



# *ALL OF US AND NATIONAL NETWORK OF LIBRARIES OF MEDICINE*

A partnership to reach communities through  
public libraries

## **NNLM *All of Us* National Program**

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## Contents

Executive Summary.....	2
Community Engagement .....	7
Support for <i>All of Us</i> national and regional events.....	11
Public Libraries Engagement.....	20
Assess the potential impact of libraries on participant enrollment and retention .....	23
Best practices in messaging and outreach for increased public and engagement.....	24
Community Education.....	27
Highlight public libraries as a technology resource that participants can use to engage with the program, particularly those in underserved communities affected by the digital divide .....	27
Equip public libraries with information about <i>All of Us</i> to share with their local communities .....	29
Increase public library staff capacity to offer health information training .....	31
<i>All of Us</i> Learning Platform .....	46
<i>All of Us</i> Training and Education Center content.....	47
<i>All of Us</i> Training and Education Center Platform (TEP) .....	48
NNLM <i>All of Us</i> National Program Evaluation.....	53
Appendices.....	54

## Executive Summary

### September 2017 – Present

*“We will continue to promote the All of Us Research Program--precision medicine is very important because the more we learn about our individual differences, the more tailored our health care can become.” – Oklahoma State University Library*

In September 2017 the National Library of Medicine (NLM) initiated a 3-year pilot partnership with the [NIH All of Us Research Program](#) (*All of Us*) for the program’s community engagement and training platform through the National Network of Libraries of Medicine (NNLM) UG4 cooperative agreement awards. This partnership had eight core milestones, based around two key strategies:

#### Key Strategies:

- Raising Awareness for *All of Us* with Libraries
- Providing standardized training for *All of Us*

#### Core Milestones:

1. Support for *All of Us* national and regional events
2. *All of Us* Training and Education Center platform (TEP)
3. *All of Us* Training and Education Center content
4. Equip public libraries with information about the *All of Us* Research Program to share with their local communities
5. Assess the potential impact of libraries on participant enrollment and retention
6. Highlight public libraries as a technology resource that participants can use to engage with the program, particularly those in underserved communities affected by the digital divide
7. Help identify best practices in messaging and outreach that leads to increased public interest and engagement in the program
8. Increase public library staff capacity to offer health information training

To achieve these milestones, NNLM:

- Established the [NNLM All of Us Community Engagement Network](#) (CEN) to promote and support engagement to regional *All of Us* Consortium Members, public libraries, and other organizations.
- Created the NNLM Community Engagement Center (CEC), which manages the national planning, coordination, and evaluation of these community activities. The CEC’s work is closely coordinated with the [NNLM All of Us Training and Education Center](#) (TEC) which develops and houses training and education content for and about the program, and interacts with *All of Us* Engagement through a Participant Engagement Lead.

# **NNLM *All of Us* National Program Organizational Structure**

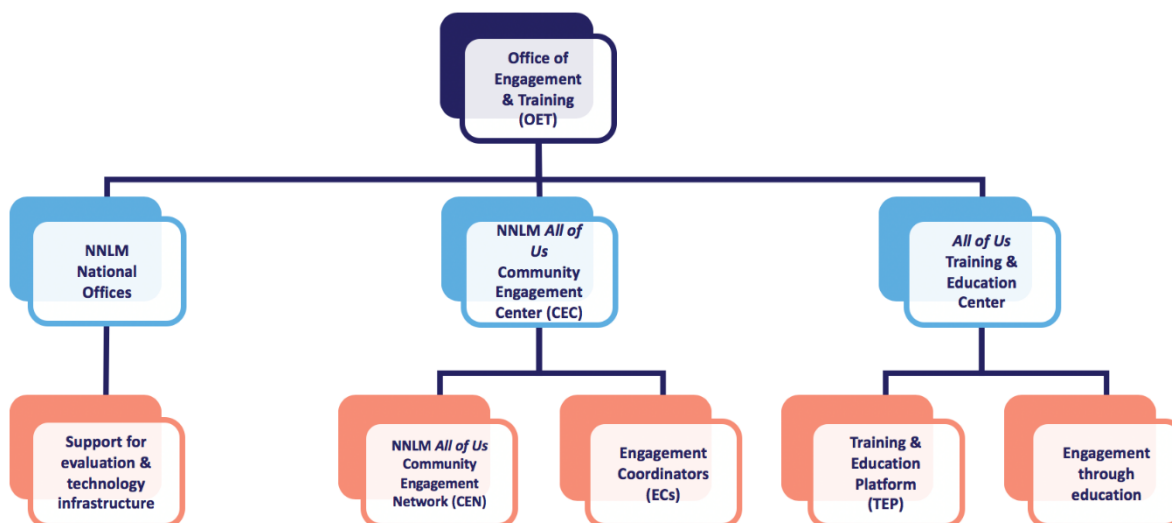


Figure 1. NNLM *All of Us* National Program Organizational Structure.

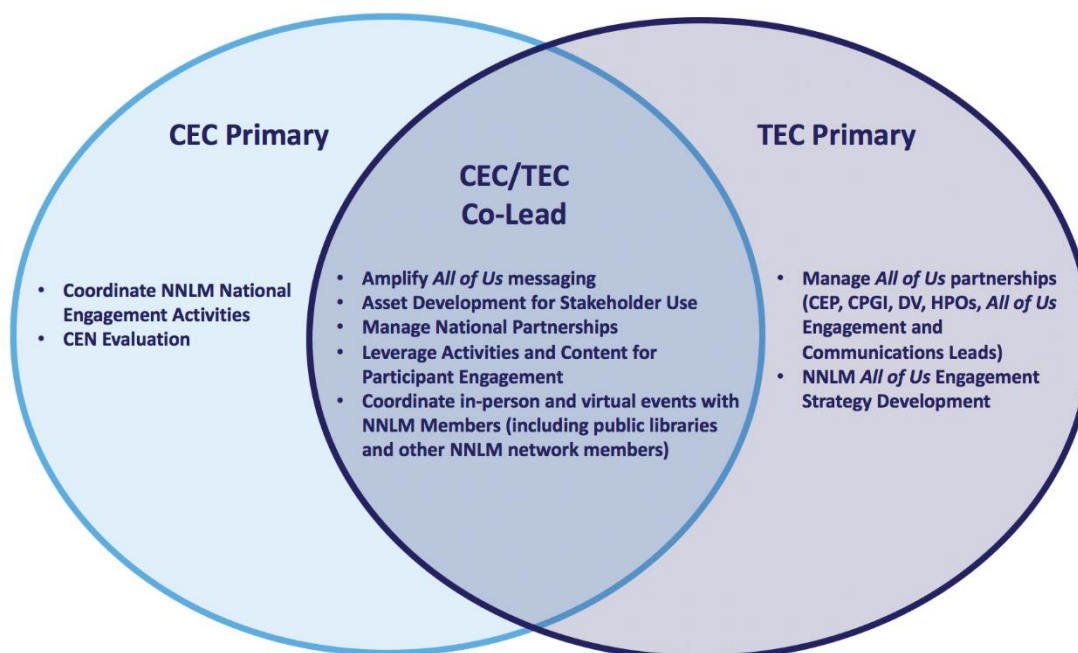


Figure 2. NNLM *All of Us* National Program collaboration for to achieve milestones.

## **Results of the *All of Us* – NLM Pilot Partnership (Years 1 to 3)**

In year 1 of the pilot (September 2017-April 2018), the NNLM laid the groundwork for its community engagement and training and education work, ramping up to its first community engagement event in May 2018. NNLM co-hosted the *All of Us* National Launch in Kansas City, MO, and participated in all other *All of Us* Launch events, with a presence at all 7 event locations across the United States.

Results by Milestone (the full results of the partnership are summarized in Appendix A):

Raising Awareness for <i>All of Us</i> in Libraries	
Milestone	Result
To <b>provide support for <i>All of Us</i> national and regional events (Milestone 1)</b> , NNLM coordinated and supported community engagement and programming activities across the NNLM, including activities to raise awareness on <i>All of Us</i> .	<ul style="list-style-type: none"> <li>1,315 events providing <i>All of Us</i> awareness were held by NNLM Member organizations with over 40,000 people reached. 770 of those events were held in libraries and community settings. Approximately <b>45%</b> of events targeted seniors, <b>37%</b> targeted women, <b>18%</b> were held in medically underserved areas, and another <b>24%</b> were held in rural communities.</li> <li>NNLM established partnerships with 28 organizations across the <i>All of Us</i> consortium resulting in collaborations on 14 joint activities.</li> </ul>
To <ul style="list-style-type: none"> <li><b>equip public libraries with information about <i>All of Us</i> to share with their local communities (Milestone 4),</b></li> <li><b>highlight public libraries as a technology resources that participants can use to engage with the program (Milestone 6),</b></li> <li><b>and help identify best practices in messaging and outreach that lead to public interest and engagement in the program (Milestone 7),</b></li> </ul> NNLM supported <i>All of Us</i> community engagement activities by leveraging public libraries as community conveners where the public can find help locating information, meeting spaces, and access to technology.	<ul style="list-style-type: none"> <li>NNLM has done outreach to 376 public libraries and 101 community-based organizations in 33 states and the District of Columbia to provide awareness of NLM's partnership with <i>All of Us</i> and to provide opportunities for these organizations to get involved.</li> <li>654 NNLM Member Organizations across the United States have joined the NNLM <i>All of Us</i> Community Engagement Network to provide awareness of <i>All of Us</i> and support health literacy in their communities.</li> <li>NNLM has expanded their community engagement activities by partnering with 5 national library organizations.</li> <li>1,164 "ready-to-use" program kits were disseminated with <i>All of Us</i> information</li> </ul>
To <b>assess the potential impact of libraries on participant enrollment and retention (Milestone 5)</b> , NNLM coordinated partnerships between public libraries and medical libraries and other NNLM members in the area.	<ul style="list-style-type: none"> <li>The <i>All of Us</i> Journey visited 31 libraries in 19 states, enrolling 788 people in the program</li> <li>established the <a href="http://joinallofus.org/nlm">joinallofus.org/nlm</a> vanity URL in February 2018, resulting in visits to <a href="http://joinallofus.org">joinallofus.org</a> by 2,900 users</li> <li>1,347 events were held by NNLM Member organizations, with over 37,000 people reached.</li> </ul>
To <b>increase public library staff's capacity to offer health information training (Milestone 8)</b> , NNLM enhanced the knowledge of librarians of health	<ul style="list-style-type: none"> <li>491 classes, trainings and workshops were offered, reaching 11,188 library staff.</li> </ul>

Raising Awareness for <i>All of Us</i> in Libraries	
Milestone	Result
information and programming, including on precision medicine, grounded on cultural humility	
Providing Training for <i>All of Us</i> Research Program	
To <b>develop a robust <i>All of Us</i> Training and Education Platform (Milestone 2 and 3)</b> , NNLM has achieved the metrics to the right.	<ul style="list-style-type: none"> <li>• The TEC's Learning Management System (LMS) currently offers 12 courses</li> <li>• Over 1500 accounts created</li> <li>• Over 1800 course completions</li> <li>• Custom certificates awarded upon completion</li> </ul>

#### Year 4 Goals: Training and Education Center

Goal 1. Develop, launch, and/or maintain trainings courses for a wide variety of audiences, in cooperation with the *All of Us* Consortium Training (ACT) Board.

Goal 2. Continue to provide leadership and strategic planning for *All of Us* participant engagement activities and *All of Us* awareness within public libraries, in partnership with the NNLM *All of Us* Community Engagement Network (examples of activities from years 1 to 3 in Appendix A).

Goal 3. Maintain and enhance Training and Education Platform (TEP).

#### Activities:

- Learning Locker will be added to the TEP. Learning Locker will be configured to track user interactions with the H5P technologies currently in use by the TEC.
- Implement a new learning records store (LRS). While data will be anonymized, the LRS will provide detailed reports on how users are interacting with the trainings, allowing for greater granularity in finding areas where learners struggle, guiding future refinements.
- Configure and launch Tableau server services to provide training data dashboards in the TEP. This new service will provide the opportunity for data visualizations available directly within the platform. Authorized users will be able to view how our systems are being used; permissions to see these visualizations will be determined using the TEP platform's native permission system.

#### Year 4 Goals: Community Engagement Network

Goal 1. Activate libraries to offer health information programming on digital literacy, citizen science, precision medicine, and health literacy, grounded on cultural humility, in order to raise awareness and support retention of *All of Us*.

#### Activities:

- Provide **digital literacy** content and in-library programming in public libraries
- Coordinate ***All of Us* Journey** events at library locations across the United States
- Deploy **Precision Medicine Traveling Exhibit** to libraries for *All of Us* awareness and in-library programming
- Provide **citizen science** content and in-library programming to public libraries
- Deploy ***All of Us* Health Information Kiosks** to libraries

- Deploy **program kits** on citizen science, digital literacy, precision medicine, genetics and health literacy to libraries to offer in-library programming that provide *All of Us* awareness
  - Partner with **StoryCorps** to develop a program kit on storytelling and health
- Add examples of successful community engagement activities that provide *All of Us* awareness in the **Community Engagement Toolkit**
- Engage library staff on health information programming and *All of Us* awareness in the **Consumer Health Community of Practice**
- Increase digital retention and engagement strategies to adapt to the COVID-19 pandemic:
  - Transition current **digital literacy campaign** to amplify current digital communications strategies and offering digital literacy professional development opportunities for NNLM members
  - Build upon the momentum of Citizen Science Month (April 2020) and the provision of virtual **citizen science events**
  - Offer a series of **virtual health programs** for public libraries to promote to their communities including *All of Us* awareness
  - Leverage the **Consumer Health Community of Practice** to offer facilitated conversations on health information topics and *All of Us*
  - Revise the companion website for the **Precision Medicine Traveling exhibit** so it is a standalone resource that can be promoted virtually
  - Develop a robust digital communications campaign on health literacy topics that align with *All of Us*

Goal 2. Coordinate partnerships between public libraries with *All of Us* partners, medical libraries, and other NNLM members in the area.

**Activities:**

- Facilitate **joint events** with NNLM members and *All of Us* partners
- Add *All of Us* consortium organizations to the **Speakers Bureau**
- Activate libraries to **host *All of Us* events** and meetings

Goal 3. Leverage public libraries as community conveners where the public can find help locating information, meeting spaces, and access to technology in support of *All of Us* community engagement activities.

**Activities:**

- **Train library staff** on *All of Us* awareness and how they can support *All of Us* awareness in their community
- Train **Consumer Health Information Specialization** recipients on *All of Us* and how they can support *All of Us* awareness in their community
- Drive **traffic to [joinallofus.org/nlm](http://joinallofus.org/nlm)**

## Community Engagement

### NNLM *All of Us* Community Engagement Network

Each *All of Us* awareness event is as unique as the libraries that host them because the NNLM relies on and leverages the unique needs, capacities and interests of our library partners. In order to support the work of the libraries, the CEN gives them the tools and resources needed to engage their community around access to quality health information and to learn about *All of Us*.

The NNLM *All of Us* Community Engagement Network (CEN) was developed to provide engagement to regional *All of Us* Consortium Members, public libraries, and other organizations, and to help public libraries in providing awareness of *All of Us* and in supporting the health information needs of their users by providing :

1. Health information training for public library staff
2. Funding and other resources to support health programming and activities
3. Connections to medical libraries and other NNLM members in their area

NNLM Member Organizations can engage with the CEN at three levels:

1. Join Us
2. Work with Us
3. Lead with Us

Within these levels are a variety of engagement activities to choose from, giving CEN stakeholders the flexibility to choose activities that align with the needs and capacities. The following map shows the locations of the organizations who chose to **Lead with Us**:

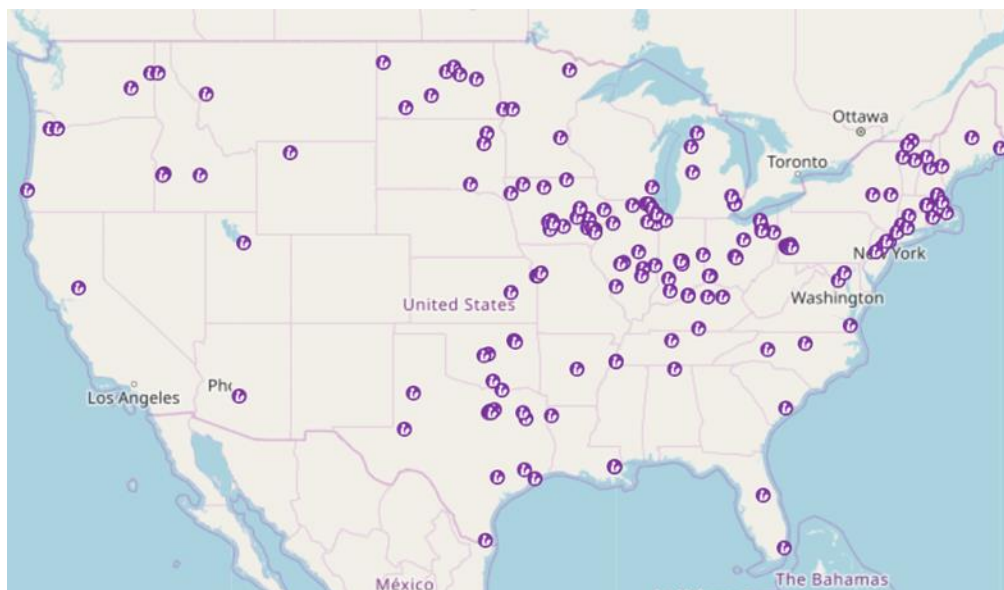


Figure 3. Locations of Organizations who Lead with Us.

More details about the organizations can be found [here](#).



## CEN Events

Since May 6, 2018, CEN members held 1,315 events providing *All of Us* awareness were held by NNLM Member organizations with over 40,000 people reached. 770 of those events were held in libraries and community settings across the US.

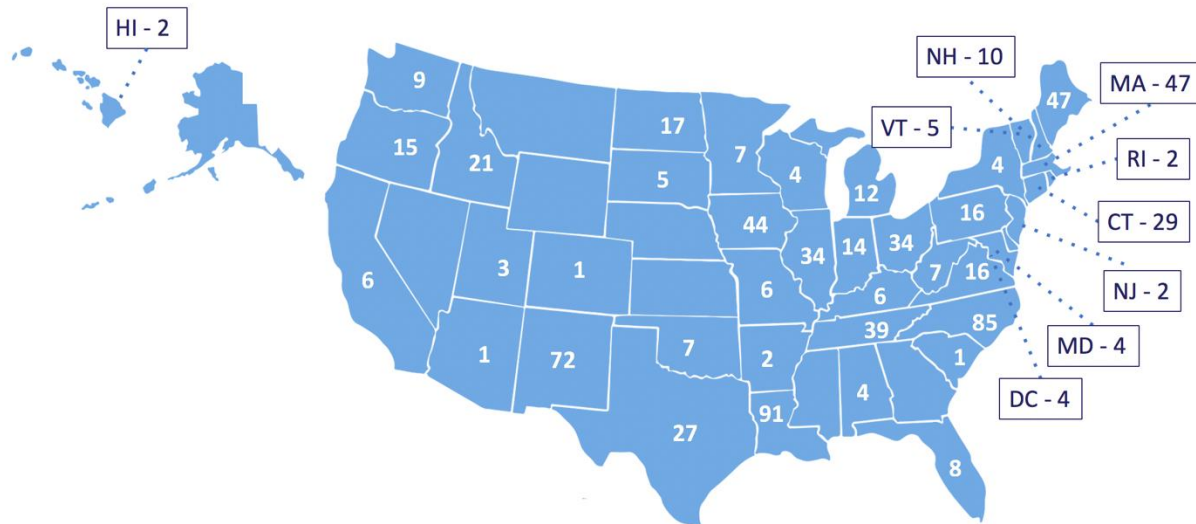


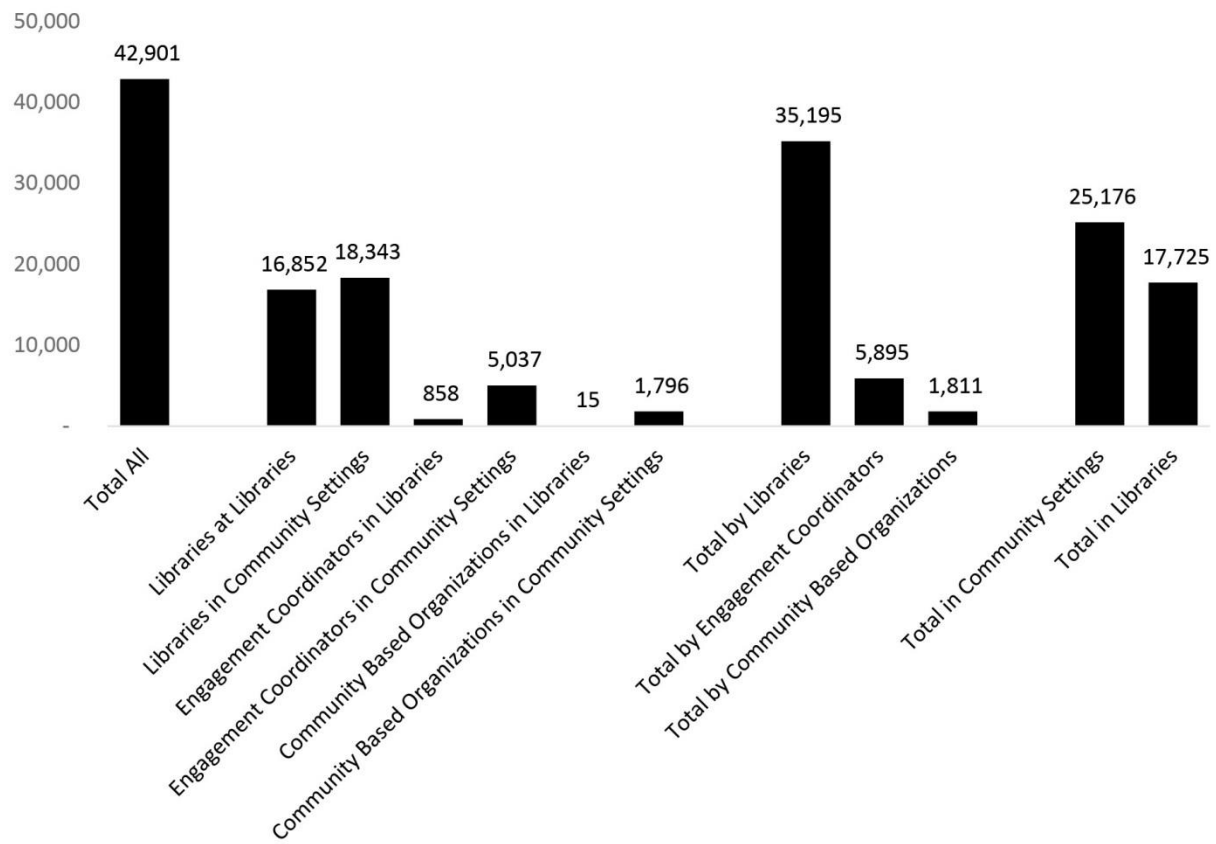
Figure 4. 700 CEN events. Numbers indicate number of events in each state.

