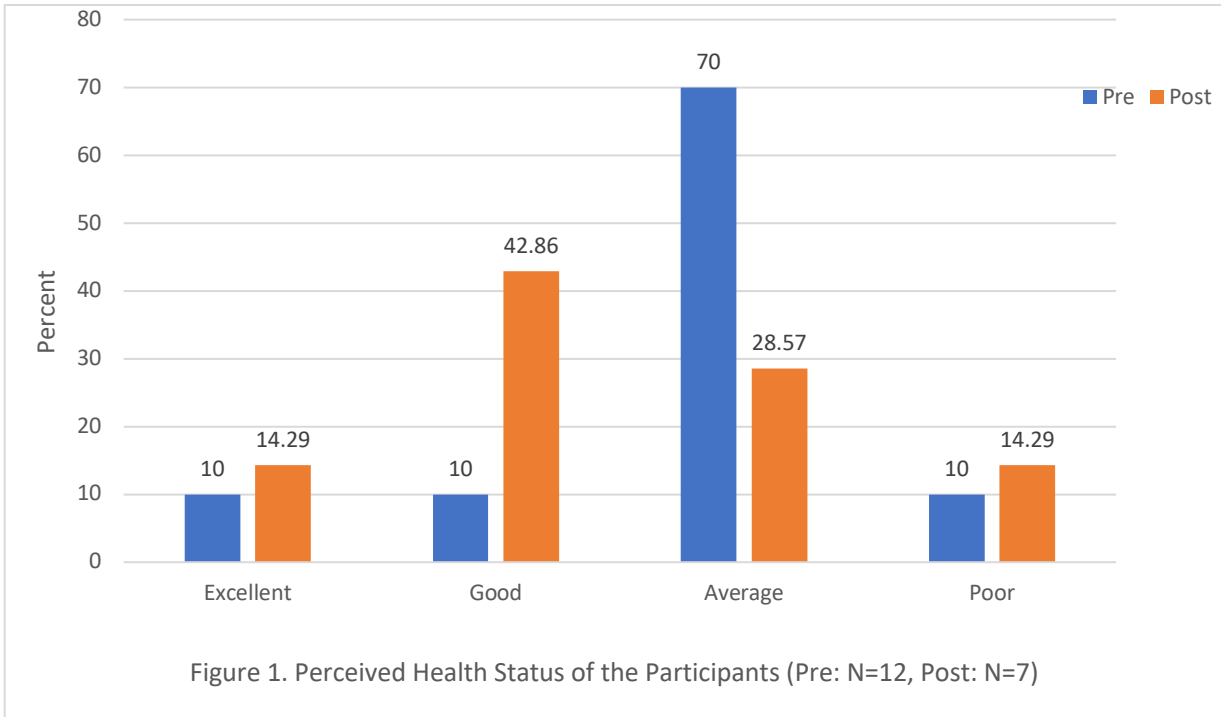
Limitations of the study included a small sample size, not all participants taking the post-assessment due to illness, the post-assessment not containing demographic questions, and a short time period (six-week intervention) to demonstrate the effectiveness of the intervention.

