

Background

- Pancreatic cancer (PC) is the fourth leading cause of cancer mortality in the United States (US).
- Efforts are focused on early diagnosis, treatment and prevention of PC.
- However, knowledge translation in patient education and resources that address barriers to health literacy are limited.
- We evaluated the NPF's APP as a resource to address patient barriers to health literacy and gaps in understanding.

Methods

- Using visual formats of learning (animations, videos and slide shows), we monitored APP website and YouTube metrics from September 2013 to May 2019.
- We evaluated learner activity, number of views with highest retention in US and globally.

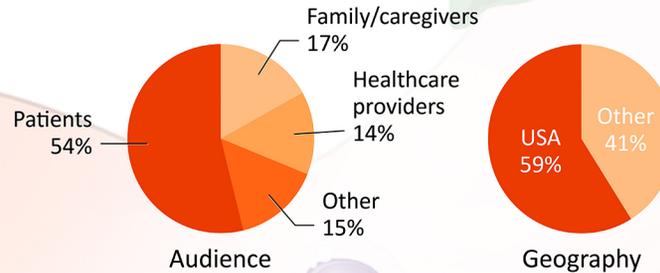
Results

APP gathered 2,602,865 views (409,574 views on the APP website and 2,193,291 views on YouTube) from over 100 countries. The majority of viewers (59%) were from the US with 54% being patients, 17% family/caregivers, 14% healthcare providers and 15% other. The animations "Understanding Clinical Trials", "Pancreatic Cancer: Treatment and Outcomes", "Pancreatic Cancer: Signs, Symptoms and Risk Factors", and "Pancreatic Cancer: Pathophysiology, Diagnosis and Staging" had 1,127, 4,253, 6,804 and 3,794 views respectively on the website and 71,056, 36,307, 14,290 and 12,588 views respectively on YouTube. Top expert videos viewed most were "What are the different stages of pancreatic cancer?", "What are the symptoms of pancreatic cancer?", "What should I expect following surgery to remove a malignant pancreatic cancer tumor?", and "What is palliative treatment?" with 459, 1,221, 222, and 327 views respectively on the website and 10,726, 4,848, 2,604, and 1,154 views respectively on YouTube.

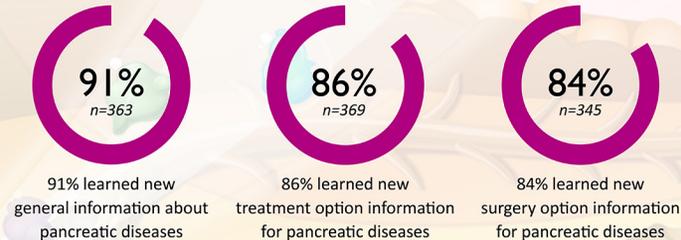
Audience Reach and Demographics (September 2013 to May 2019)

2,602,865 total APP views

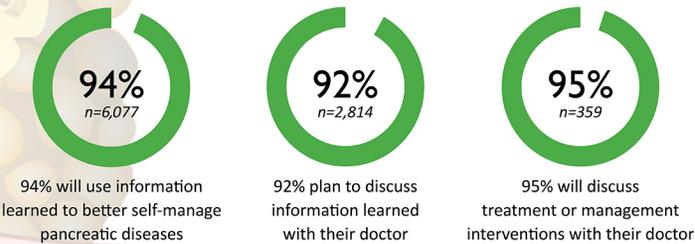
1,611,985 total APP visitors



Patients Who Learned New Information on Pancreatic Diseases



Patients Who Reported Commitment to Change



Most Popular Pancreatic Cancer Animations

| Animation Title | Views |
|---|--------|
| Understanding Clinical Trials | 72,183 |
| Pancreatic Cancer: Treatment and Outcomes | 40,560 |
| Pancreatic Cancer: Signs, Symptoms and Risk Factors | 21,094 |
| Pancreatic Cancer: Pathophysiology, Diagnosis and Staging | 16,382 |

Most Popular Pancreatic Cancer Videos

| Video Title | Views |
|---|--------|
| What are the different stages of pancreatic cancer? | 11,185 |
| What are the symptoms of pancreatic cancer? | 6,069 |
| What should I expect following surgery to remove a malignant pancreatic cancer tumor? | 2,826 |
| What is "palliative treatment" for pancreatic cancer? | 1,481 |

Conclusion

Our study suggests visual formats of education are effective in communicating complex health information to persons with poor health literacy. Pancreatic cancer education based on visual formats have vast potential to provide effective learning for patients. Continued efforts should be made to provide resources that address patient barriers for best health outcomes.

1. Fahy E, Hardikar R, Fox A, Mackay S. Quality of patient health information on the Internet: Reviewing a complete and evolving landscape. *Australas Med J.* 2014;7:24-28.
2. Siegel RL, Miller KD, Jemal A. Cancer Statistics, 2017. *CA Cancer J Clin.* 2017;67:7-30.
3. Peery AF, Crockett SD, Barritt AS, et al. Burden of Gastrointestinal, Liver, and Pancreatic Diseases in the United States. *Gastroenterology.* 2015;149:1731-1741.e1733.
4. PanCan.org. Pancreatic Cancer Action Network Pancreatic Cancer Facts 2016. 2016; <https://www.panacan.org/wp-content/uploads/2016/02/2016-GAA-PC-Facts.pdf>. Accessed 10/11/17, 2017.
5. Moore DE, Jr, Green JS, Gallis HA. Achieving desired results and improved outcomes: integrating planning and assessment throughout learning activities. *J Contin Educ Health Prof.* 2009;29:1-15.
6. Meppelink CS, van Weert JC, Haven CJ, et al. The effectiveness of health animations in audiences with different health literacy levels: an experimental study. *J Med Internet Res.* 2015;17:e11.