CEN programs and outreach activities can take a variety of formats, and these formats determine how they promote *All of Us*:

	Host Journey	Print Materials*	Presentation	Pop Up Table/Exhibit	Promote <a href="http://joinallofus.org/nlm">joinallofus.org/nlm</a>
Programs & Classes		X	X	X	X
Coffee Hour at the Library		X	X	X	X
Health Fairs	X	X		X	X
Wellness Walks	X	X		X	X
Focus Group Discussions		X		X	X
Block Parties	X	X		X	X
Health Grocery Shopping Tour		X	X		X
Digital Literacy Training		X	X	X	X
Health Information Kiosk					X

Figure 5. Types of programs and outreach activities libraries are offering and how they are promoting *All of Us*. All print and digital materials promoting *All of Us* in libraries include [joinallofus.org/nlm](http://joinallofus.org/nlm).

**A.**



B.

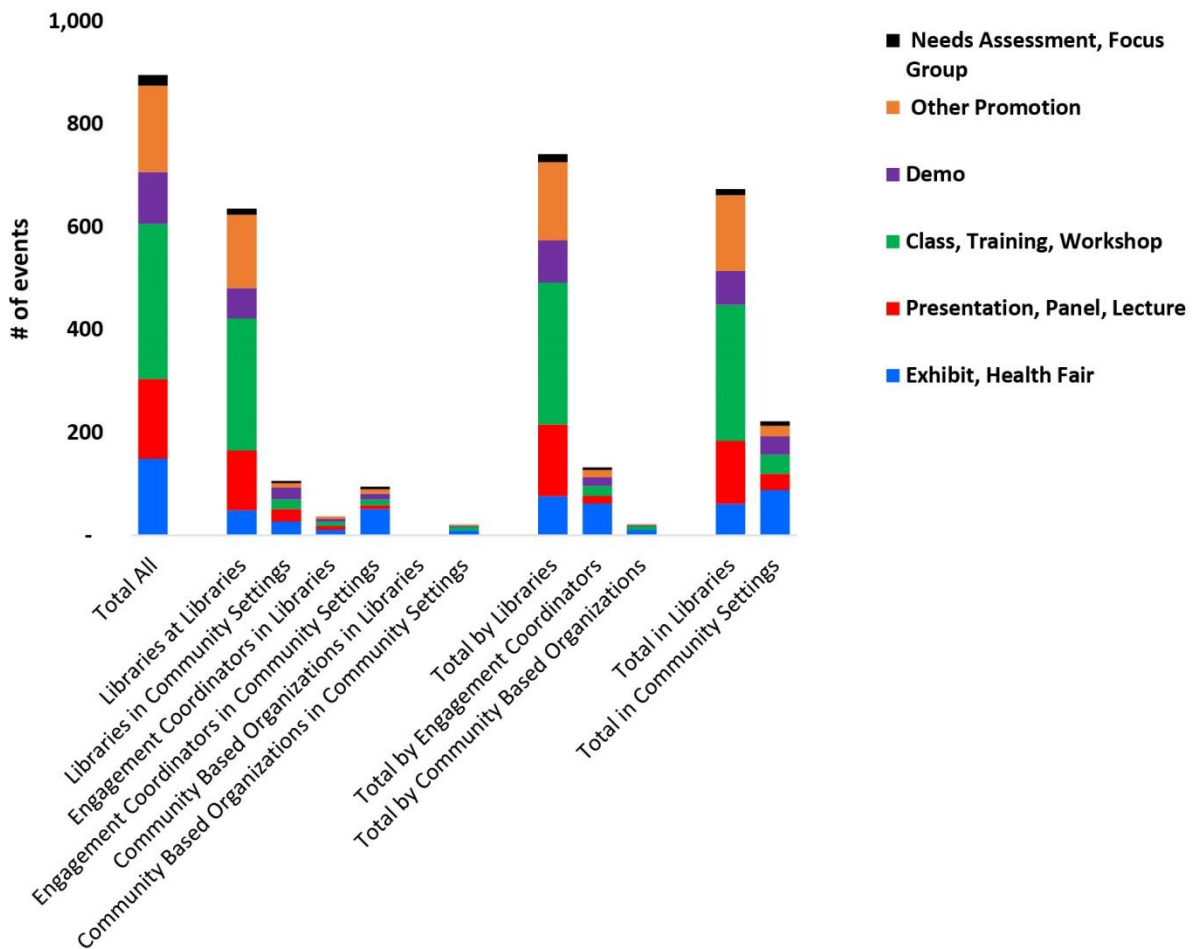


Figure 6. Attendees and events by partners and setting. (A) Total attendance at events by partner and setting. (B) Event type by partner and setting.

These events were conducted by three types of CEN partners:

1. Libraries
2. NNLM Engagement Coordinators
3. Community based organizations

Events were held in two types of settings:

1. Libraries
2. Community settings

More than 40,000 people attended these events and the majority of events were conducted by library staff in libraries (Fig. 5, A-B). These events focused on communities across UBR categorizations, including race and ethnicity, age, and geographical region (Fig 4-5, Appendix B). Analysis of these events shows that the majority of them were classes, trainings, or workshops focused on African American or Black communities or seniors, and that events held in community settings had higher attendance than ones held in libraries themselves (Fig 4-5, Appendix B).

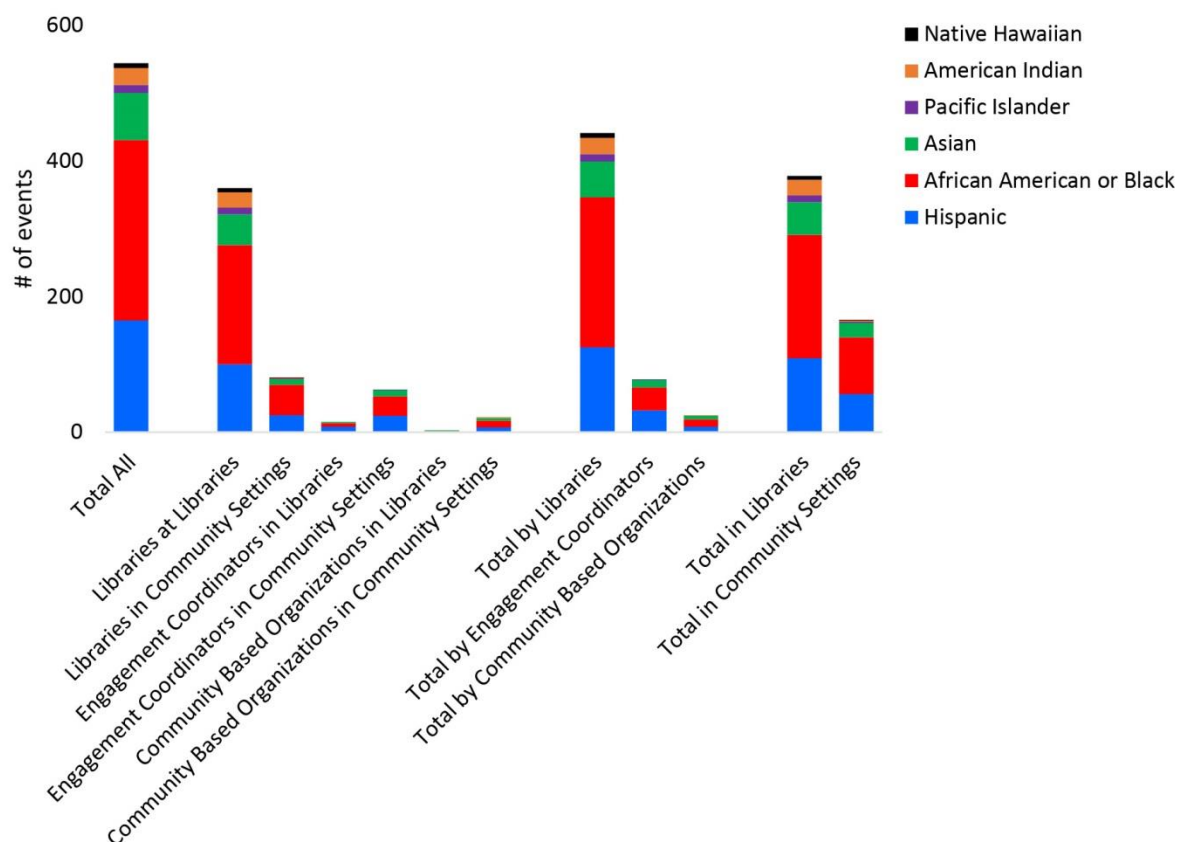


Figure 7. Events by partner in settings mapped to demographics recorded at events.

## Support for *All of Us* national and regional events

### *All of Us* Research Program Launch, May 2018

To mark the occasion of the national launch of *All of Us*, the NIH hosted community events in seven cities across the country. NNLM supported its fellow *All of Us* Consortium Members by staffing exhibit booths at each event location, laying the groundwork for many close collaborations over the course of the pilot. Overall, NNLM engaged with 1,359 people across all seven events about quality health information resources.

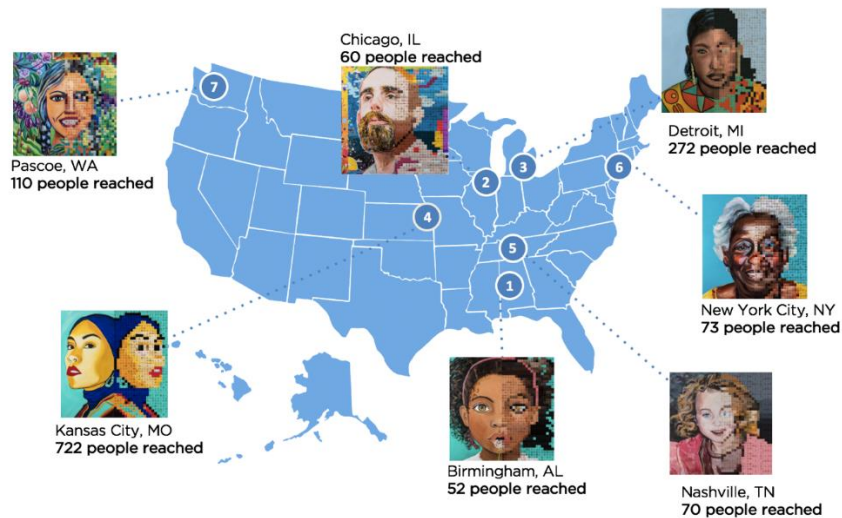
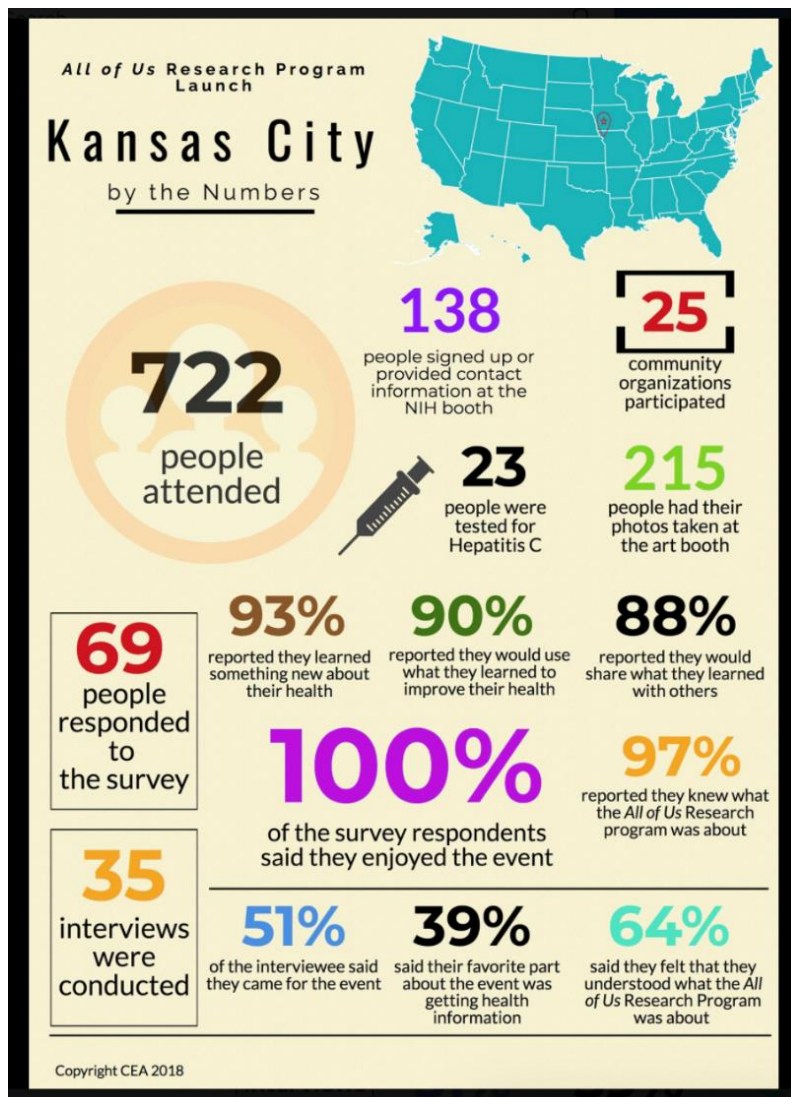


Figure 8. Total number of people reached by NNLM staff at the All of Us Launch events.



#### Kansas City Launch Event, May 6, 2018 Summary

On May 6, 2018, the historic Kansas City Union Station was filled with activity to celebrate the launch of *All of Us* and to promote health and wellness for community members. Amidst the live-casting of the national *All of Us* launch speaker events, more than 20 nonprofit organizations shared health information and offered mini-Med talks on topics such as obesity, diabetes, and the importance of genetic counseling. The National Association of Hispanic Nurses (NAHN) checked blood pressure, while the Good Samaritan Project screened for Hepatitis C. Kansas City Mayor Sly James and his daughter Aja made an appearance to support literacy and fitness while local artist Vania Soto engaged with attendees to create a one of a kind community art piece. Science City demonstrated DNA experiments and local advocates like Kelly Ranallo, spoke to attendees about the importance of precision medicine. The goal of the event was to



educate and raise awareness, evoke trust, encouraging each and every one to be that one in a million.

Members of the NNLM *All of Us* National Program Evaluation Team were present to evaluate the event. The primary purpose of the evaluation was to gather information about the success of the event and its contribution in meeting the outcomes of the NNLM *All of Us* National Program. The specific outcomes of interest were “raising awareness on *All of Us*” and “improving health literacy among the public.”

### Event Activities



*Figure 2. Science City demonstrated DNA experiments (Left), Kansas City Mayor, Sly James, autographing books (Center), and Aja James and Mallory Jansen demonstrating fitness exercises (Right).*

Approximately 25 informational booths were present during the event. The official program event included simulcast speeches from NIH and *All of Us* Research Program leaders. Additionally, the Kansas City launch event included food trucks, entertainment, a book reading by Aja James, the daughter of Kansas City Mayor Sly James, and a community art booth where attendees could get their portrait taken to be part of a mosaic.

According to a count from the NIH point of contact, 722 people came to the event. It should be noted that the event was held in a frequently visited tourist area and the entrance to Science City and to a train exhibit are located. The number of people counted may include people who passed through the event venue to get to the tourist attractions.



*Figure 10. NAHN providing blood-pressure checks (Left), Local artist Vania Soto creating community art to commemorate the event (Center), and precision medicine advocate, Kelly Renallo sharing her personal health story (Right).*

### Survey

A part of the evaluation data collection, a short survey was embedded in booklets for event attendees containing information about *All of Us* and brief descriptions of the booths. Attendees were instructed to visit the booths and get their booklet stamped in each booth. Attendees who submitted the survey

and had least four stamps in their booklet were eligible to win one of four Fitbits that were raffled at the event. Upon completion of all the required activities, attendees turned in their booklet at the official NIH booth to be entered in the drawing. The survey consisted of five statements with which attendees were asked to respond whether they agree (by marking “Yes”), disagree (by marking “No”), or not sure (by marking “Not Sure”).

A total of 69 people completed and turned in the survey. Overall, survey respondents responded positively to the statements (Figure 11). The responses indicated that the event increased attendees’ knowledge about health-related topics, and raised awareness of *All of Us*. Furthermore, attendees indicated they intended to apply their new knowledge to improve their health and tell others. All of survey respondents reported that they enjoyed the event.

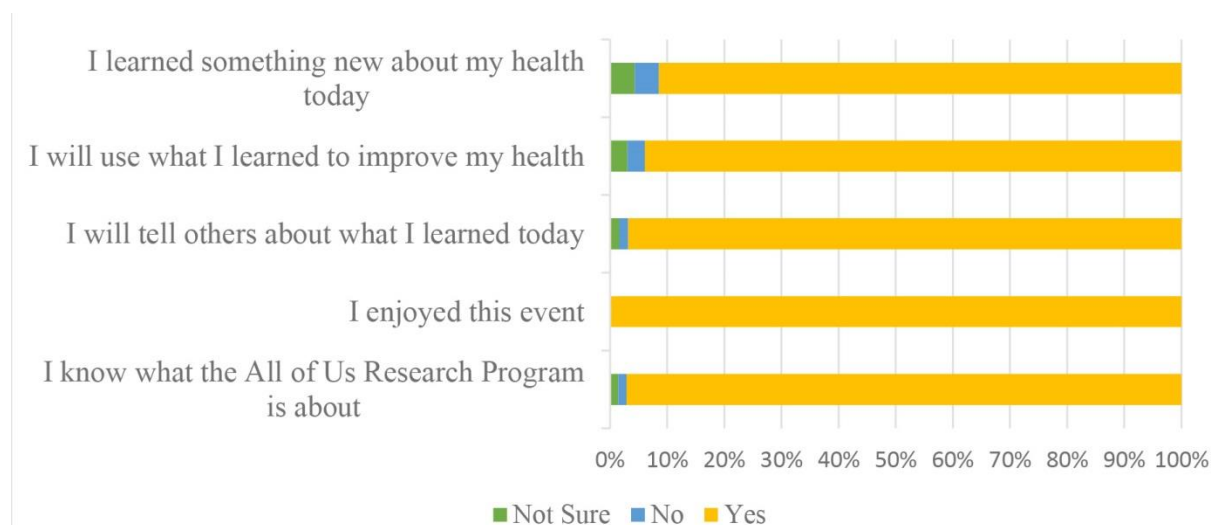


Figure 11. Overall, Kansas City Launch Party survey respondents indicated that the event increased their knowledge about health-related topics that they planned to use and share with others and the event raised awareness of the All of Us Research Program (n=69).

### Informal Interviews

In addition to collecting data through the surveys, the evaluation team also conducted a brief interview with randomly selected event attendees. Thirty-five interviews were conducted during the event. The responses are discussed below, organized by interview questions.

#### ***What brought you here today?***

A total of 35 responses to the question “What brought you here today?” were recorded (100% response rate). The responses were split between respondents who indicated they came for the event and those who indicated they did not come for the event (Figure 12). Those who indicated they came for the event reported that they came as a result of hearing about the event from flyers, the web, the library, the news, or word-of-mouth or working in a booth or knowing someone who worked in a booth. Three people who indicated they came because they knew someone who worked in a booth specifically mentioned the Delta Sorority was what brought them to the event. Those who indicated they did not come for the event reported a variety of reasons that brought them to the event.

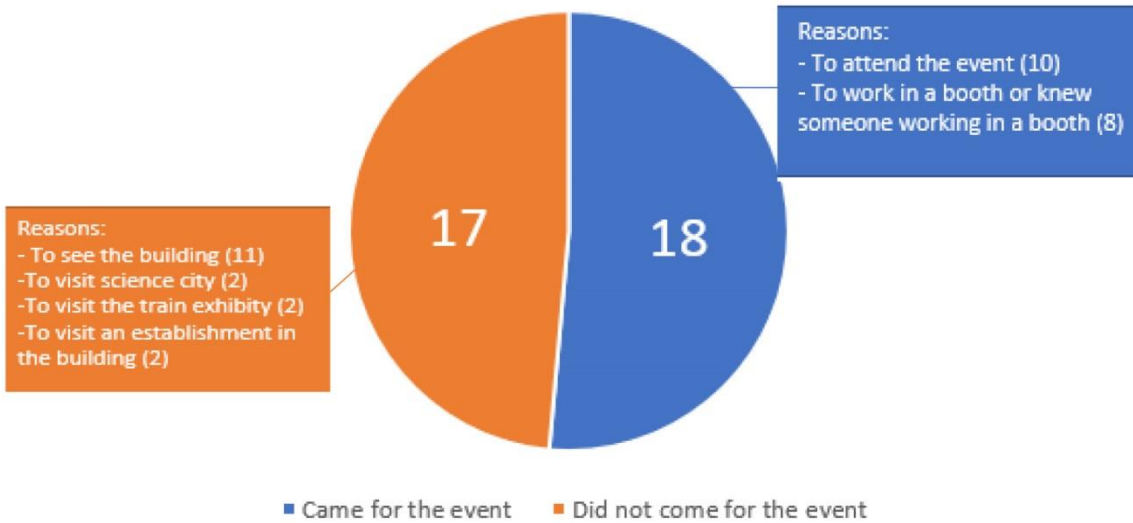


Figure12. Half of the attendees reported they came to the Kansas City Launch Party to attend the event.

### Is the event what you expected? Why or why not?

A total of 23 responses to the question “Is the event what you expected? Why or why not?” were recorded for a response rate of 66% (Figure 13). Of those who reported that the event met their expectations, three mentioned receiving information from booths as expected. Of those who said the event was not as expected, one thought the event was a job fair and another did not expect the talk about genetics.



Figure 13. Most attendees interviewed said the event was what they expected.