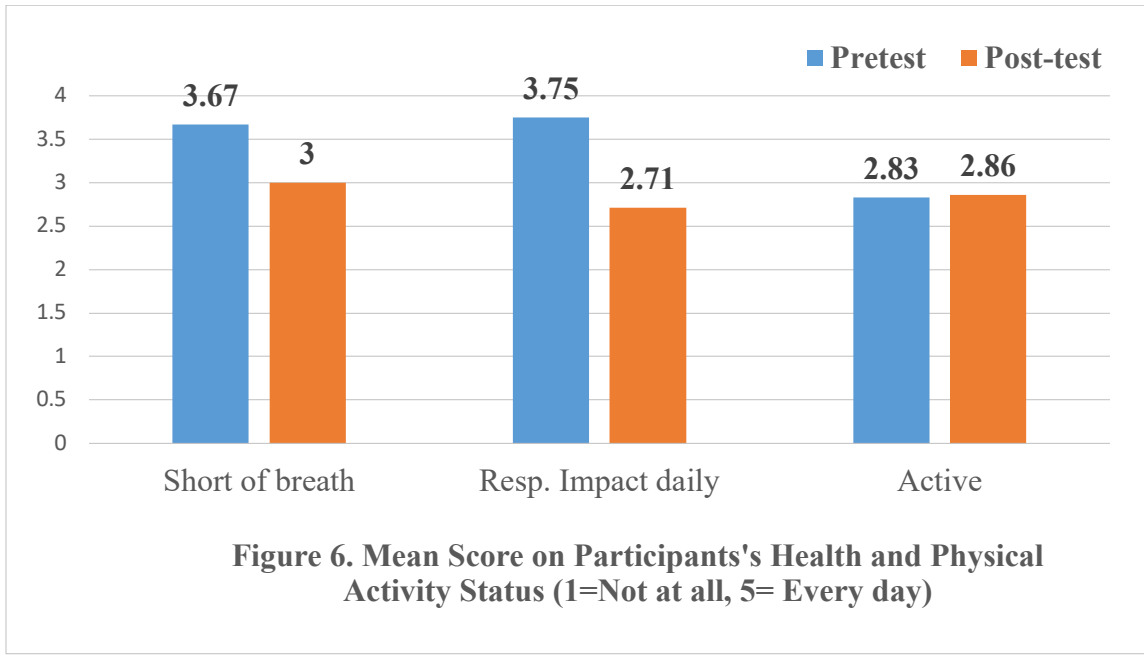
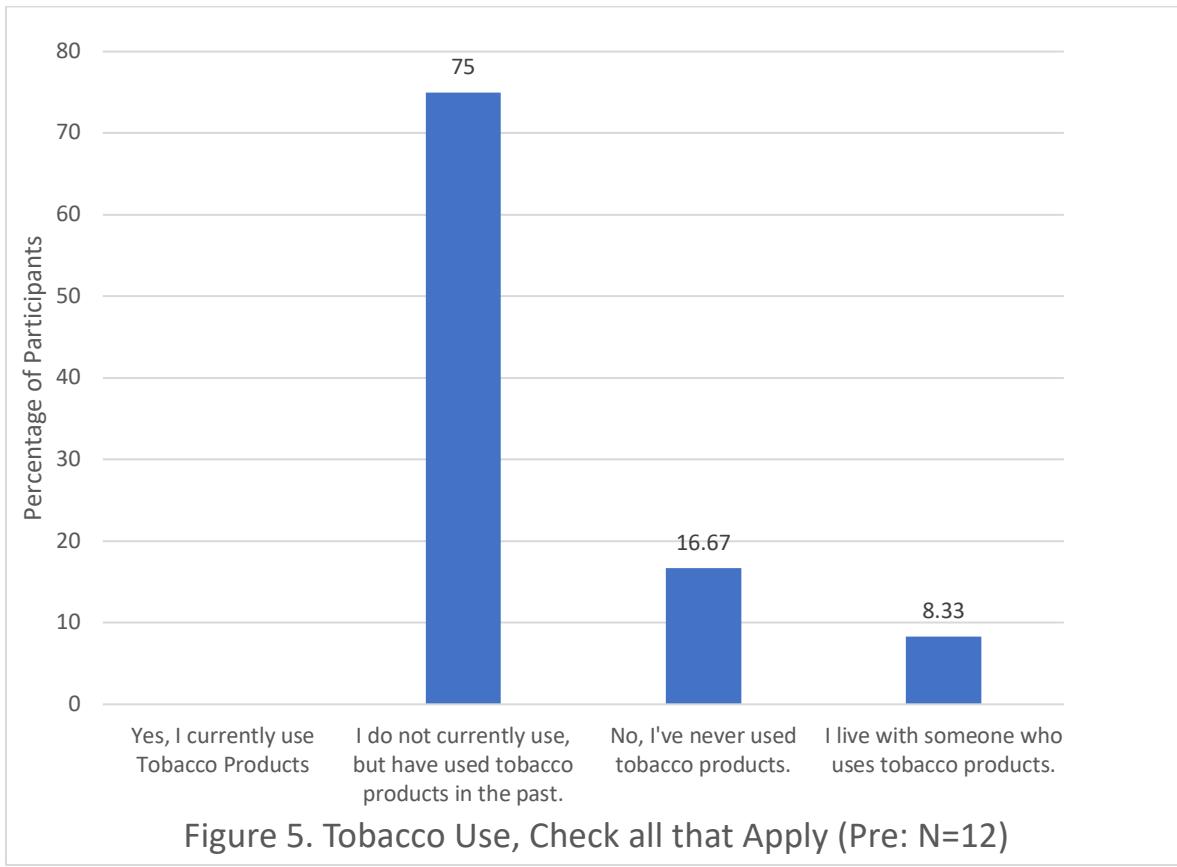
Recommendations to our community partner included recruiting more patients; providing support and encouragement to practice at home; spending times with them during their day-to-day practice; focusing on patient interaction and inclusion to increase participant enjoyment; and lastly conducting an outcome evaluation to see a long-term effect.