### What is your favorite part about the event?

A total of 33 people (94%) responded to the question “What is your favorite part about the event?” The response themes, frequency of responses, and exemplifying quotes can be found in Figure 14.





Figure 14. Getting health information or participating in event activities reported to be favorite parts of the event by many attendees interviewed.

### **Do you feel that you understand what the All of Us Research Program is about?**

Of 34 people who responded to the question "Do you feel that you understand what the All of Us Research Program is about?", the majority said yes (Figure 15).

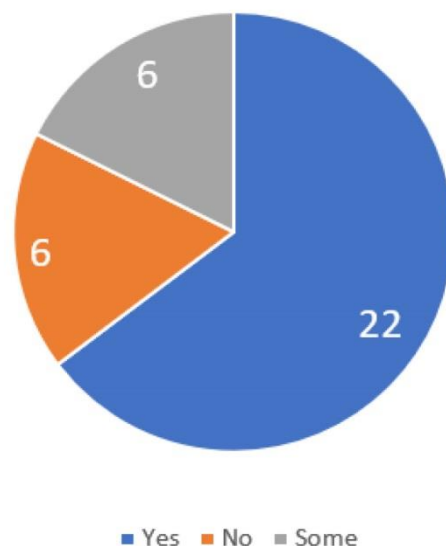


Figure 15. The majority of attendees interviewed said they felt they understood what the All of Us Research Program was about.

### **If yes, how would you explain what it is about in your own words?**

Those who responded that they understood or somewhat understood what the All of Us Research Program was about were asked a follow-up question: "If yes, how would you explain what it is about in your own words?" A total of 28 people were asked the question and responded. Most of the attendees said that the All of Us Research Program intended to collect health data for medical research (Figure 16).



Figure 16. Most attendees interviewed reported that the All of Us Research Program intended to collect health data for medical research.

#### All of Us National Launch NNLM and Kansas City



Figure 17. NNLM video created about the Kansas City launch event.

All of Us Kansas City Launch Event in the News	
•	“Federal Research Program Picks Kansas City To Help Diversify Genetic Data.” May 6, 2018, National Public Radio <a href="https://www.kcur.org/post/federal-research-program-picks-kansas-city-help-diversify-genetic-data#stream/0">https://www.kcur.org/post/federal-research-program-picks-kansas-city-help-diversify-genetic-data#stream/0</a>
•	“All of Us Research Program Kansas City Live Launch Event.” January 4, 2019, All of Us Research Program YouTube Channel <a href="https://www.youtube.com/watch?time_continue=21&amp;v=Nt16FwBj_n0">https://www.youtube.com/watch?time_continue=21&amp;v=Nt16FwBj_n0</a>

The All of Us Journey

The All of Us Journey brought with it an air of excitement and interest as it visited libraries across the country, at health fairs, farmers markets and outside the entrance to the libraries themselves. Since 2020, the Journey has engaged 2,699 library patrons at 31 libraries in 19 states. Inside the vehicle, visitors engaged with the interactive precision medicine exhibition and learned about All of Us. Meanwhile, right outside, library staff offered opportunities for visitors to access quality health information through interactive health literacy exhibits.

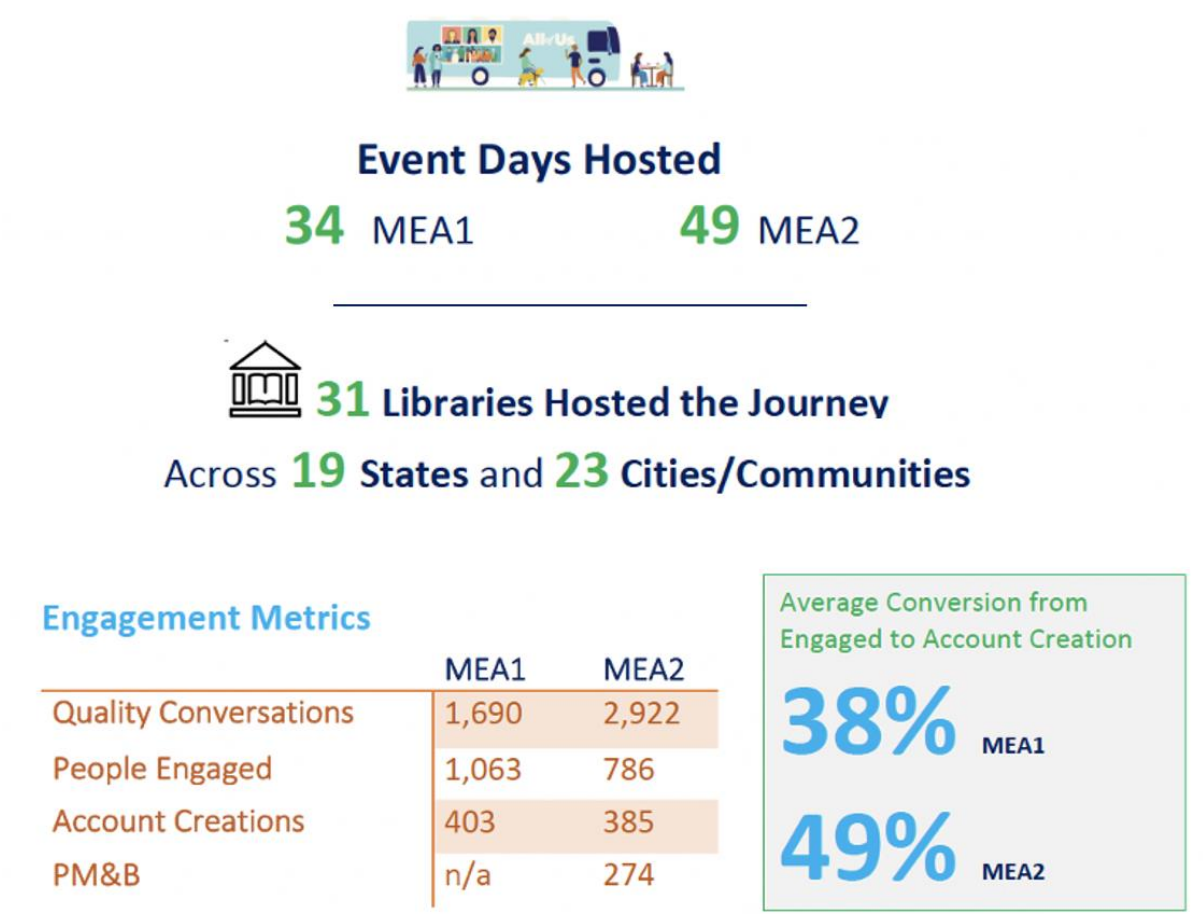


Figure 18. information through interactive health literacy exhibits.

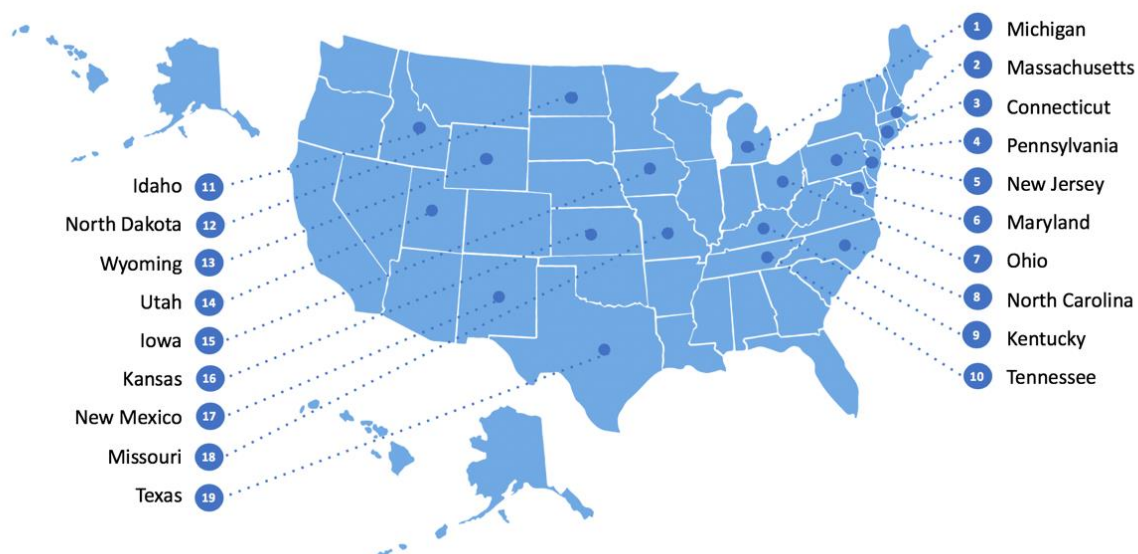


Figure 3. NNLM and Journey Events by State.

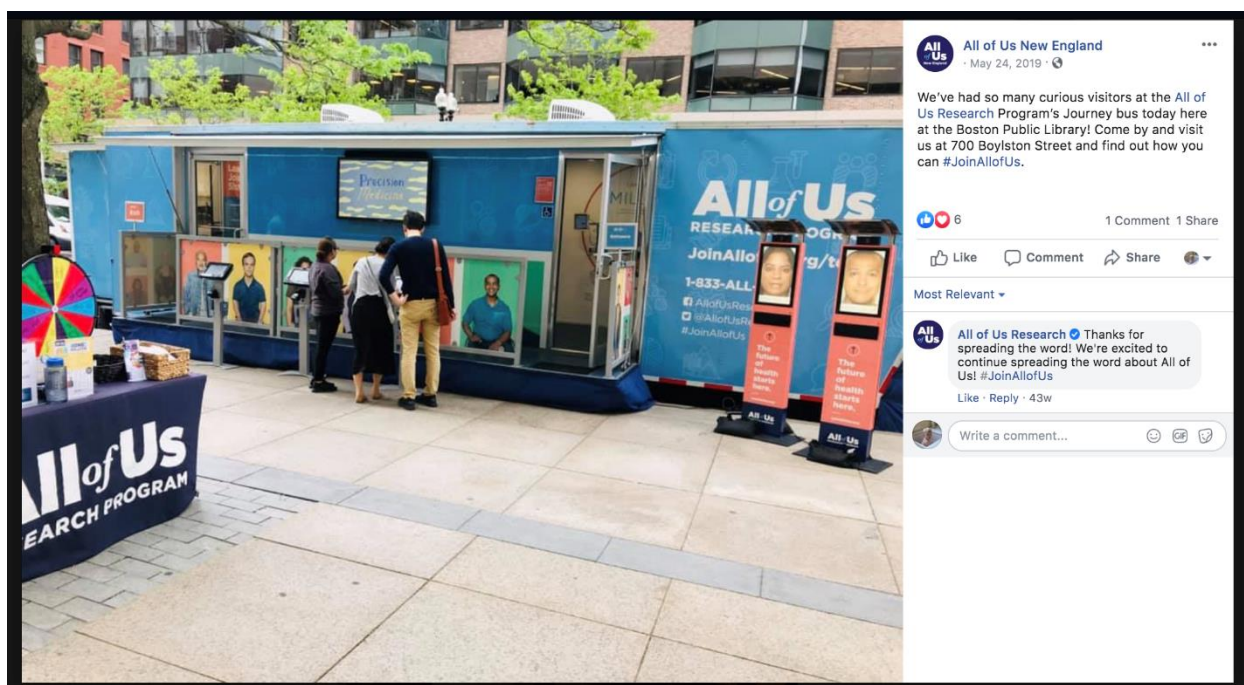


Figure 20. All of Us Journey event at the Boston Public Library in May 2019.

### Testimonial:

*"It was a true pleasure working with the Journey team...they were pretty amazing, each of them. They were all pretty excited about the numbers, and the engagements that occurred. I personally, was told a few times from attendees of the Friday event that they were happy to have had it here. Also, several had already signed up prior to the visit, and they wanted to have the testing done. I honestly believe that if we can get the enrollment bus here we would also*

*have great success. The community here was/is ideal to get individuals not only educated, but signed up for the project. With the diversity here, I think it might be a must to be the enrollment Journey here.*

*Just my two cents. But, again, it was exciting even seeing the Journey on our campus, and engaging with the team and more of our research community amazing.*

*A very personal thank you for bringing the opportunity to our attention. I'd call it a win all around!" - University of Cincinnati, Cincinnati, OH (06.26.19)*

#### NNLM and the *All of Us* Journey in the News

- “‘All of Us’ research program collecting health data.” December 3, 2018, KOB 4 <https://www.kob.com/health-news/all-of-us-research-program-collecting-health-data/5165745/?cat=500>
- “The Journey is coming to Town.” January 15, 2019, Midwest Matters <https://news.nnlm.gov/gmr/2019/01/journey-is-coming-to-town/>
- “NIH Coming To Cincinnati To Collect Health Data.” June 19, 2019, Cincinnati Public Radio <https://www.wvxu.org/post/nih-coming-cincinnati-collect-health-data#stream/0>
- “Research bus visits Cincinnati to gain health data for life-saving research.” June 19, 2019, WLWT 5 <https://www.wlwt.com/article/research-bus-visits-cincinnati-to-gain-health-data-for-life-saving-research/28102899#>
- “All of Us Research Bus Visits Cincinnati to Promote Precision Medicine.” July 1, 2019, Midwest Matters <https://news.nnlm.gov/gmr/2019/07/all-of-us-research-bus-visits-cincinnati-to-promote-precision-medicine/>

## Public Libraries Engagement

### NNLM Reading Club



Figure 21. NNLM Reading Club Book Kit informational materials.

The NNLM Reading Club is a selection of “ready to use” book kits with free and downloadable materials designed to help libraries and build interest in *All of Us* and support their community’s health information needs in an intimate and trusted library activity, the book group.

Ready to use resources, like the book club, help public libraries easily engage with their patrons on health and wellness topics and reinforces NNLM’s brand as a trusted partner in providing access to quality health information in innovative and effective ways. Ready to use resources are essential tools in building and, most importantly, sustaining a network of libraries who offer in-library health events that can be leveraged by *All of Us* for awareness and retention.

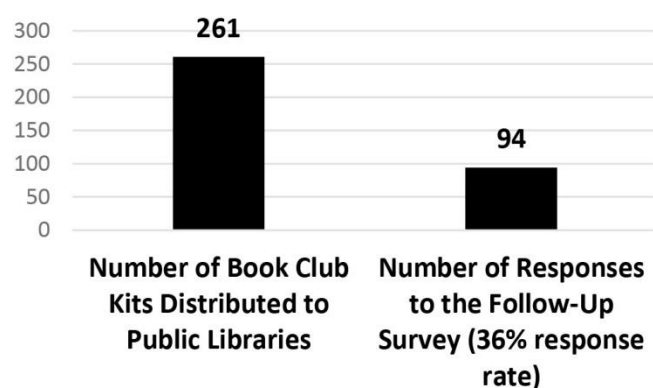


To receive the kit, libraries complete an online application form and acceptance is based on supply, with priority given to public libraries supporting outreach to populations that meet the NIH Underrepresented in Biomedical Research (UBR) criteria.

<b>Table XX. NNLM Reading Club Kit Contents</b>	
<b>Content</b>	<b># in Kit</b>
Books	8
NIH <i>All of Us</i> Research Program brochures	8
Bookmarks	8
Discussion guides	8
NIH MedlinePlus Magazines	8
Reading club book bags	8

Libraries complete an online application form and acceptance is based on supply, with priority given to public libraries supporting outreach to populations that meet the NIH Underrepresented in Biomedical Research (UBR) criteria. Participating regions are:

- Greater Midwest Region (GMR) – Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, North Dakota, Ohio, South Dakota, Wisconsin
- Mid-Atlantic Region (MAR) – Delaware, New Jersey, New York, Pennsylvania
- Pacific Northwest Region (PNR) – Alaska, Idaho, Montana, Oregon, Washington
- Pacific Southwest Region (PSR) – Arizona, California, Hawaii, Nevada
- Southeastern Atlantic Region (SEA) – Alabama, District of Columbia, Florida, Georgia, Maryland, Mississippi, Puerto Rico, South Carolina, Tennessee, Virginia, West Virginia



Reading Club Kit recipients were asked to complete an online survey within six to eight weeks after receipt of their book club kit to provide feedback about their experience with the NNLM Reading Club. Between November 1, 2018 and April 30, 2019, a total of 261 book club kits were distributed to public libraries.

Figure 22. Reading Club Kit Distribution and Follow-Up Survey Response Numbers.

### How NNLM Reading Club Kits Were Used

Respondents were asked how the Reading Club Book Kits were used at their libraries. The most common uses mentioned (and these responses are limited to those mentioned in an open-ended comment) were they held a discussion, formed, and held a book club, used the kit with an existing book club, and offered the books for check out or added them to their collection. Some libraries packaged them into kits to loan out to external book clubs held in their communities.

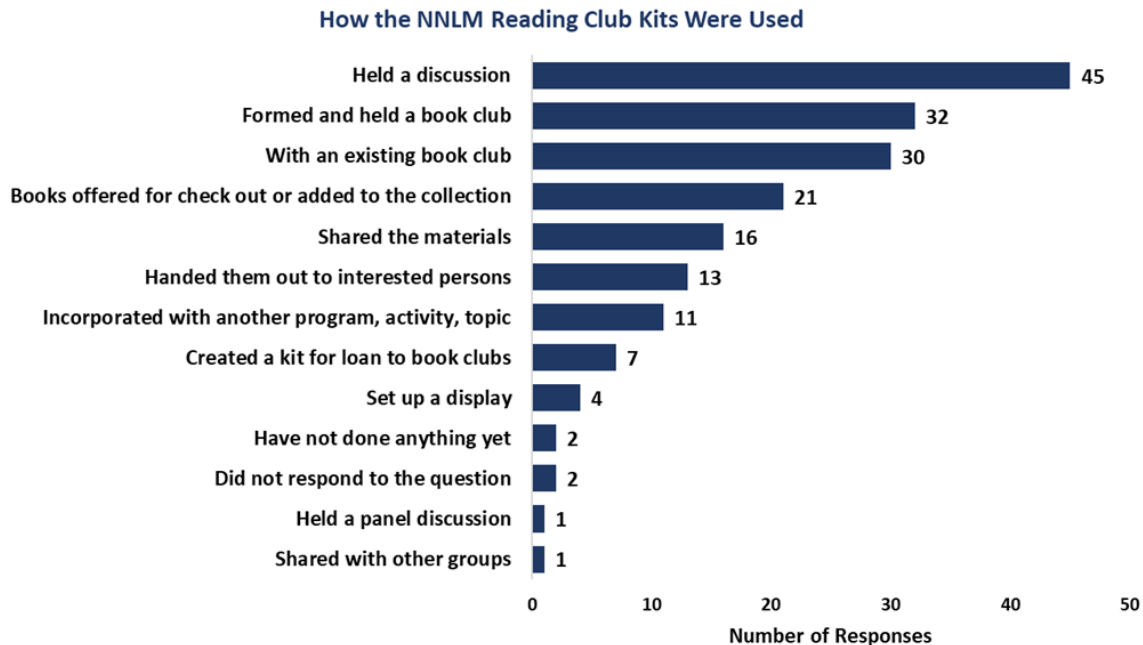


Figure 23. List of the ways the NNLM Reading Club Kits were used and the number who reported each type of use.

#### Testimonials:

*"We met at ALA in DC. I want to thank you for the great job you did at your booth. We signed up to get the book kits and love them! They are also timely as two local book clubs have told us they have read all of our other book kits, so are looking for more to read. Do you plan to continue sending these kits?" - Eastern Shore Public Library, Accomac, VA (11.15.19)*

*"I wanted to let you know (outside of the survey) how much my library appreciated the book club books and the opportunity to get together and talk about issues that came up in the book *This Heart of Mine*. Being a small rural library with little funding and many patrons who are socio-economically disadvantaged, programs like this allow us to reach out further and help more." - Harris Memorial Library, Otego, NY (08.27.19)*

*"Just wanted you to know I have ordered, *Inheritance* and *Animal, Vegetable, Miracle* for our June and July Adult Summer Reading programs.*

- *We will discuss *Inheritance* in June and *Animal, Vegetable, Miracle* in July.*
  - *I also wanted to tell you how popular the book discussions have become and how appreciative of the books the book readers are.*
  - *Patrons are bringing in family members and neighbors to the group.*
  - *I try to space out the number of times we meet to heighten anticipation!*
  - *It is a program with a lot of socializing.*
  - *I have been sharing the e mails you have sent me about NNLM science/STEM programs, resources and webinars with all the librarians in the San Antonio Public Library System."*
- Forest Hills Branch Library, San Antonio, TX (03.06.20)*

*"I wanted to say thank you so much for providing this book club kit and opportunity. Our attendees are thoroughly enjoying it. We picked *"This heart of mine"* and everyone is enjoying the book and the kit and*

*discussing the book. We meet once a week and our goal is to finish the book in the 8 week period. We take turns reading a couple of chapters to each other each time and talk about it during the meeting. Our group has grown from 3 to 6 within the last couple of weeks because we tell others about the book club, your grant and organizations, and the book and how good it is and how much we are enjoying it and learning from the book club.” - Betty Foster Ponder Public Library (03.29.19)*



Figure 24. Reading Club event for "Gorilla and the Bird."

CEN Public Library Engagement in the News	
•	"Kansas City Public Library offers classes to boost community health and wellness." January 23, 2019, Northwest News <a href="http://northeastnews.net/pages/kansas-city-public-library-offers-classes-boost-community-health-wellness/">http://northeastnews.net/pages/kansas-city-public-library-offers-classes-boost-community-health-wellness/</a>
•	"Bradbury-Sullivan LGBT Center hosting Cervical cancer info session at four public libraries." January 20, 2020, The Morning Call <a href="https://www.mcall.com/health/mc-hea-cancer-screenings-education-bradbury-libraries-20200115-wnggkvtwrnghbmui5kx44zt6bi-story.html">https://www.mcall.com/health/mc-hea-cancer-screenings-education-bradbury-libraries-20200115-wnggkvtwrnghbmui5kx44zt6bi-story.html</a>
•	"Straight talk and info about cervical cancer." January 21, 2020, The Central Voice <a href="http://www.thecentralvoice.com/stories/straight-talk-info-about-cervical-cancer,2862">http://www.thecentralvoice.com/stories/straight-talk-info-about-cervical-cancer,2862</a>
•	"Kiosk provides Tyler library patrons with health information." February 5, 2020, Tyler Morning Telegraph <a href="https://tylerpaper.com/news/local/kiosk-provides-tyler-library-patrons-with-health-information/article_aced2a3a-484f-11ea-8de8-2f933004caf0.html">https://tylerpaper.com/news/local/kiosk-provides-tyler-library-patrons-with-health-information/article_aced2a3a-484f-11ea-8de8-2f933004caf0.html</a>

Assess the potential impact of libraries on participant enrollment and retention

770 library activities were held between May 2018 to present, including:

- 491 classes, courses, trainings and workshops
- 155 presentations
- 142 exhibits and health fairs
- 97 demonstrations
- 161 other promotional activities

41,964 people were reached.



### Visits to JoinAllofUs.org

To measure the potential impact of NNLM on *All of Us*, we used Google Analytics data from the NLM Dashboard and NNLM Google Analytics. Between January 2019 and March 2020, approximately 2900 users clicked the joinallofus.org from NLM/NNLM websites. Out of those users:

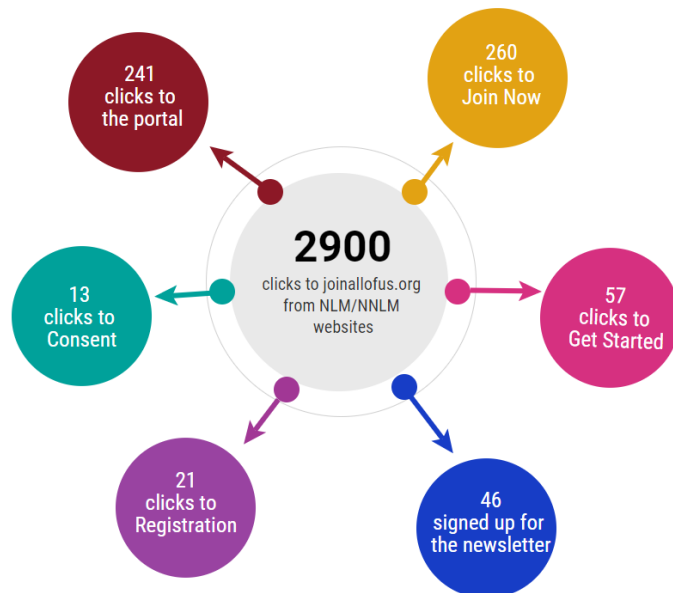


Figure 25. Approximately 2900 users clicked the joinallofus.org from NLM/NNLM websites and interacted with the sites in different ways.

Data from NNLM Google Analytics indicate that between January 2018 and March 2020, there were

**1,293**  
sessions

during which users visited the joinallofus.org  
or allofus.nih.gov from NNLM webpages

### Best practices in messaging and outreach for increased public and engagement

Public libraries value ready-to-use materials such as flyers, brochures, posters, book marks, and other items for which they can order for free. Libraries are capable of taking ready-to-customize materials that they can print themselves, but not all libraries have the equipment or financial resources to produce high quality replications. Just like with information, libraries prefer materials they can just pass on to their patrons.

### Print Materials

The CEN provides access to many high-quality handouts and brochures which can be re-produced. CEN has partnered with other organizations to offer these materials for free at national conferences and trainings. Here are current offerings from the CEN: <https://nnlm.gov/all-of-us/order>.

## Exhibiting

Since October 2018, NNLM CEN has hosted 142 exhibits at conferences and health fairs. All exhibits promoted *All of Us* awareness and access to NLM health information resources. At library conferences across the nation, NNLM talked to library staff about how they could partner with NNLM and *All of Us* to supporting *All of Us* awareness and access to quality health information in their communities. At health fairs, NNLM partnered with public library staff and other community organizations to promote *All of Us* awareness.



Figure 26. Poster presentation at the Wisconsin Library Association Conference (Left), NNLM exhibited at the Medical Library Association Meeting (Center), and NNLM exhibit at the Minnesota Library Association Conference (Right).

## Social Media

The CEN is actively promoting *All of Us* awareness on Facebook and Twitter by amplifying content from official *All of Us* social media platforms and those of our *All of Us* partners. Monthly toolkits are created on select National Health Observances that align with the *All of Us* editorial calendar and all content pushed out through the CEN social media accounts are amplified throughout the NNLM network. To date, the CEN social media accounts<sup>1</sup>:



has **106 followers**

posted an average of **20 posts**

reached an average of **400 people**



has **172 followers**

retweeted an average of **21 tweets** per month

<sup>1</sup> The average posts and people reached is between October 2019 and February 2020



NNLM All Of Us Community Engagement Network  
@nnlmAoU



Register for a free webinar, Small Libraries, Big Impact: How the NNLM Can Help Small & Rural Libraries Support the Health Information Needs in Their Communities. This webinar will introduce @RuralLibAssoc members to the NNLM and @AllofUsResearch. [nnlm.gov/ZGH](https://nnlm.gov/ZGH)



Figure 27. Twitter post promoting a webinar for members of the Association of Rural and Small Libraries to learn about NNLM and All of Us.

## Community Education

Highlight public libraries as a technology resource that participants can use to engage with the program, particularly those in underserved communities affected by the digital divide

Public libraries actively support the digital literacy needs of their patrons by providing access to computers and high-speed internet where patrons can search for health information online. Through digital literacy classes, libraries teach patrons how to use the technology needed to access online health information. Finally, libraries offer health information reference services and programming to help patrons identify, evaluate, and use trusted health information sources and participate in medical research studies, like *All of Us*.

NNLM is working with public libraries to leverage and build upon their digital literacy offerings to help patrons develop digital health literacy skills. In year 4, NNLM will be partnering with public libraries to offer a series of in-library digital literacy events to support and engage the public as they participate in *All of Us*.

### Wash and Learn Initiative



Figure 28. Librarian engaging with a child at a WALI site in New York.

NNLM partnered with Libraries Without Borders to broaden its Wash and Learn Initiative (WALI-Health), which delivers library services and programs in laundromats, to include critical health information and raise awareness about *All of Us* in a pilot that partnered libraries and laundromats in four communities across the United States to establish WALI-Health sites in their communities. The WALI network of library and laundromat partnerships across the country are prime locations for engaging and raising awareness of *All of Us* to communities and reaching people on the other side of the digital divide by providing access to technology resources at select sites. In year 4, NNLM will partner with Libraries Without Borders to activate WALI sites for *All of Us* awareness and engagement activities, focusing specifically on digital literacy and health literacy.

### Consumer Health Information Kiosk Pilot

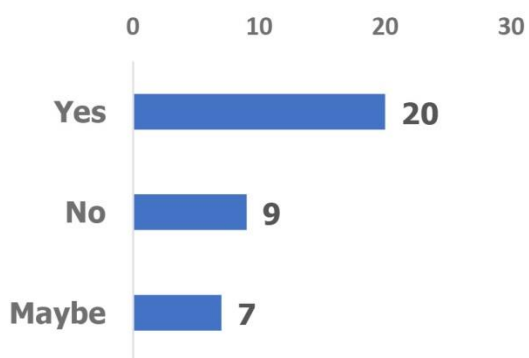
The NNLM *All of Us* Consumer Health Information Kiosk is a software and technology award for a pre-configured kiosk programmed with evidence-based consumer health and wellness resources to be installed in select public libraries throughout the Greater Midwest Region (GMR). In an effort to reach people on the other side of the digital divide, the *All of Us* Kiosk is designed to give library patrons an easy-to-use space for accessing quality health information and learning about *All of Us*.

Pilot consumer health kiosks were rolled out in 21 libraries in the Fall 2019. The pre-configured kiosks have direct links to [joinallofus.org/nlm](https://joinallofus.org/nlm) and promote NLM resources that align with *All of Us*, including MedlinePlus and Genetics Home Reference. The NLM Dashboard indicates that between January 2019 and March 2020, [joinallofus.org/nlm](https://joinallofus.org/nlm) was accessed 23 times from the kiosk.

Forty kiosk users responded to at least one of the three questions between November 4, 2019 and March 12, 2020. Preliminary data analyses were completed on the three questions.

Half (50%) of the respondents reported they found useful information in the kiosk, and an additional 17.5% reported that they might have.

#### Did you find useful information? (N=36)



Sixteen of the 40 respondents (40%) reported that they would recommend the kiosk and an additional eight respondents (20%) reported they might recommend the kiosk.

Forty percent of respondents (N=16) reported they saw information provided by the National Library of Medicine and 40% (N=16) reported they did not see the information. Fifteen percent (N=6) were not sure if they saw the information.

The kiosk homepage can be view at: <https://signs.nlm.gov/cen>.



Figure 29. Library staff testing out kiosk (Left), Kiosk interface (Center), and Kiosk hardware (Right).

CEN Public Libraries Providing Technology in the News	
•	“Literacy at the Laundromat.” December 25, 2018, U.S. News <a href="https://www.usnews.com/news/healthiest-communities/articles/2018-12-25/library-laundromat-program-puts-spin-on-child-literacy">https://www.usnews.com/news/healthiest-communities/articles/2018-12-25/library-laundromat-program-puts-spin-on-child-literacy</a>
•	“Bridging the Digital Divide in Public Housing Communities.” February 24, 2020, The Marquee <a href="https://news.nlm.gov/mar/2020/02/24/bridging-the-digital-divide-in-public-housing-communities/">https://news.nlm.gov/mar/2020/02/24/bridging-the-digital-divide-in-public-housing-communities/</a>

## Equip public libraries with information about *All of Us* to share with their local communities

NNLM offers a variety of engagement resources, such as ready-to-use program kits and free downloadable resources, to help libraries offer health information programming and *All of Us* awareness to their patrons. All resources are developed on topics that are relevant to *All of Us*, including select National Health Observances, digital literacy, citizen science, precision medicine, genetics, and health literacy.

### NNLM Program and Circulating Kits

NNLM built off the success of the NNLM Reading Club and expanded their selection of ready-to-use resources that libraries can apply for to provide *All of Us* awareness and access to quality health information. Over the past year, NNLM has piloted the following program and circulating kits:

- NNLM Reading Club kits
- Game of Health
- Genetics Summer Reading kit
- Human Genetics Film kit
- FitBit Circulating Kit
- Consumer Health Collection kit

To date 1,164 program kits have been disseminated to libraries for in-library events. Program kits are effective ways of supporting the capacity of libraries in offering in-library events that provide *All of Us* awareness, especially with small and rural libraries. In Year 4, NNLM will continue to work with all libraries who receive a program kit to ensure their events are entered into Network Ninja and promoted to *All of Us* partners and participants in their communities.

### National Health Observances

To align its outreach and engagement strategies with *All of Us*, NNLM developed free, downloadable resources for several National Health Observances (NHOs) that were highlighted as a priority in the *All of Us* Editorial Calendar, maintained by the *All of Us* Communications Team. These resources are promoted to NNLM partners as a value add for participating in the CEN and promoting awareness of *All of Us* in their communities. The NNLM Engagement Coordinators regularly leverage the NHO materials while advising their partners as they plan engagement activities.

As part of the formative evaluation of the National Health Observances (NHO) materials, NNLM asked NHO users (n=39) the extent to which they (dis)agreed on whether the NHO resources were raising public awareness of *All of Us*. They were also provided with the option to select “Not Sure”. A total of 38 people responded to this item for a response rate of 97% (Figure 30). Of the 38 respondents, eight selected “Not Sure.” None of the respondents disagreed with the statement. The survey responses to this statement indicates that NHO has the potential to raise the public’s awareness of the *All of Us* Research Program.



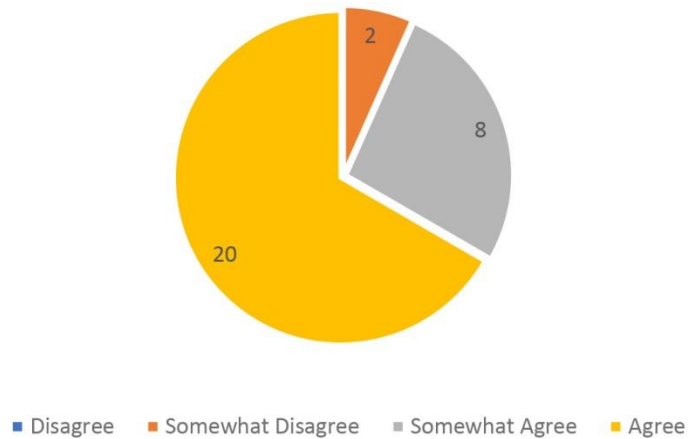


Figure 30. The majority of NHO users agreed that NHO resources raised public awareness of the NIH All of Us Research Program.

### Future Results

A follow-up survey is currently being conducted with libraries who received *All of Us* funding to provide programming. The goal of the survey is to determine whether the funding strengthened the librarians' knowledge of *All of Us*, and the libraries' capacity to provide health information and health-related programming. Preliminary analyses of data collected to date from 23 libraries reported that:

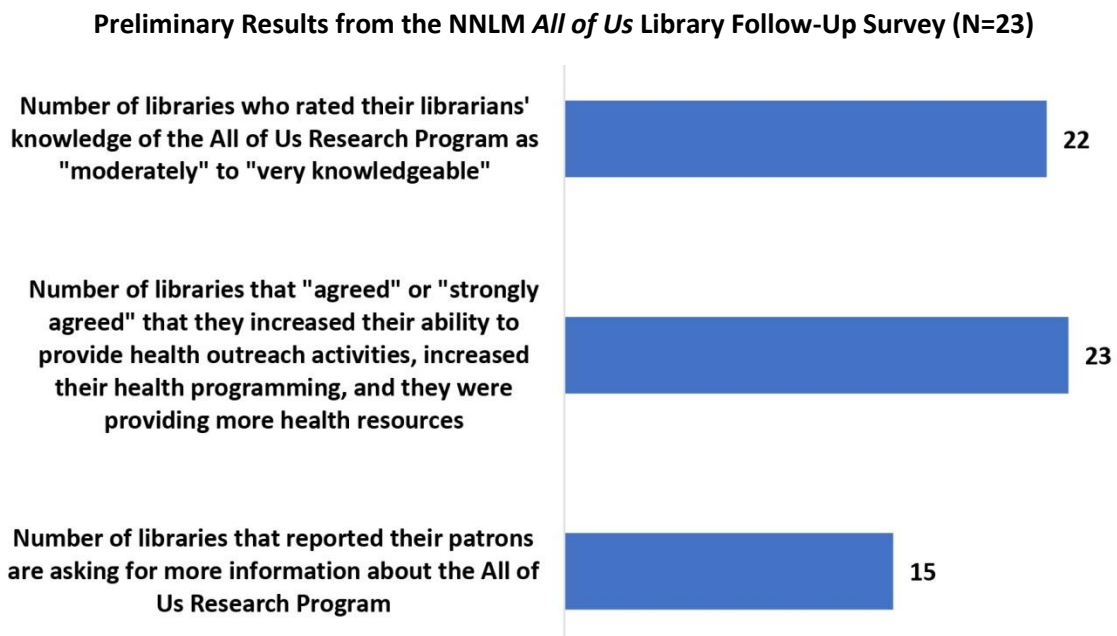


Figure 31. Preliminary responses to questions from the NNLM All of Us Library Follow-Up Survey.

CEN Public Libraries Raising Awareness of <i>All of Us</i> in the News	
•	“Public Library Association, National Network of Libraries of Medicine join in supporting the NIH’s <i>All of Us</i> Research Program.” March 4, 2019, American Library Association News <a href="http://www.ala.org/news/press-releases/2019/03/public-library-association-national-network-libraries-medicine-join">http://www.ala.org/news/press-releases/2019/03/public-library-association-national-network-libraries-medicine-join</a>
•	“Louisville Free Public Library Receives NNLM <i>All of Us</i> Ambassador Award.” July 12, 2019, Midwest Matters <a href="https://news.nlm.gov/gmr/2019/07/louisville-free-public-library-receives-nnlm-all-of-us-ambassador-award/?fbclid=IwAR1aVUauYg6Lx7N0wVOhicgmveL09qWpngzKwiB_dmWrnRXQTXIzEfw3KOY">https://news.nlm.gov/gmr/2019/07/louisville-free-public-library-receives-nnlm-all-of-us-ambassador-award/?fbclid=IwAR1aVUauYg6Lx7N0wVOhicgmveL09qWpngzKwiB_dmWrnRXQTXIzEfw3KOY</a>

### Increase public library staff capacity to offer health information training

NNLM excels at helping public libraries in supporting the health information needs of their users by providing health information training, funding and other resources, and connections to medical libraries and other NNLM members to help increase their capacity to offer health information training. NNLM partnered with the Public Library Association to develop a health information survey in Project Outcome, a free toolkit designed to help public libraries understand and share the impact of essential library services and programs. From 212 surveys responses collected by Project Outcome, 98% of the patrons surveyed reported that either agreed or strongly agreed that they felt more knowledgeable about the health topic presented, 94% felt more confident about taking care of their or their family’s health, 92% intended to apply what they learned to adopt or maintain a healthier lifestyle, and 91% were more aware of health-related resources and services provided by the library.

This section describes various activities NNLM conducted over the three years to increase public library staff capacity to offer health information training.

#### Consumer Health Information Specialization

The Consumer Health Information Specialization (CHIS) is a certificate provided by the Medical Library Association (MLA). In order to receive a CHIS certificate, you must have completed a minimum of 12 continuing education credits in consumer health information courses, offered for free through the NNLM. In 2018, the CEN began sponsoring library staff to receive their CHIS certificate through the NNLM CHIS National Sponsorship Program, sponsoring 366 library staff to receive their CHIS over the course of the program.

The CHIS project team developed a 16-question assessment, which contained questions mapped to the Level I competencies of the CHIS certificate program to evaluate behaviors, attitudes, and confidence of library staff who received the specialization. The assessment also examined the value of the specialization to recipients and whether it resulted in changes to programming or library services. The assessment was administered to 224 sponsored library staff who received their certificate in the first year of the pilot program and 136 completed the survey for a 61% response rate. The survey was administered to all participants who reported working at a public library at the time of obtaining sponsorship, but some participants had moved to another organization since that time. Participants were asked to report their perceived knowledge and skills for each of the Level I CHIS competencies before and after achieving the specialization (Figure I). Response categories assessing perceived knowledge for each topic were no knowledge (1), beginner (2), proficient (3), advanced (4),



and expert (5). On average, respondents reported knowledge increases for all the topics listed in the survey. Average ratings before the CHIS certification ranged from 2.23 (beginner) to 2.91 (proficient). Average ratings after the CHIS certification ranged from 3.35 (proficient) to 3.89 (advanced).

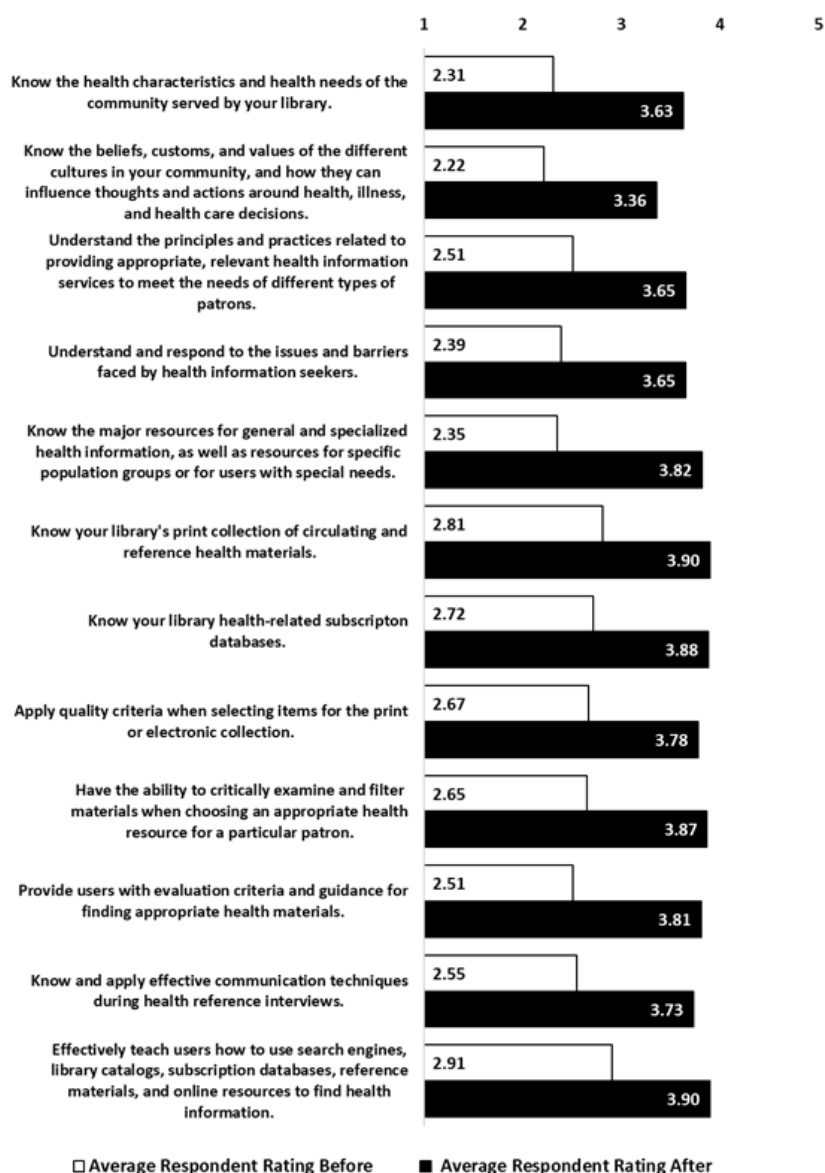


Figure 32. Average respondent reported knowledge level before and after CHIS Certification.

Sponsorship participants were asked how they used what they learned through their certification training. Ninety-three percent (93%; N=124) of the 134 survey respondents used the training they received in at least one new way, and an additional 4% of respondents (N=5) plan to use the training they received in at least one new way.