The S-L project provided us with not only the knowledge about HFH program and its benefits but also enriched our education by providing first hand professional research experiences leading to a deeper understanding of course material. In addition, it allowed us to serve our community and fulfill Ithaca College's mission.

## Works Cited

- American Lung Association. (2018). How serious is COPD. Retrieved from <http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/copd/learn-about-copd/how-serious-is-copd.html>
- Centers for Disease Control and Prevention (2018, April 24). Asthma. Retrieved from [https://www.cdc.gov/asthma/?s\\_cid=asthma-002-bb](https://www.cdc.gov/asthma/?s_cid=asthma-002-bb).
- Centers for Disease Control and Prevention. (2018, January 18). BRFSS questionnaires. Retrieved from <https://www.cdc.gov/brfss/questionnaires/index.htm>
- Centers for Disease Control and Prevention. (2017, August 4). Chronic obstructive pulmonary disease (COPD). Retrieved from <https://www.cdc.gov/copd/index.html>
- Centers for Disease Control and Prevention. (n.d.). Demographic questions: *National healthy worksite*. National Center for Chronic Disease Prevention and Health Promotion. Retrieved from [https://www.cdc.gov/workplacehealthpromotion/tools-resources/pdfs/nhwp\\_demographics\\_survey.pdf](https://www.cdc.gov/workplacehealthpromotion/tools-resources/pdfs/nhwp_demographics_survey.pdf)
- COPD Foundation. (2018). COPD statistics across America: *How common is COPD*. Retrieved from <https://www.copdfoundation.org/What-is-COPD/Understanding-COPD/Statistics.aspx>
- O'Connor, K., & Kelsey O'Connor. (2017, November 10). Harmonica program in Tompkins helps with lung health. Retrieved March 05, 2018, from <https://ithacavoices.com/2017/11/harmonica-program-tompkins-helps-lung-health/>
- Samantha Hillson. (2018, February). Harmonicas for Health. Tompkins County Health Department.
- Samantha Hillson. (2017, December 12). Harmonicas for Health: Logic Model. Tompkins County Health Department.
- State of California. (2018, February 22). Rates of preventable hospitalizations for selected medical conditions by county (LGHC indicator). Retrieved from <https://www.healthdata.gov/dataset/rates-preventable-hospitalizations-selected-medical-conditions-county-lghc-indicator>
- Respiratory diseases. (2018). *Healthy people 2020*. Retrieved from <https://www.healthypeople.gov/2020/topics-objectives/topic/respiratory-diseases>
- Welcome to COPD360music - Harmonicas for Health! (n.d.). Retrieved March 05, 2018, from <https://www.copdfoundation.org/Learn-More/Pulmonary-Rehabilitation/Harmonicas-for-Health.aspx>
- World Health Organization. (2018). Chronic obstructive pulmonary disease (COPD). Retrieved from <http://www.who.int/respiratory/copd/en/>