## How CHIS Survey Respondents Used What They Learned Through Their Certification Training (N=134)

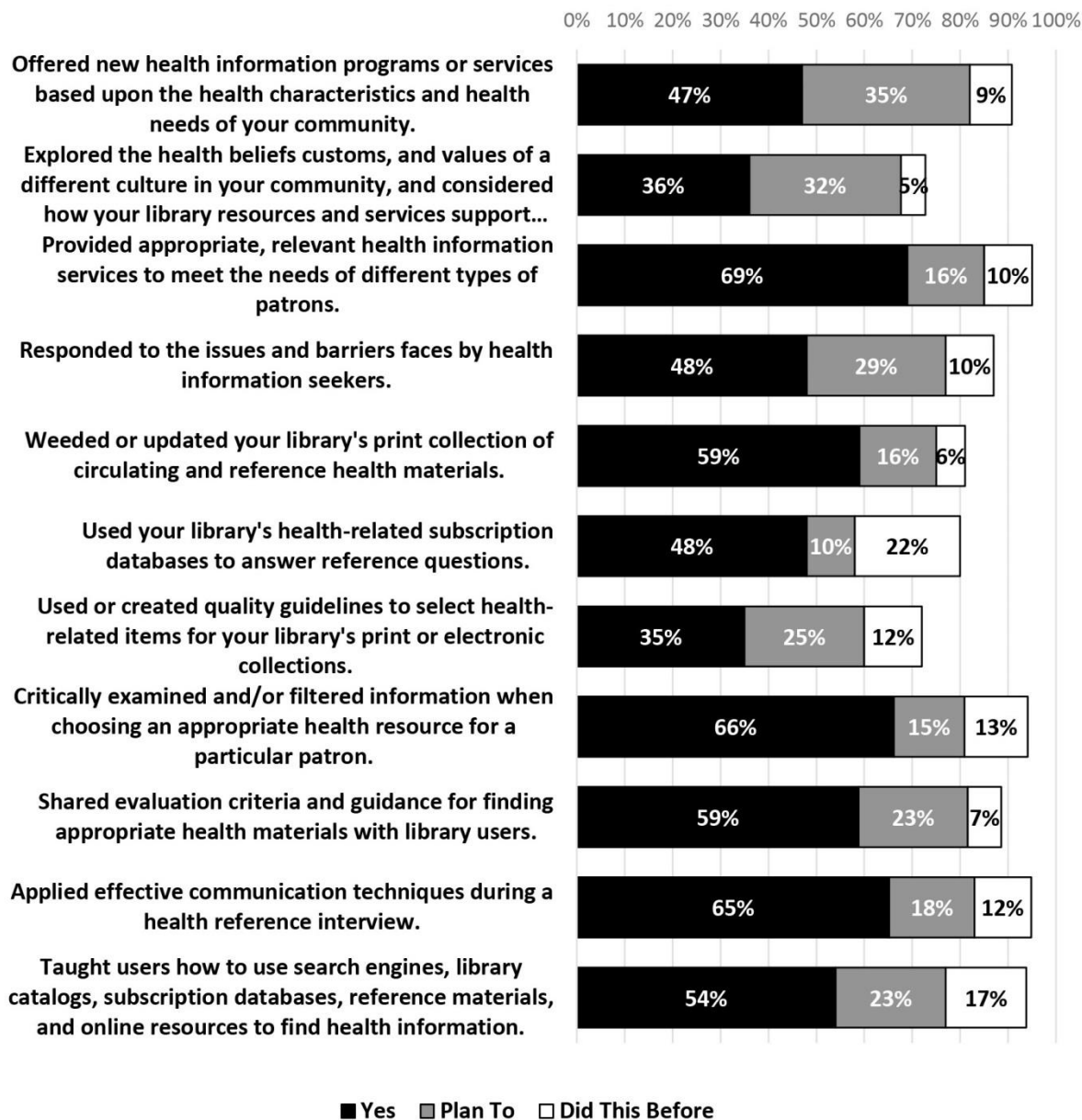


Figure 33. How CHIS Survey Respondents Used What they Learned Through their Certification Training.

Participants were asked how the services at their library changed after they obtained the CHIS certificate. Eighty-two percent of the 134 respondents (83%; N=110) who answered this question reported that their libraries are offering at least one new health-related service, and an additional twelve percent (12%; N=16) plan to offer at least one new health-related service.

**Services Libraries Reported They Are Offering Since At Least One Staff Member Received the CHIS  
(N=134)**

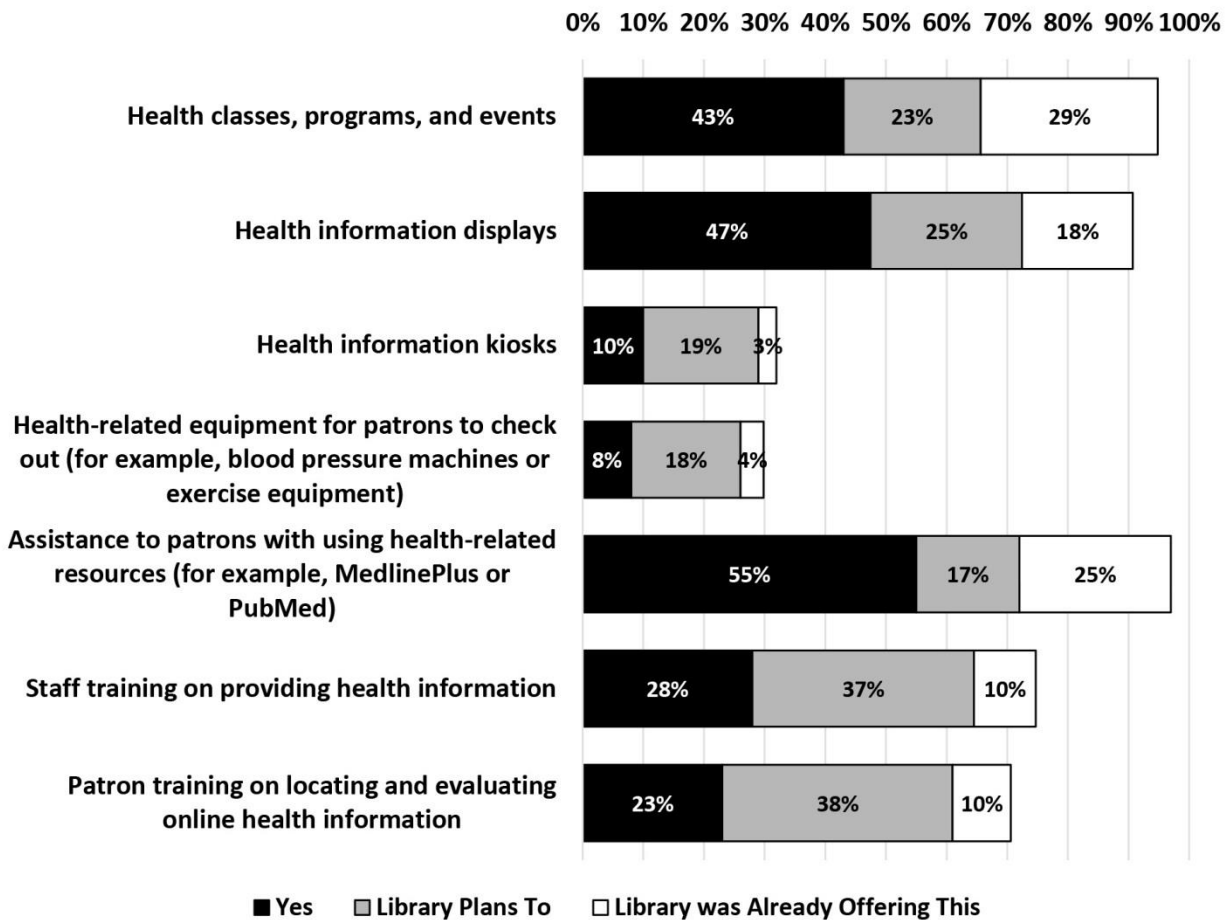


Figure 34. Health Related Services Libraries are Offering After A Staff Member Received the CHIS.

Nearly all of the respondents agreed or strongly agreed that the certificate training increased their confidence to offer health information and other services.

To determine the impact on the library of those who received the certificate, sponsorship participants were asked how the library benefitted.

### How Libraries Benefitted from Staff Receiving the CHIS (N=99)

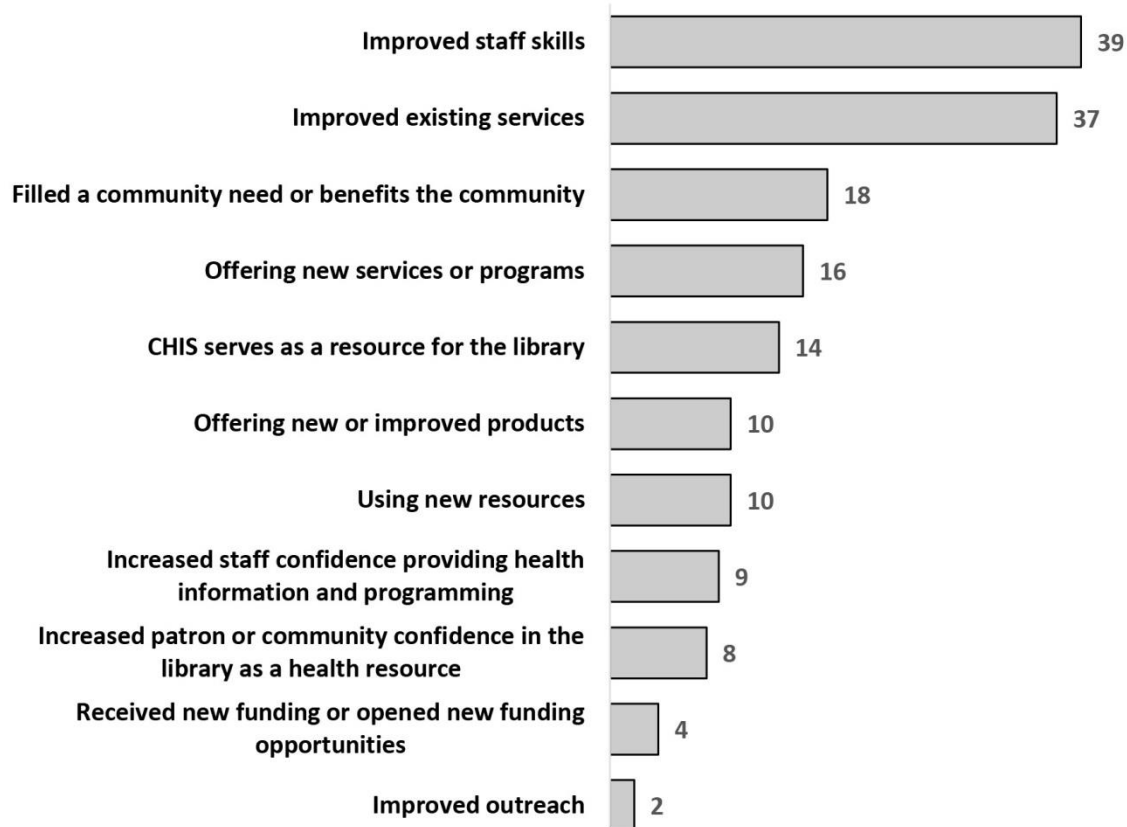


Figure 35. Responses to question about how libraries benefitted from staff receiving the CHIS.

### Community Engagement Toolkit

The Community Engagement Toolkit (CETK) is an online collection of resources, methods, and best practices for organizations participating in engagement activities in their communities. The resources included in the toolkit represent some of the core skills and knowledge needed for successful community engagement, as well as examples of programs that have succeeded in utilizing the input and participation of their community members. To date, the CETK has been viewed 2,468 times. CETK users are invited to use the toolkit to:

- Discover the core skills and knowledge needed for successful community engagement
- Read about successful programs utilizing the input and participation of their community members and
- Contribute their own successful community engagement story for others to learn from you

NNLM conducted two phases of evaluation of the CETK. A total of 10 users participated in the evaluation: three users participated in Phase 1 and seven users participated in Phase 2. The users were a mix of health sciences and public library staff. Data were collected using the contextual interview approach. Overall, the users indicated that the toolkit was easy to use and navigate and the content was relevant to them. All of the Phase 1 and Phase 2 users (n=10) were asked to rate between 1 and 5 (with 5 being the most positive) how easy it was for them to navigate the toolkit (Figure 26).

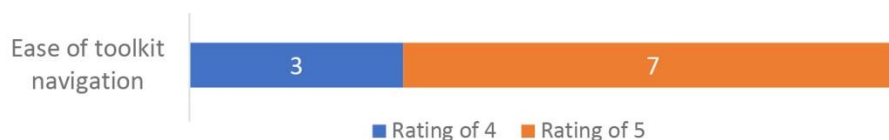


Figure 36. CETK users indicated that the toolkit was easy to navigate (n=10).

Phase 1 CETK users (n=3) were asked to rate between 1 and 5 (with 5 being the most positive) how easy it was for them to find the information they were looking for (Figure 36).

### ***How easy was it for you to find the information you were looking for?***

Phase 2 CETK users (n=7) were also asked how relevant the toolkit was for their work and whether they would use the toolkit in their work (Figure 37).

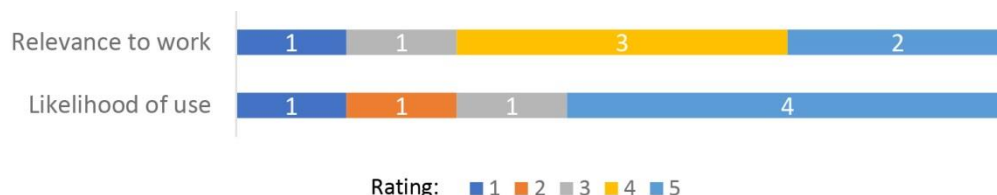


Figure 37. Majority of users reported the CETK was relevant to their work and they likely would use it in their work.

The users also provided suggestions for improvement, which included adding more practical resources and expanding the case studies. In responding to the suggestions from the toolkit evaluation participants, NNLM is currently collecting programming stories that highlight *All of Us* awareness from public libraries to be added to the case studies.

The CETK can be accessed through the following link: <https://tinyurl.com/NNLM-CETK>

### Training Seminars

NNLM offered in-library training seminars to 169 library staff on *All of Us* awareness and supporting the health information needs of their users in a culturally humble manner.

Medical Library Association Symposium: Health Information for Public Libraries, May 22 -23 2018  
<https://www.mlanet.org/page/mla18-symposium>

The symposium was free to US-based public librarians and had 101 attendees. The objectives of the symposium, as stated on the symposium official website, were to:

- Understand and embrace the need for public librarians to provide consumer health information
- Develop plans for personal development in providing consumer health information
- Develop plans for increasing institutional impact on consumer health literacy
- Learn about *All of Us* and understand how advances in precision medicine affect the need for consumer health information
- Learn about resources for networking, training, outreach, and funding
- Connect with public librarians involved in health information and with health sciences librarians
- Develop strategies for providing health information to the public
- Learn about national strategies and trends in areas of health disparities, social determinants of health, disease control, and prevention

The CEC contributed to the symposium by facilitating three sessions:

- Public Library Roles in the Health and Well-Being of Their Communities: Partnership, Strategies, and Impact!
- In Providing Health Information to the Public
- Health Literacy Heroes – Strategies for Your Library, Your Staff, and Yourself

**83%** of the 71 survey respondents said the symposium was effective to help me learn about *All of Us*. When NNLM reached out 4 months later with a follow-up survey, **30** of the 39 attendees who responded **talked with someone about *All of Us***

Evaluation from session: Public Library Roles in the Health and Well-Being of Their Communities: Partnership, Strategies, and Impact!

Evaluation was conducted via survey with approximately 84 attendees, 64 completed the survey for an overall response rate of 76%.

***“As a result of this session, I now...”***

Items	n	Frequency				M SD
		Strongly Disagree 1	2	3	Strongly Agree 4	
Have a better understanding of the important role the public library play in the wellbeing of the community	63	1	6	40	16	3.13 .63
Know new strategies to assess health-related needs of my community	63	0	14	39	10	2.94 .61
Feel more confident in delivering consumer health information services to my community	60	2	15	37	6	2.78 .66
Can identify potential community organizations to partner with to deliver consumer health information services	62	1	7	38	16	3.11 .65
Can identify effective strategies for community engagement with health information provided by the library	62	2	7	38	15	3.07 .69
Am better equipped with new techniques to reach traditionally under-represented minorities in my community	63	3	13	40	7	2.81 .69

**What is one thing you learned in this session that you can apply in your work?**

Of the 64 people who completed the survey, 49 responded to this item (77%), with some people listing more than one thing they learned. The number in the parentheses indicates the number of responses that fall into the corresponding theme.

- Client service (25). This theme is comprised of responses indicating that attendees learned new programming ideas related to health literacy that they were interested in implementing in their libraries, approaches to interacting with patrons (e.g., being a “guide on the side,” applying cultural humility), and ensuring that materials are accessible to all patrons (e.g., creating audio recordings in a different languages).
- Community partnership (20). This theme is comprised of responses indicating that attendees learned the importance of and strategies to build partnership with community-based organizations.
- Assessment and evaluation (3). This theme is comprised of responses indicating that attendees learned about the needs for and ways to conduct community assessment and measure impact.

#### Evaluation from session: In Providing Health Information to the Public

Evaluation was conducted via survey with approximately 76 attendees, 58 completed the survey for an overall response rate of 76%.

#### ***“As a result of this session, I now...”***

<b>Items</b>	<b>n</b>	<b>Frequency</b>				<b>M SD</b>
		<b>Strongly Disagree 1</b>	<b>2</b>	<b>3</b>	<b>Strongly Agree 4</b>	
Have a better understanding of how precision medicine changes the role of the patient	58	2	0	25	31	3.47 .68
Am better informed about precision medicine topics, such as pharmacogenomics and genetic privacy	58	2	1	19	36	3.54 .70
Am better prepared to discuss the differences between direct-to-consumer tests and clinical tests	57	2	1	23	31	3.47 .70
Am better prepared to inform the public about possible advantages and disadvantages of direct-to-consumer tests and clinical tests	57	2	4	22	29	3.37 .76
Have a better understanding of the <i>All of Us</i> Research Program	55	2	10	34	9	2.91 .70

#### ***What do you consider to be the most important take-away from this session for you?***

Of the 58 people who completed the survey, 45 responded to this item (78%), with some people listing more than one take-away. The number in the parentheses indicates the number of responses that fall into the corresponding theme.

- *Information on precision medicine, pharmacogenomics, and genetic testing* (38). This theme is comprised of responses indicating that attendees learned new information related to topics of precision medicine, pharmacogenomics, and genetic testing. Some respondents particularly mentioned learning about the differences between direct-to-consumer (DTC) testing and clinical testing and the pros and cons of DTC testing.

- *Role of genetic counselor* (6). This theme comprised of responses indicating that attendees learned about the purpose of genetic counselors and when to contact them.
- *Compliments for the session* (4). This theme is comprised of responses that praised the session, rather than reporting what the attendees found to be the most important take away. For example, one person wrote: “Everything! What a wonderful presenter to the public.” Another wrote: “It was fascinating!”
- *Programming ideas and resources related to health literacy* (3), including inviting a pharmacist to do a talk at the library.

### Summary

Overall, survey respondents found the sessions facilitated by Afifi and Campbell from the CEC to contribute to their knowledge about the respective topics. Survey responses indicated that, in general, the learning objectives of both sessions were met. Based on the responses, future presentations on similar topics can benefit from having more descriptive examples of programs that public libraries can do or adapt and making the presentations more applicable to the work of the intended audience.

### Four Month Follow-up

Thirty-nine (39) librarians completed the survey for a 39% response rate.

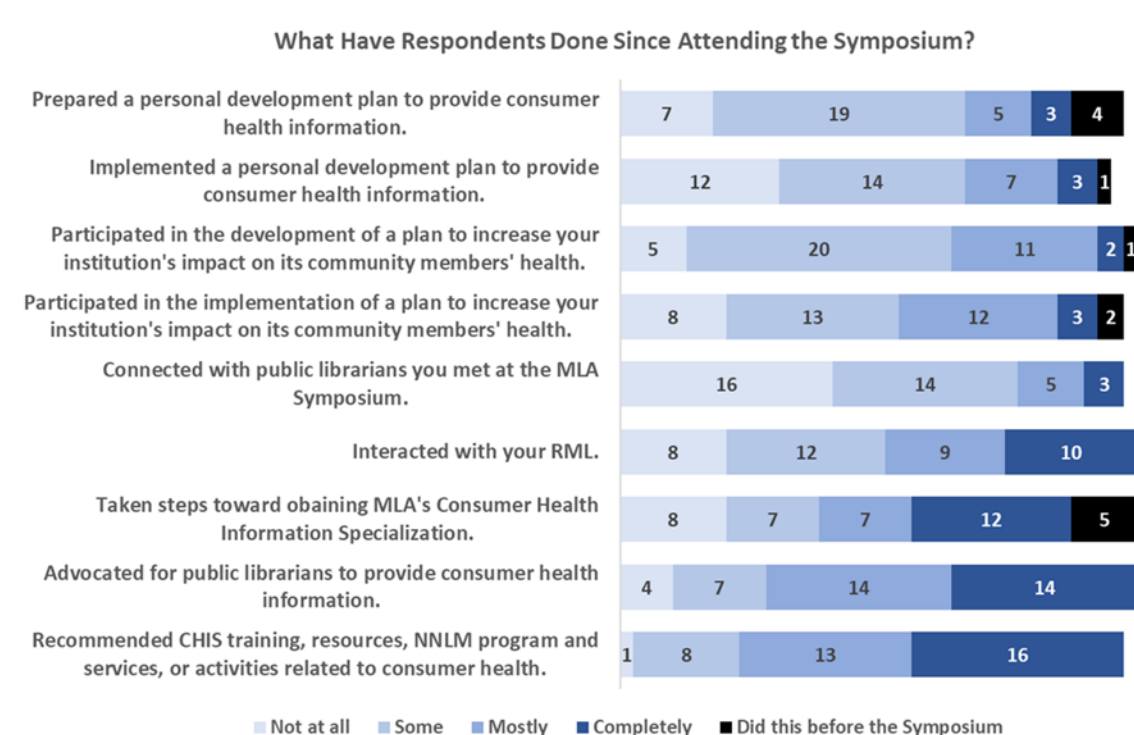


Figure 4. What survey respondents have done since they attended the seminar.

### ***“What did respondents say about how what they learned affected them?”***

Skilled and knowledge gained at the symposium increased respondents’ confidence; allowed them to work more efficiently or expertly; and motivated them to reach out to new groups of potential users. Three fourths or more of respondents agreed or strongly agreed with all the items shown in the graph below, and one respondent or less disagreed with four of the five items.