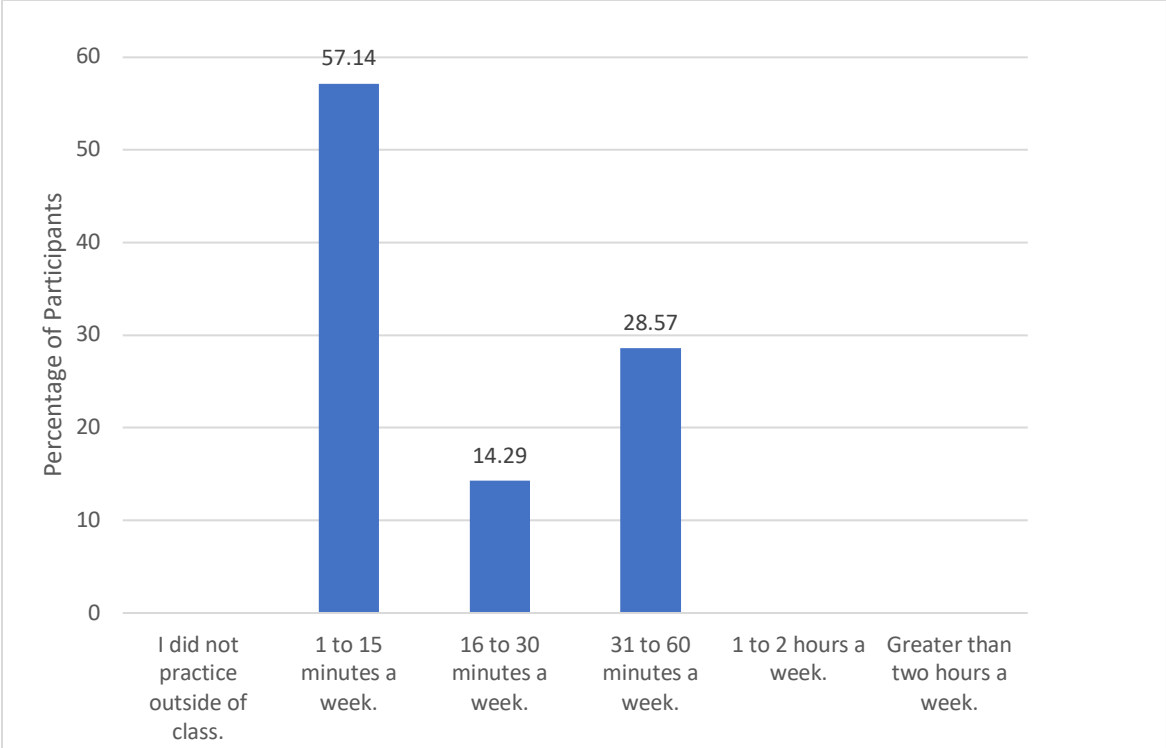


Figure 8. Time Spent Practicing the Harmonica (Post, N=7)

**Table 1. General Characteristics of Harmonicas for Health Participants in Percentage.**

	Pre-Assessment (N=12)
<b>Gender</b>	
Male	33%
Female	67%
<b>Age</b>	
50-59	17%
60-69	25%
70-79	33%
80-89	25%