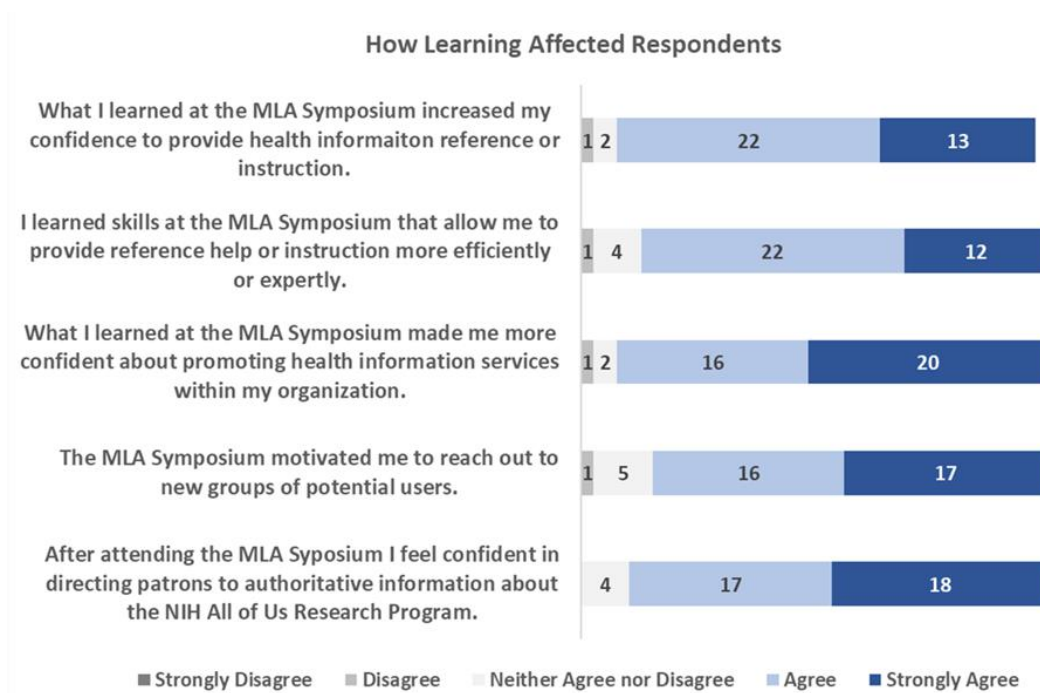


Figure 5. How what respondents learned at the seminar affected them.

#### Libraries as Partners in Health: An NNLM Seminar on Consumer Health, July 2019

NNLM presented *the Libraries as Partners in Health: An NNLM Seminar on Consumer Health* ahead of the 2019 American Libraries Association Annual Conference in Washington, D.C. Library staff from 46 NNLM partner organizations were invited to the NIH campus to network with each other and to learn about how to offer health information programming that provides *All of Us* awareness.

When NNLM reached out 3 months later with a follow-up survey, **14** of the 22 attendees who responded **talked with someone about *All of Us***.

*“I have shared All of Us with at least 75 people, who have expressed excitement of the opportunity for this project. I have also begun reaching out to new partners in the health field to broaden our reach and strengthen our community connections. We are working towards a community garden, healthy food truck and a community baby shower.”*

The evaluation of this event included a post-program survey, the NNLM Professional Development Survey and a follow-up survey sent to participants three months after the seminar. The figure below describes the follow-up data collection activities and response rates.

## At the end of the Seminar

Participants were asked to complete a 15-question post-program survey at the end of the seminar. The survey was developed by the *All of Us* evaluation team in collaboration with the seminar planners. It was designed to assess whether participants increased knowledge, behavioral intentions to apply new knowledge, the current level of participants' health programming, and an overall rating of the Seminar. **Forty-three librarians attended the Seminar and 38 completed the post-seminar survey for an 88% response rate.**

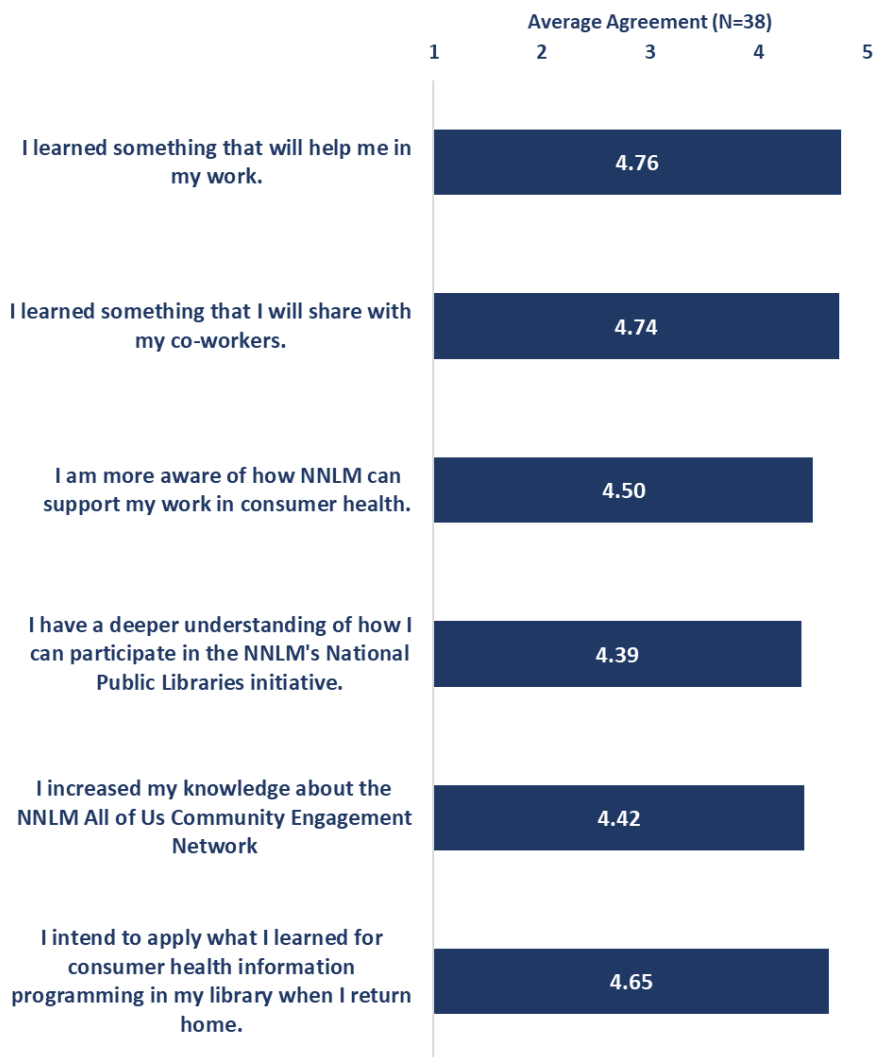
## After the Seminar

The NNLM Professional Development Survey is an 18-question online tool that was developed by the NNLM National Evaluation Office (NEO) to assess how the professional development experience improved the participants' abilities; their expectations of the experience; how the experience helped them to develop professionally; and what actions they took based on what was learned from the experience. It includes four open-ended, qualitative questions. **Twenty-four of the 43 participants completed the survey for a 59% response rate.**

## Three Months Later

Forty-six participants were asked to complete an online follow-up survey three months after they attended the Seminar. The survey instrument was developed by the NNLM National Evaluation Office (NEO) *All of Us* Evaluation Specialist in collaboration with the NNLM Engagement Coordinators. **Twenty-two of the participants completed the survey between September 24, 2019 and October 18, 2019 for a 48% response rate.**

### Libraries as Partners in Health: Post-Seminar Knowledge



On the post-seminar survey, respondents were asked to rate their average agreement with items about their post-seminar knowledge on a scale from 1 (strongly disagree) to 5 (strongly agree). Results indicate that participants strongly agree that they learned something that will help them in their work; that they learned something they will share with tier co-workers; and that they intend to apply what they learned in their libraries. Participants agreed they are more aware of how NNLM can support their work in consumer health; have a deeper understanding of how they can participate in the NNLM's National Public Libraries Initiative; and they increased their knowledge about the

NNLM *All of Us* Community Engagement Network.

Figure 6. Respondent ratings of post-seminar knowledge.

Respondents reported a number of ways that attending the seminar improved their abilities, mostly by improving their knowledge and understanding.



Figure 7. Respondents reported abilities improvements.

On the follow-up survey, respondents reported numerous ways they applied the knowledge in the three-months following the seminar. They are shown below in Figure 42.

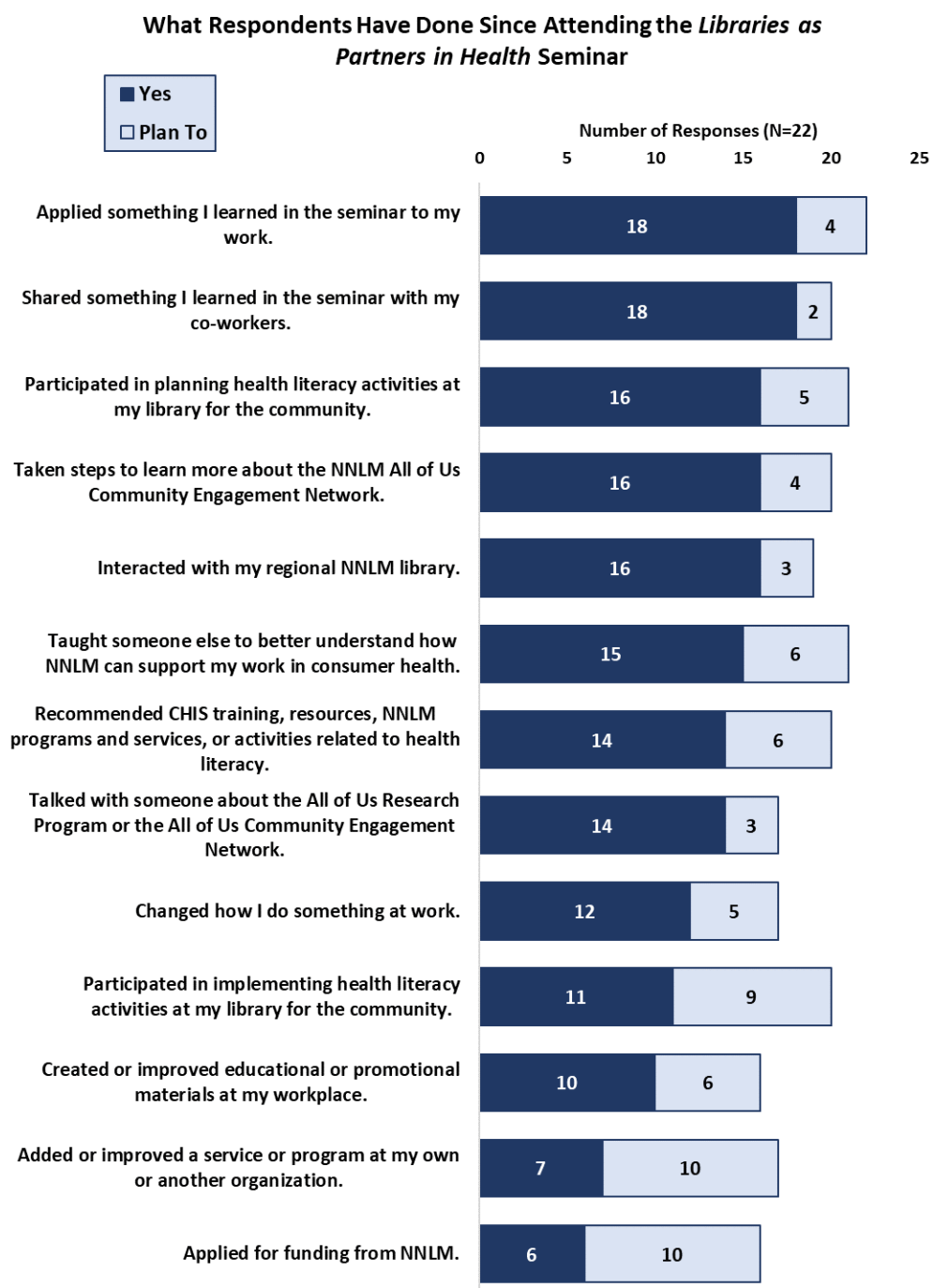


Figure 8. What respondents have done since attending the seminar.

As a result of participating in this survey, respondents also reported numerous services they had added at their libraries.

## Services offered at Library as a Result of Participating in the Libraries as Partners in Health Seminar

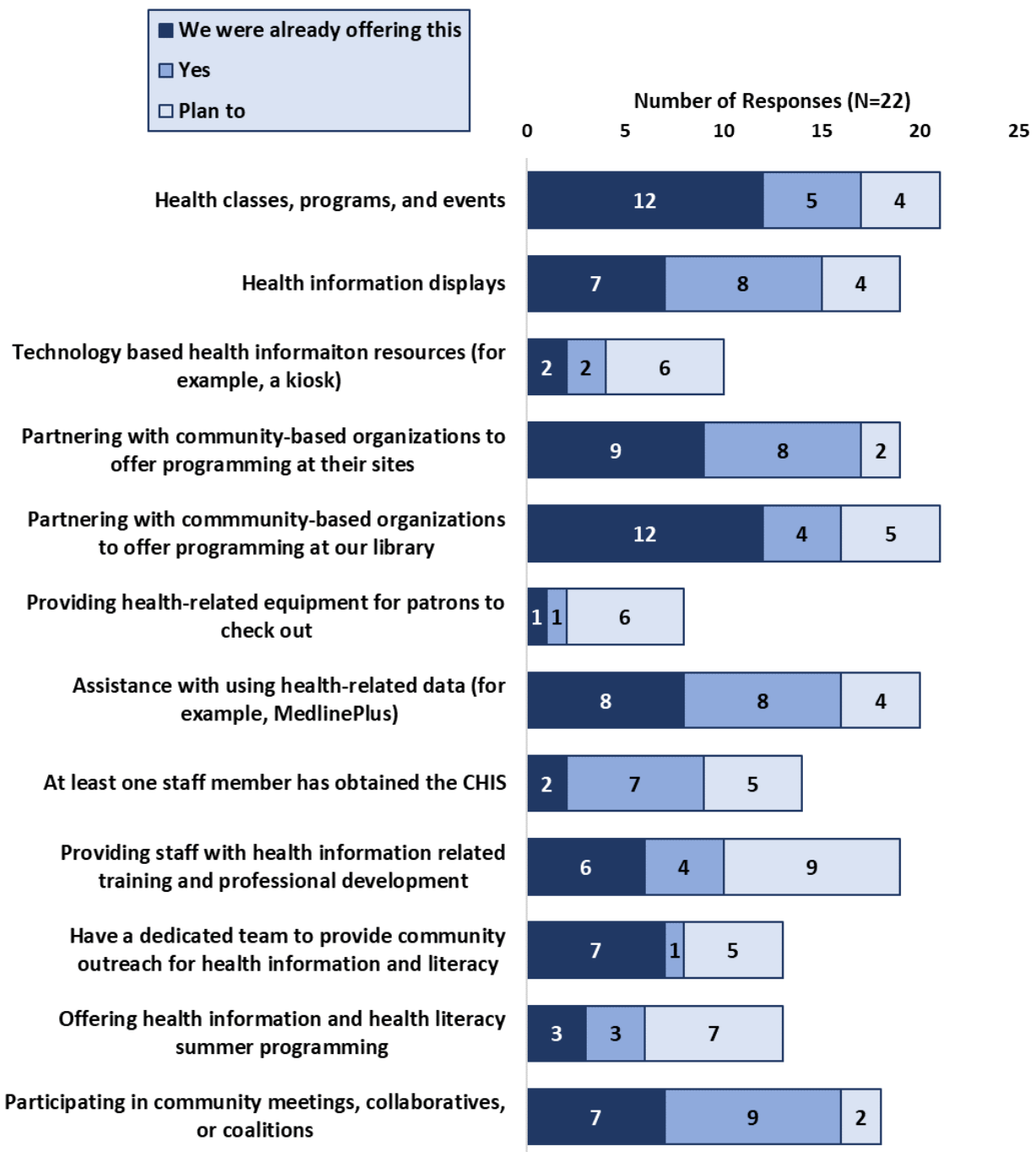


Figure 9. Services offered at respondents' libraries as a result of participating in the seminar.

#### CEN Public Library Training in the News

- “Healthy Acadia partners with local libraries to increase health literacy.” February 10, 2019, WABI 5 <https://www.wabi.tv/content/news/Healthy-Acadia-partners-with-local-libraries-to-increase-health-literacy-505427901.html?ref=901>
- “NNLM NLM Exhibit Booth MLA 2019.” April 16, 2019, NNLM YouTube Channel <https://www.youtube.com/watch?v=K0KLD78aM3g&feature=youtu.be>
- “Rural Libraries Help Communities Access Health Information.” March 11, 2020, Rural Health Information Hub [https://www.ruralhealthinfo.org/rural-monitor/rural-libraries/?htm\\_source=racupdate&utm\\_medium=email&utm\\_campaign=update031120](https://www.ruralhealthinfo.org/rural-monitor/rural-libraries/?htm_source=racupdate&utm_medium=email&utm_campaign=update031120)
- “Boston Public Library at PLA.” March 18, 2020, NER Update <https://news.nlm.gov/ner/2020/03/18/boston-public-library-at-pla/>



## All of Us Learning Platform

### Overview

The NNLM *All of Us* Training and Education Center (TEC) has two main areas of focus: 1) to support engagement and awareness of the All of Us Research Program within public libraries 2) to support, create and maintain the Program's training and education needs via the creation of learning events and deliverables tailored to a wide variety of stakeholders and audiences along with an online learning platform to house *All of Us* informational materials and trainings.

For the first focus area, the NNLM *All of Us* Participant Engagement Lead (PEL) regularly engages with *All of Us* partners and All of Us staff to add value in the NIH and NLM *All of Us* partnership. NNLM provides value in sharing NLM reliable consumer health information resources to consortium members and NIH to provide ready-to-use messaging for use by *All of Us* participants (Appendix F). The PEL also creates connections between *All of Us* partners and the NNLM engagement coordinators to offer opportunities to collaborate with public libraries.

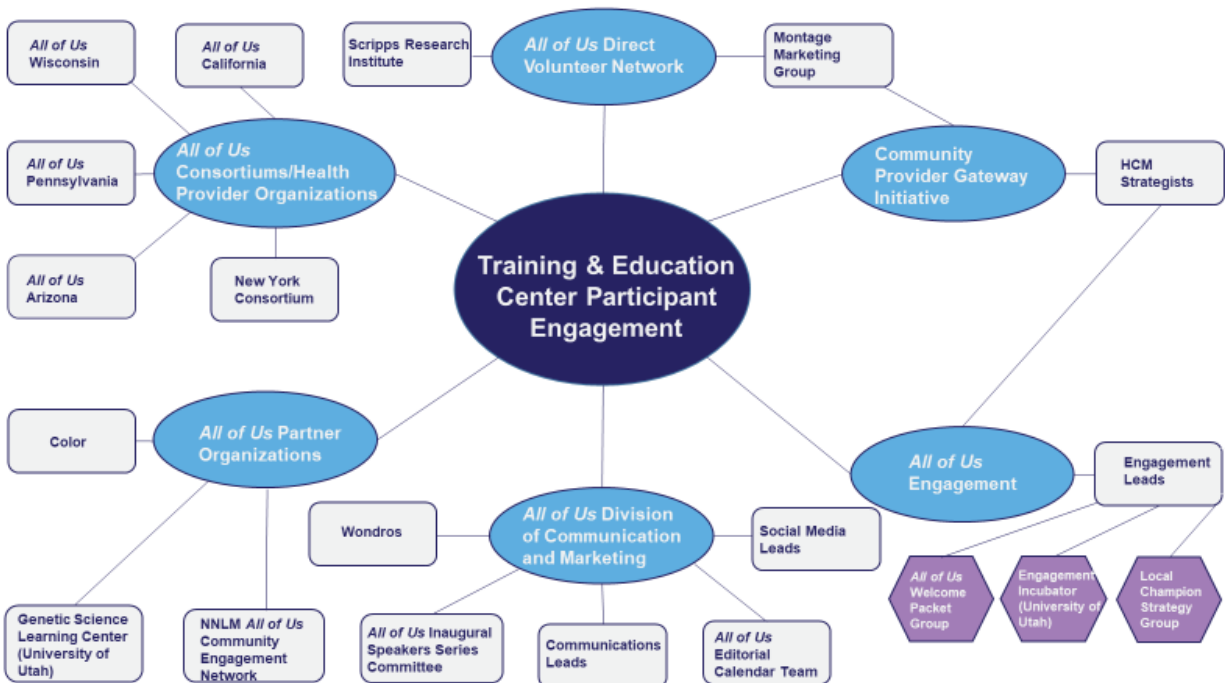


Figure 44. Participant Engagement by the Training and Education Center.

For the second focus area, by following educational best practices, andragogy principles and strong design elements, the TEC has worked closely with the *All of Us* Research Program engagement staff, *All of Us* leadership and Consortium Member partners, to provide guidance in the development and deployment of *All of Us* training and educational goals, has successfully translated those goals into creative and interactive learning opportunities and has provided provide assessment protocols and subsequent end learner analytics.

To be both responsive to and well-integrated with *All of Us*, the TEC employs a participatory and collaborative team science approach. Doing so allows the TEC to remain flexible and responsive to *All of Us* Research Program needs, ensuring all stakeholders have shared understanding and that all

responsibilities and expectations are being met. Furthering this partnership in year 3, TEC's Participant Engagement Lead has been fully integrated in to the *All of Us* Engagement Leads and Communication Leads meetings.

To meet the complex and varying needs of the *All of Us* Research Program, TEC has created and implemented 5 levels of instructional design support ranging from Publication to Comprehensive Design and Custom Build (Appendix C). All TEC created deliverables are in accordance with NIH, NLM and *All of Us* Intuition Review Board content standards, utilizing *All of Us* style guides and other information policies and procedures; are 508 compliant with course introduction, overview and objectives written for the appropriate end-user (Appendix D).