**Table 2. Impact of Harmonica for Health Program on Participants.**

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>	<b>Mean</b>	<b>Total</b>
<b>I lead a more active lifestyle or am able to do so after this course.</b>	<b>0.0%</b>	<b>28.6%</b>	<b>28.6%</b>	<b>42.9%</b>	<b>0.0%</b>	<b>4.1</b>	<b>7</b>
<b>My overall shortness of breath has decreased over the course.</b>	<b>0.0%</b>	<b>0.0%</b>	<b>28.6%</b>	<b>57.1%</b>	<b>14.3%</b>	<b>3.7</b>	<b>7</b>
<b>I improved my skills to manage my overall disease.</b>	<b>0.0%</b>	<b>0.0%</b>	<b>42.9%</b>	<b>42.9%</b>	<b>14.3%</b>	<b>4.0</b>	<b>7</b>
<b>I practiced my breathing skills while having fun playing.</b>	<b>0.0%</b>	<b>14.3%</b>	<b>42.9%</b>	<b>14.3%</b>	<b>28.6%</b>	<b>3.9</b>	<b>7</b>
<b>I better handle stress and have reduced my stress levels.</b>	<b>0.0%</b>	<b>0.0%</b>	<b>28.6%</b>	<b>42.9%</b>	<b>28.6%</b>	<b>3.1</b>	<b>7</b>
<b>I increased and am confident in my ability to play the harmonica.</b>	<b>0.0%</b>	<b>0.0%</b>	<b>14.3%</b>	<b>57.1%</b>	<b>28.6%</b>	<b>3.6</b>	<b>7</b>
<b>I would recommend this course to another person.</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>57.1%</b>	<b>42.9%</b>	<b>4.3</b>	<b>7</b>
<b>Even if I have not improved, I built a sense of community with fellow members.</b>	<b>0.0%</b>	<b>0.0%</b>	<b>14.3%</b>	<b>42.9%</b>	<b>42.9%</b>	<b>4.4</b>	<b>7</b>
<b>I have gained greater control of my breathing.</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>14.3%</b>	<b>85.7%</b>	<b>4.9</b>	<b>7</b>
<b>The educational topics increased my knowledge.</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>	<b>5.0</b>	<b>7</b>



**Table 5. If Participants Goals were Met during Harmonicas for Health Program (Post: N=7)**

Indicator Number for Surveys.	Participant Comment.
3	Helping breathing, learning something new, being with others.
2	Enjoyed the class, wish it could last longer than six weeks.
7	Very Sob? Nxxx? So not a fair time for me. **Could not read comment.
14	Yes very much so.
17	Very much surprised how playing the harmonica helped!
8	Yes I have learned a lot. I am more confident now.
12	Yes. My goal was to improve my breathing and be more conscious of my breathing while walking or change in atmosphere.





## Harmonicas 4 Health: Logic Model

Updated: 12/12/2017

Resources/Inputs	Activities to be Conducted	Outputs	Outcomes/Benefits	Impact
<p>Expertise/Staff: Health Educator Public Health Nurse Respiratory Therapist</p> <p>Students</p> <p>Program space at assisted living facility/community org.</p> <p>Transportation</p> <p>Harmonicas and music binders</p> <p>Outreach materials/social media</p> <p>COPD Foundation materials/curriculum</p> <p>Healthcare provider referrals</p> <p>Grant Funding</p> <p>Partnerships Participants and caregivers</p>	<p>Distribution of flyers/Outreach to healthcare providers and community</p> <p>Social media posts/media contacts</p> <p>Six-week program with weekly classes to 15 or fewer participants</p> <p>Phone follow-up 6 months after program completion</p> <p>Coordination of transportation</p> <p>Coordination with host site</p>	<p># of outreach attempts</p> <p># of weekly classes held</p> <p># of participants in the program</p> <p># transportation vouchers</p> <p>#trained facilitators</p> <p>% finishing 6 weeks</p> <p>% completing the 6-month follow-up</p>	<p>Ability to play the harmonica</p> <p>Understanding of the benefits of controlled inhaling and exhaling</p> <p>A cohort of individuals that have learned together and can support one another</p> <p>Empowered participants taking control of their breathing</p> <p>Learning through fun</p> <p>Decreased shortness of breath</p> <p>Reduced stress levels</p> <p>Increase physical activity</p>	<p>Ability to lead more active lifestyles</p> <p>Reduced hospitalizations for respiratory issues – Reduced health care costs</p> <p>A cohort of students to encourage and participate with future classes – sense of community</p> <p>Better self-management of disease</p> <p>Improved quality of life</p>