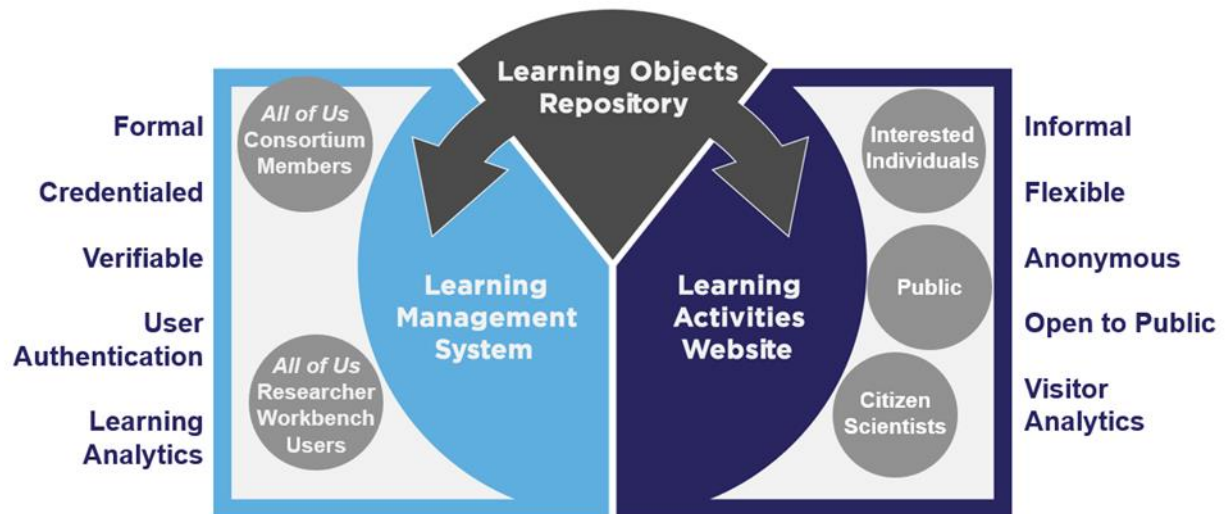
As of March 2020, 12 online courses (see table below) have been developed and offered by the TEC in support of the *All of Us* Research Program, as well as the creation of special *All of Us* events, library based initiatives in support of *All of Us* (Appendix E) and strong advocacy supporting All of Us within national library organizations as well as strengthening partnerships between NNLM and *All of Us* (Appendix F).

### *All of Us* Training and Education Center content

Online Training Courses Currently Available		Upcoming Training Courses
NIH <i>All of Us</i> Direct Volunteer Training	<i>All of Us</i> Consent and Recontact Training	Asian Health Coalition (Late May 2020)
2019 NIH- <i>All of Us</i> Annual Consortium Member Training	Mobile Engagement Asset Training 1: Available in English and Spanish	Community Partner Training Update (April 30, 2020)
Biospecimen Collection for HPOs	Mobile Engagement Asset Training 2: Available in English and Spanish	2020 NIH- <i>All of Us</i> Annual Consortium Member Training (TBD)
<i>All of Us</i> Community Partner Training	Researcher Ethics training (RET):	
HealthPro Administrator Training	Core Values	
Sexual and Gender Minority Cultural Competency and Humility Training	Digital Literacy Modules	

## Training and Education Platform (TEP)

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The *All of Us* Training and Education Platform (TEP) is a collection of web-based tools that provide the technological backbone for the *All of Us* Training and Education Center's outreach, engagement, and training efforts. Development work began in 2017 with the installation of the systems and the hiring of the first developer. Progress sped up considerably in 2018 and the first course became available in January 2019.

The servers that comprise the TEP are hosted at the University of Pittsburgh's Network Operations Center (NOC) within a special FISMA-compliant zone. The NOC is a secure, off-campus facility that provides 24-hour network and server monitoring, generates nightly data backups stored locally and at a separate off-site facility, and provides full security scans of new servers before they are put into production. Additionally, there are local data backups performed three times per day to minimize the possibility of data loss in the case of an emergency.

The TEP consists of a public website, a learning management system, a learning objects repository, and a new Tableau server. The public website ([allofustec.nlm.gov](http://allofustec.nlm.gov)) is built using Drupal, an open source content management system. The website has served as the information hub for the *All of Us* Research Program Speaker Series, including links to the livestreams and recordings, transcripts, and other information offered in English and Spanish. The website will soon host a series of trainings on digital literacy. These digital literacy trainings are built using H5P, which utilizes HTML5 to create interactive learning experiences.

The TEP's learning management system (LMS) is the most robust system within the suite of tools. Built using the open-source Moodle platform, the LMS has been highly customized to meet the needs of the *All of Us* Research Program. Over 25 plugins have been installed and configured to adhere to requirements and requests from our partners, including 6 custom plugins. The LMS now has 12 courses available and has over 1500 accounts created and over 1800 course completions, many with custom certificates awarded upon completion. Course completions are tracked by organization via a custom

dashboard. Our developers have also worked extensively with Verily and the Broad Institute to integrate the TEP with the Researchers Workbench, developing a custom API to share data.

The learning objects repository (LOR) is built using the open source SeedDMS platform. NWSO developers have customized the system to generate permanent links to the most recent versions of files, meaning that all links to materials are using the most up-to-date content. The LOR is synced with the LMS to allow for direct file insertion into courses.

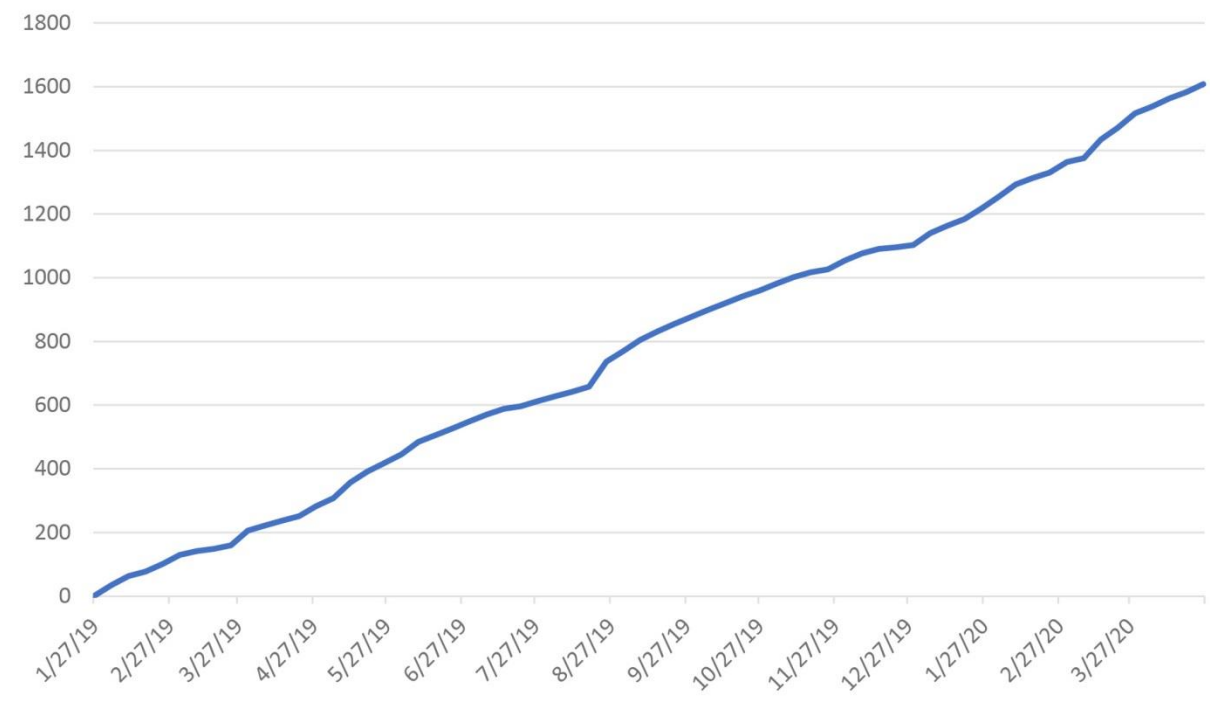


Figure 45. TEP account creations over time.

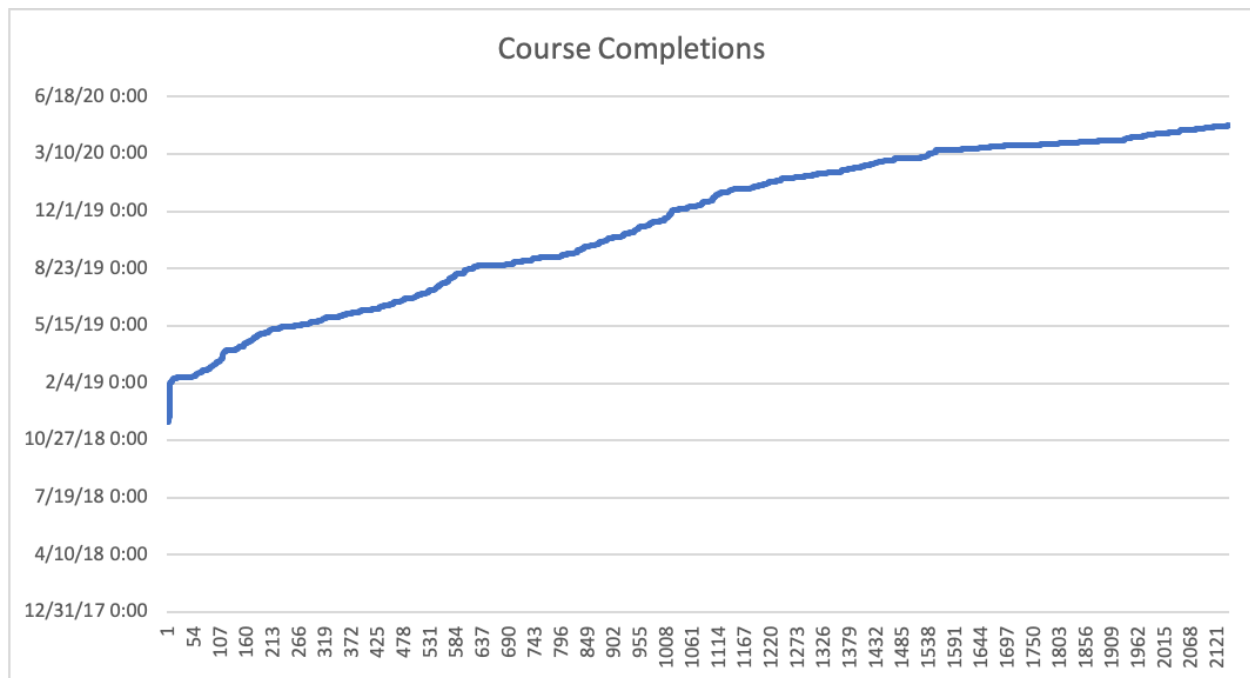


Figure 46. TEP course completions over time.

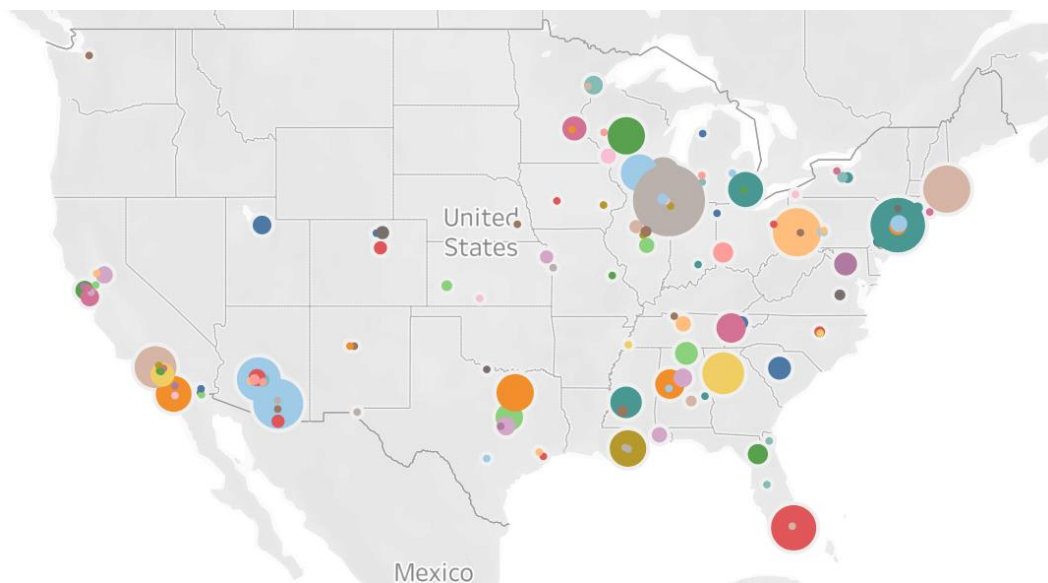


Figure 47. Map of TEP Users: Size is representative of number of users, color is for improved readability.

## Course Completions

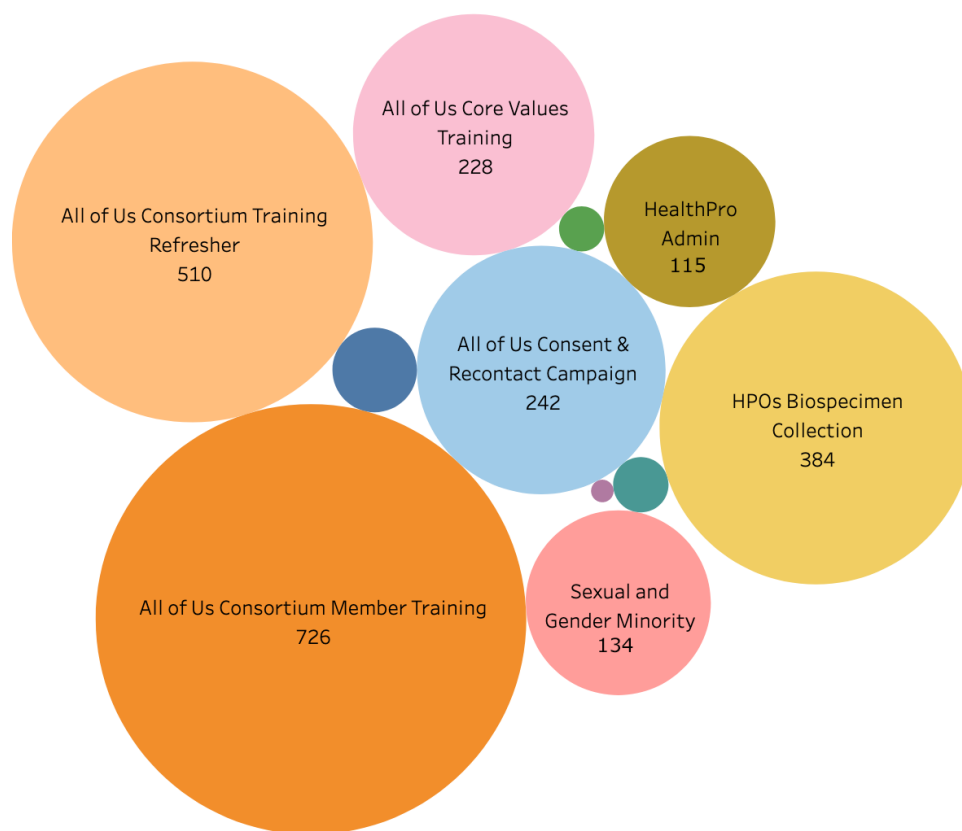


Figure 48. Course Completions by User: Size is representative of number of users, color is for improved readability.



Top Cities by User

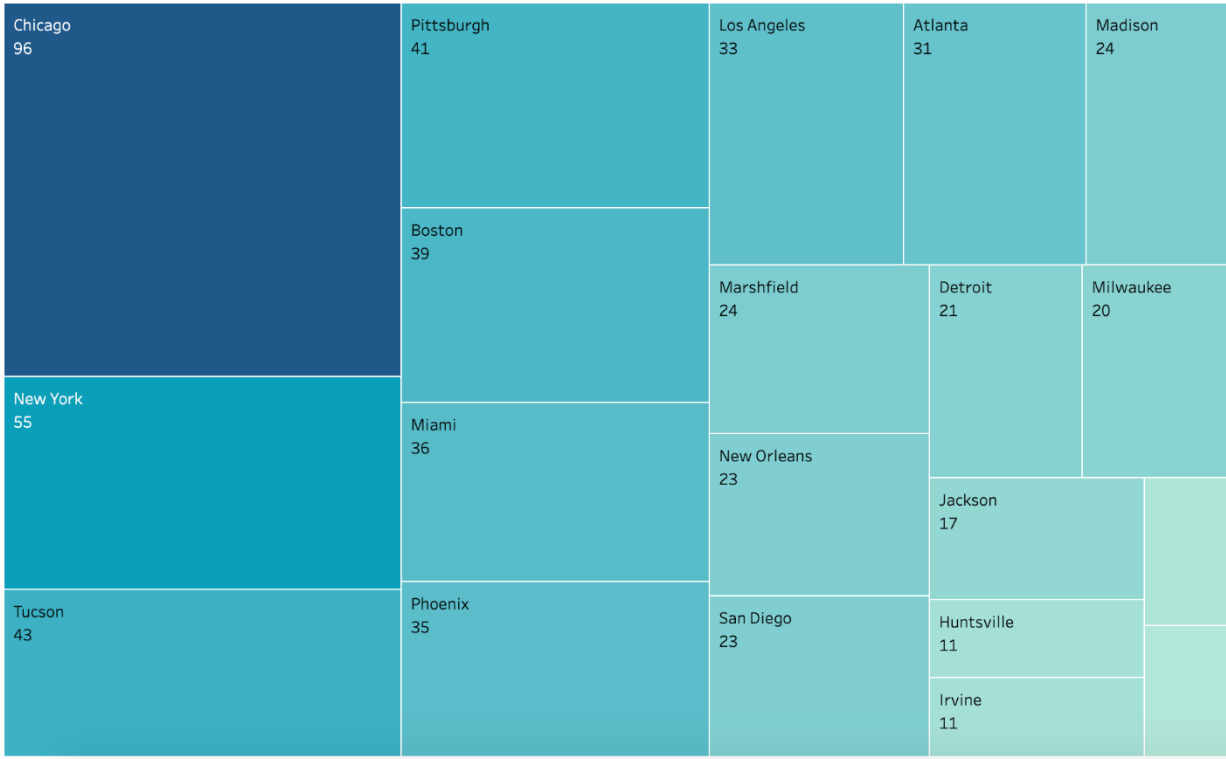


Figure 49. TEP Users by City: Size is representative of number of users, darker colors represent more users.

## NNLM *All of Us* National Program Evaluation

The CEN, in collaboration with the NNLM National Evaluation Office (NEO) and the NNLM *All of Us* Evaluation Team, will continue to implement rigorous evaluation activities both for formative and summative purposes. Formative evaluation findings will be utilized to inform improvement for resources and materials for NNLM partners and the public to ensure that the CEN deliverables meet the needs of our partners and other stakeholders, including *All of Us* and their partners. As part of the formative evaluation, we plan to conduct needs assessment with our public library partners to learn about their information needs and the types of resources and materials most appropriate for their communities.

The NNLM *All of Us* Evaluation Team will also continue to assess program processes and outcomes. Process measures will assess outputs associated with each program activity and event. The goal of the process evaluation will be to assess program reach, dosage, fidelity of implementation, and satisfaction with programs provided. Some examples are:

- The number and type of activities that are conducted (e.g., number of *All of Us* Journey events at library locations; number of program kits provided; etc.)
- The number of individuals who participate in the activities
- The UBR populations that are reached
- The number of library staff trained, including CHIS recipients
- The extent to which programs were implemented with fidelity (e.g., were all elements of each kit used or were adaptations made?).

Outcome evaluation will be conducted to measure the extent to which the CEN is meeting its outcomes, including impact on *All of Us* retention and enrollment. We will be reviewing the data we have collected over the three years period and continue collecting new evaluation data. With year four activities geared heavily toward promoting and raising awareness of *All of Us* both to our funded partners and to the public, in addition to building libraries' capacity to respond to consumer health information needs, we are currently revising our data collection instruments to ensure that we capture the extent to which CEN year 4 activities are increasing people's awareness of and knowledge about *All of Us*, as well as their intention to participate in the research program. Outcome measures will include:

- A survey for program participants that will measure their change in knowledge about and attitude toward *All of Us*.
- Survey questions for librarians to determine the extent to which they have learned more about the *All of Us* Research Program and are able to describe it and answer questions.
- Questions and measures to assess the extent to which we have built librarians' capacity to respond to their communities' needs for health information and health related programming.
- Questions and measures to assess the extent to which libraries have increased their focus on health programming.

A summative evaluation that assesses the activities and outcomes across all four years will be conducted to provide a comprehensive report of all activities and their outcomes. Additional data will be collected through key informant interviews and/or focus groups to determine the impact the *All of Us* funding has had on libraries and communities in regard to increasing their *All of Us* Research Program awareness and knowledge in addition to strengthening health programming and capacity to respond to health information needs across public libraries.

The TEP will be utilizing technology to provide detailed reports on how users are interacting with the trainings, allowing for greater granularity in finding areas where learners struggle, guiding future refinements. In addition, TEP will be using Tableau to provide data visualizations. Our partners will be able to view how our systems are being used; permissions to see these visualizations will be determined using Moodle's native permission system. Tableau is expected to be fully integrated with Moodle by summer 2020.

## Appendices

### Appendix A

Initiative	Result
NNLM <i>All of Us</i> Community Engagement Network (CEN)	654 NNLM Member Organizations are participating in CEN
NNLM Community Engagement Center (CEC)	Manages national planning, coordination and evaluation of the CEN
NNLM <i>All of Us</i> Training and Education Center (TEC)	Developed the Training and Education platform for the program
Training and Education Platform (TEP)	Program training platform with 12 available courses, over 1500 accounts created, and over 1800 course completions
NNLM events	1,315 <i>All of Us</i> awareness events held by NNLM member organizations across the United States reaching over 40,000 people; 770 of those events were held in libraries or community settings
NNLM activities during <i>All of Us</i> National Launch	Presence at all 7 National Launch Sites, organizing the launch event in Kansas City, attended by 722 people, 138 signing up or providing contact information at the NIH booth
Partnering with <i>All of Us</i> Journey events	2,699 library patrons engaged at 31 libraries in 19 states
NNLM Reading Club Kit	261 book club kits distributed to public libraries
Exhibiting at health fairs	Since Oct. 2018, NNLM CEN has hosted 142 exhibits and health fairs
Wash and Learn Initiative	Pilot that spans 4 separate communities
Consumer Health Information Kiosk Pilot	Kiosks rolled out to 29 libraries in the Fall of 2019
National Health Observances	1,164 program kits have been disseminated to libraries for in-library events
Consumer Health Information Specialization (CHIS)	Since April 2018, NNLM has sponsored 366 library staff to receive their CHIS
Community Engagement Toolkit (CETK)	The CETK has been viewed 2,468 times
In library training seminars	NNLM offered in-library training seminars to 169 library staff on <i>All of Us</i> awareness

## Appendix B

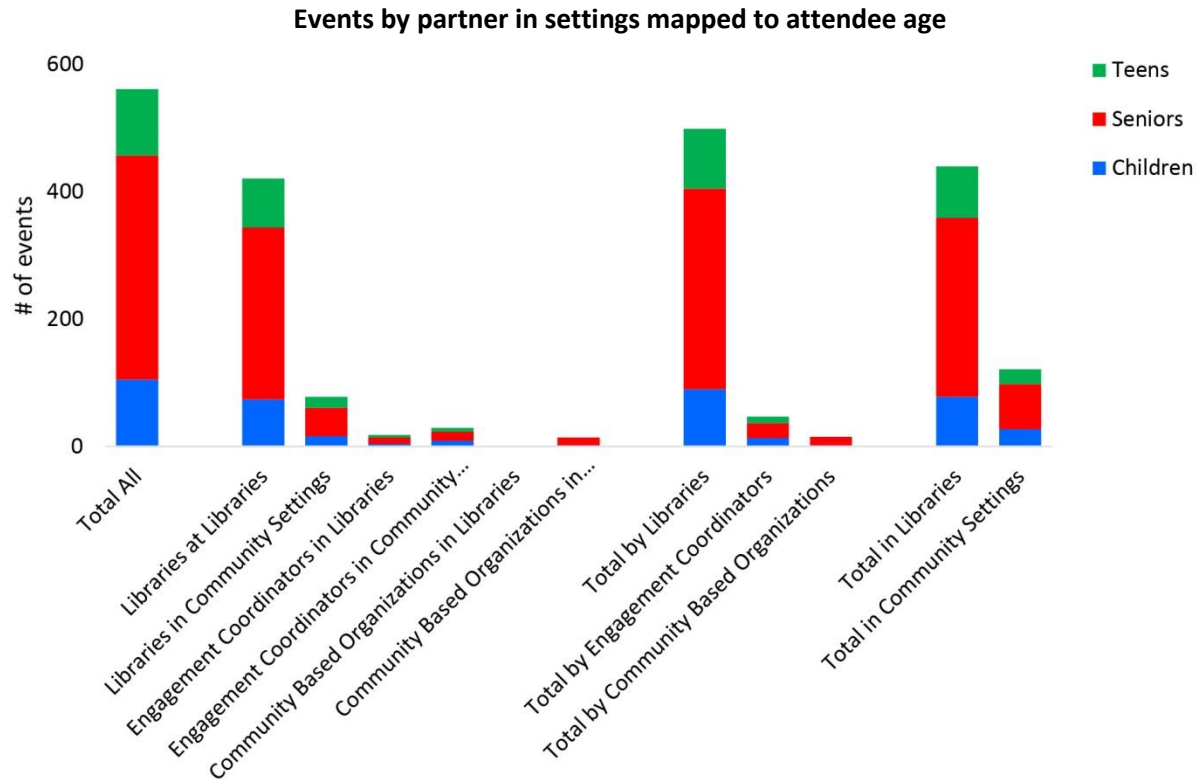


Figure 50. Events by partner in settings mapped to attendee age.

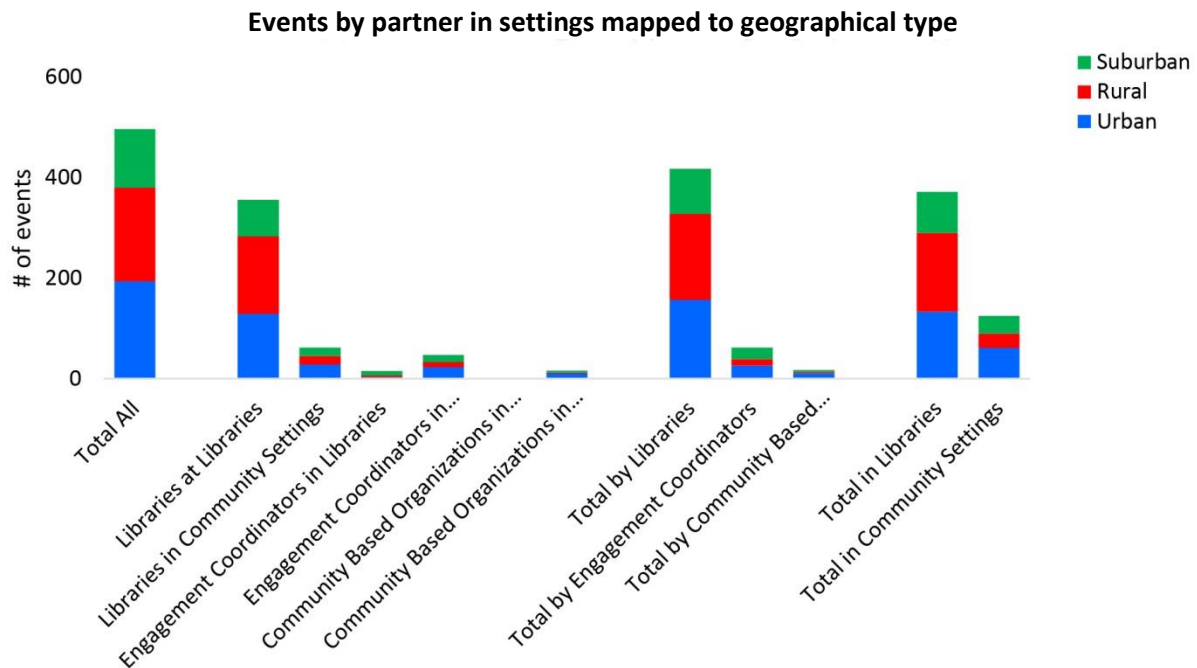


Figure 51. Events by partner in settings mapped to geographic type.

## Appendix C

### Training and Education Center Services with Timeframes

These are the basic types of services that the TEC provides regularly. All timeframes are provided only to assist you planning and reflect typical project timelines. Actual timeframes depend on your availability, TEC capacity, and project priority.

Description	Times	Examples (ordered faster to slower)
<b>Publication:</b>  TEC will <b>upload your instructional material</b> to the TEP and deliver a URL or course key. <b>Requires</b> material to be <i>All of Us</i> approved (and IRB approved, if necessary), 508 compliant, not requiring any conversion; usually a single file	1-2 weeks	<ul style="list-style-type: none"> <li>• an image infographic</li> <li>• a one-page pdf</li> <li>• a single video</li> <li>• a complete course exported from Moodle LMS</li> </ul>
<b>Construction:</b> TEC will build a learning activity, course or webpage <b>using your material without editing</b> or adding material, but converting material to TEP-compatible formats and combining multiple files <b>Requires</b> material to be complete, 508 compliant, and <i>All of Us</i> approved (and IRB approved, if necessary)	4-12 weeks	<ul style="list-style-type: none"> <li>• a multi-page pdf</li> <li>• a PowerPoint presentation</li> <li>• a series of videos</li> <li>• a quiz with all questions and answers</li> <li>• a course in non-Moodle LMS</li> <li>• a completed template for building new modules</li> </ul>
<b>Enhancement:</b> TEC will assist you in <b>improving the existing learning</b> experience through basic instructional design and engagement, converting material to eLearning, or bringing existing material into 508 compliance. <b>Requires</b> current material to be <i>All of Us</i> approved.	8-24 weeks	<ul style="list-style-type: none"> <li>• adding images or graphics</li> <li>• a PowerPoint presentation that needs additional navigation</li> <li>• inserting knowledge checks into PowerPoint presentation</li> <li>• developing quiz questions</li> <li>• adding interactivity or quizzes to existing videos</li> </ul>
<b>Extension</b> TEC will work with you and other experts to <b>design and produce new parts</b> of existing material, add new interactive learning experiences or produce engaging multimedia	12-30 weeks	<ul style="list-style-type: none"> <li>• a set of interactive scenarios</li> <li>• adding animation or interactive elements an animated or motion-graphics explainer video</li> <li>• a new interactive video</li> </ul>
<b>Comprehensive Design and Custom Build</b> TEC will consult with you and begin a <b>full instructional design process</b>	12+ weeks	You have a great idea for a course and need help getting started or developing material

## Appendix D

### Training and Education Platform: Completed Course Upload Checklist

#### REQUIRED Course Materials

- ☐ Course introduction written for the end-user
- ☐ Course overview and objectives written for the end-user
- ☐ Course outline

o Include external resources used in the training within the course outline. Examples include: URLs for external websites, PDFs, or other third-party resources.

- ☐ Text-based course content (text and image files)
- **Accepted text formats include:** PowerPoint, Word, and PDF
- **Accepted file images include:** .gif, .jpeg, .png, .svg
- ☐ Alt-text for each image provided
- ☐ Copyright and licensing information for content, visuals, or videos created externally
- ☐ 508 compliance report (<https://www.hhs.gov/web/section-508/making-files-accessible/checklist/index.html>)
- ☐ Course completion requirements

o Examples include: % passing rate on a final quiz or the names of required modules or activities for completion ☐ Point of Contact designated

#### OPTIONAL Course Content

- ☐ Video content (NOTE: audio and video to be uploaded in a single video file)
- **Preferred format:** .mp4 Accepted formats include: .mov, .m4v, .webm, .ogv Preferred resolution: 720p
- **Preferred aspect ratio:** 16:9
- ☐ Interactive content
- **Accepted formats include:** SCORM 1.2, H5P
- ☐ Knowledge Check Questions and answers: informal assessment within the course structure
- ☐ Final Quiz questions and answers: formal assessment post-course completion
- ☐ Request for end-user analytics
- ☐ Course conclusion written for the end-user



## Appendix E

### Participant Engagement library-based initiatives in support of *All of Us*

- **Citizen Science Training/Programs in a Box** – Designed for members of the general public, providing education on the concept of citizen science, as well as how to get involved in citizen science programs within their local community.
- **Citizen Science Month April 2020** - Partnership with SciStarter, Arizona State University and Cornerstones of Science for a wide variety of activities and events. Collaborations between communities and researchers build capacity to address problems and meet research goals.
- **National Observances and Health Topics Engagement Materials** – 12-month calendar for 2019 created; collaborative relationship with *All of Us* Research Program Communications and Editorial team; dissemination plan for widespread use for both NLM and *All of Us* audiences.
- **Speakers Series** – Inaugural Speakers Series, conceptualized and led by the TEC reached a large audience within both NNLM and *All of Us* Research Program networks via streaming technology in both English and Spanish with 508-compliance requires extensive logistical planning and collaboration.

## Appendix F

### Select Advocacy and Partnership Events

**Program Title: Applying Cultural Humility to Teaching and Learning**

Presenters: Lydia N. Collins, Participant Engagement Lead, Training and Education Center, *All of Us* Research Program (NLM)

Date/Location: November 5, 2018, Salt Lake City, Utah

Event: National Network of Libraries of Medicine, *All of Us* Research Program Cultural Humility and Instructional Design Workshop

**Program Title: NNLM *All of Us* Program Associate Fellows Presentation**

Co-Presenters: Jennifer R. Jones, Executive Director, Training and Education Center, *All of Us* Research Program (NLM) and Brittney Thomas, CEN Manager, NNLM Community Engagement Center

Date/Location: October 11, 2018 – virtual

**Program Title: Overview of NLM Partnership and Opportunity to Leverage Libraries, for the *All of Us* Research Program Illinois Consortium**

Co-Presenters: Lydia N. Collins, Participant Engagement Lead, Training and Education Center

Date/Location: October 4, 2018 – virtual

**Program Title: *All of Us* Research Program and Libraries: New Opportunities for Community Engagement and Citizen Science**

Presenters: Lydia N. Collins, Participant Engagement Lead, Training and Education Center, *All of Us* Research Program

Date/Location: September 28, 2018, Albuquerque, NM

Conference: The 3<sup>rd</sup> National Joint Conference of Librarians of Color

**Program Title: Transforming Communities through Health Outreach and Programming (Preconference)**

Presenters: Lydia N. Collins, Participant Engagement Lead, Training and Education Center, *All of Us* Research Program and Jennifer R. Jones, Executive Director, Training and Education Center, *All of Us* Research Program

Date/Location: September 26, 2018, Albuquerque, NM

Conference: The 3<sup>rd</sup> National Joint Conference of Librarians of Color

**Program Title: Overview of NLM Partnership and Opportunity to Leverage Libraries, for the *All of Us* Research Program Engagement Leads Meeting**

Co-Presenters: Amanda J. Wilson, Head of National Network of Libraries of Medicine (NNCO) and Lydia N. Collins, Participant Engagement Lead, Training and Education Center

Date/Location: August 17, 2018 – virtual

**Program Title: Radical Innovation in Digital Justice by Public Libraries**

Presenters: Lydia N. Collins, Participant Engagement Lead, Training and Education Center, *All of Us* Research Program (NLM)

Date/Location: April 1<sup>st</sup> 2019, Charlotte, NC

Event: National Digital Inclusion Alliance (NDIA) Conference/ Libraries without Borders Meetings

**Program Title: *All of Us* Research Program and Libraries: New Opportunities for Community Engagement and Citizen Science**

Presenters: Lydia N. Collins, Participant Engagement Lead, Training and Education Center, *All of Us* Research Program (NLM) and Yamila El-Khayat, Engagement Coordinator (TEC)

Date/Location- April 9<sup>th</sup>-12<sup>th</sup>, 2019

Event: Tribal Libraries Gathering (AZ, NM and CA)

**Program Title: Partnering with the National Library of Medicine for *All of Us* Awareness and Digital/Health Literacy Outreach**

Co-Presenters: Lydia N. Collins, Participant Engagement Lead Training and Education Center and Brittney Thomas, Manager, NNLM *All of Us* Community Engagement Center (CEC)

Date/Location: June 13-14, 2019- Bethesda, Maryland

Event: *All of Us* Research Program Face-to-Face meeting

**Program Title: Transforming Communities through Health Outreach and Programming**

Co-Presenters: Lydia N. Collins, Participant Engagement Lead Training and Education Center and Christian I.J. Minter, Community Engagement and Health Literacy Librarian, University of Nebraska

Date/Location: June 24, 2019, Washington DC

Event: ALA Annual Meeting

**Program Title: NNLM *All of Us* Program Associate Fellows Presentation**

Co-Presenters: Lydia N. Collins, Participant Engagement Lead Training and Education Center and Brittney Thomas, CEC Manager, NNLM *All of Us* Community Engagement Center

Date/Location: November 2019 – virtual

**Program Title: Creating and Evaluating an Online Learning Platform**

Presenters Jennifer R. Jones, Executive Director, Training and Education Center, *All of Us* Research Program.

Date/Location: November 16, 2019, Minneapolis, MN

Event: American Evaluation Association Annual Meeting

**Program Title: Multi Site and Multi Level Evaluation of the NNLM *All of Us* National Program**

Presenters Jennifer R. Jones, Asih Asikin-Garmager, Rima Afifi, Susan Wolfe, Brittney Thomas, Liz Kiscaden, Hacer Karamese, Catherine Martin, Darlene Kaskie, Nation Network of Libraries of Medicine

Date/Location: November 16, 2019, Minneapolis, MN

Event: American Evaluation Association Annual Meeting

**Program Title: Overview of NLM Partnership and Opportunity to Leverage Libraries, for the *All of Us* Research Program California Consortium**

Co-Presenters: Amanda J. Wilson and Lydia N. Collins, Participant Engagement Lead, Training and Education Center

Date/Location: January 15, 2020, Irvine, CA

**Program Title: Overview of NLM Partnership, for the *All of Us* Research Program and MedlinePlus/MedlinePlus Connect Integration**

Co-Presenters: Amanda J. Wilson and Lydia N. Collins, Participant Engagement Lead, Training and Education Center

Date/Location: January 16, 2020, La Jolla, California

Event: Scripps Research Team/ *All of Us* DV Team meeting

**Program Title: Overview of NLM Strategies for Health and Digital Literacy Outreach and Programming, for the *All of Us* Research Program**

Co-Presenters: Amanda J. Wilson and Lydia N. Collins, Participant Engagement Lead, Training and Education Center

Date/Location: January 17, 2020, Burlingame, California

Event: Color consortium meeting

## Appendix G

### Training Administrator's Dashboard

#### TEP Analytics: Training Administrator's Dashboard

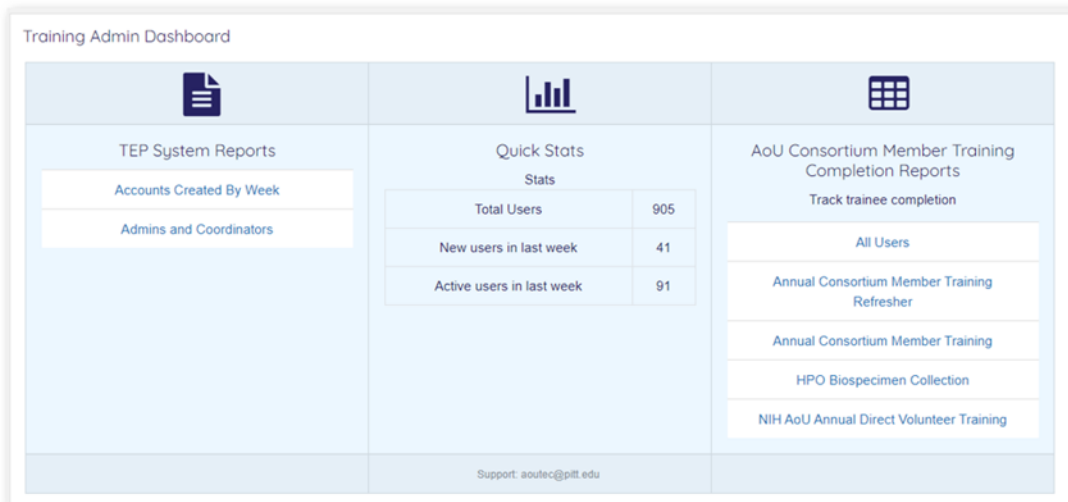


Figure 52. TEP Screenshot of Training Administrator's Dashboard.

Training Administrators have a customized view where they are able to get up-to-date statistics on new and active users, course completions by course, and exportable reports.

Appendix H  
TEP features

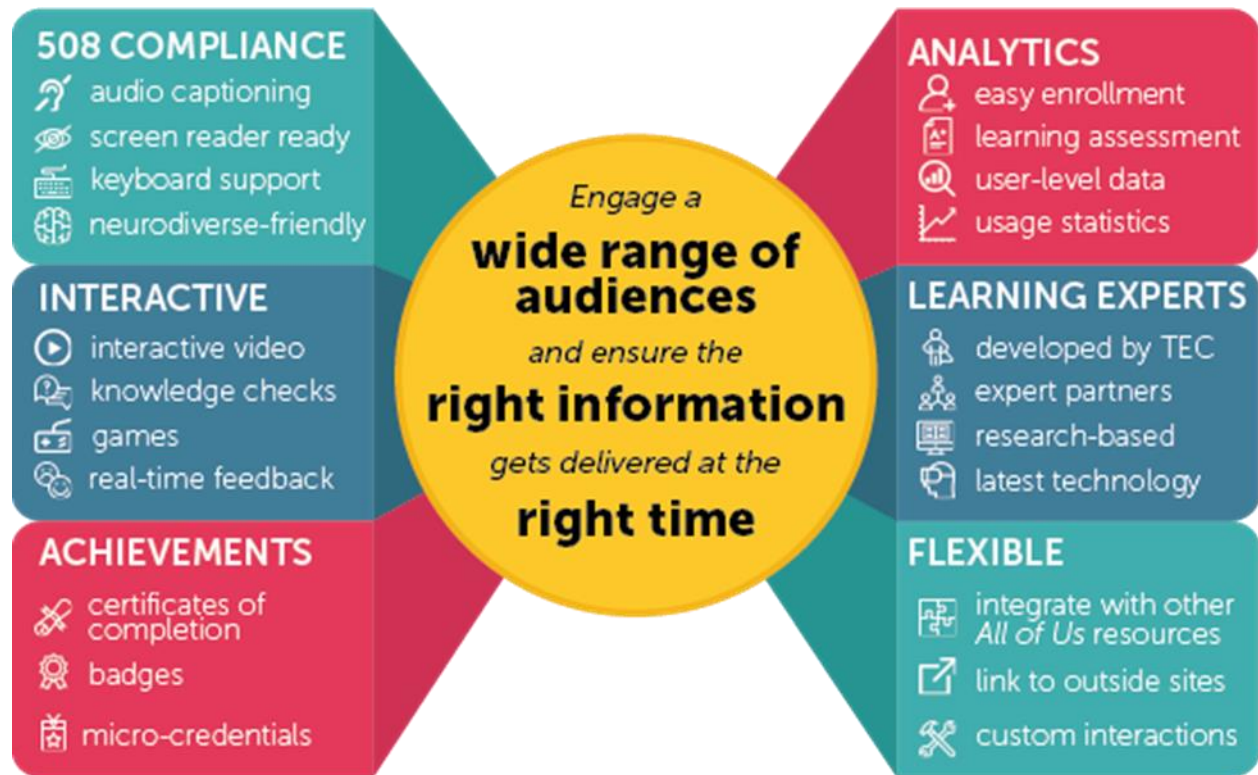


Figure 53. TEP TEC created deliverables are in accordance with NIH, NLM and All of Us Intuition Review Board content standards.



## Appendix I

### CEN Theory of Change

AoUNP doesn't have a set standard community engagement activities that can be easily and effectively leveraged by *All of Us* across the U.S., and customized by each region to meet the needs of their partners. Having standard program infrastructure and resources in place will allow AoUNP to efficiently respond to the changing goals and objectives of *All of Us* and be consistent in its ability to engage NNLM members and UBR communities in health literacy and *All of Us* awareness activities, allowing *All of Us* to leverage AoUNP community engagement activities.

AoUNP needs to develop a robust network of NNLM organizations that *All of Us* can leverage for program awareness to UBR populations, support for potential participants to gain skills needed to participate in the program, and retention and engagement activities for current participants, which is what the CEN is attempting to establish to address the problem.

AoUNP also needs to develop resources that are easy for public libraries and other AoUNP partners to use to engage their communities in health literacy and promote *All of Us*.

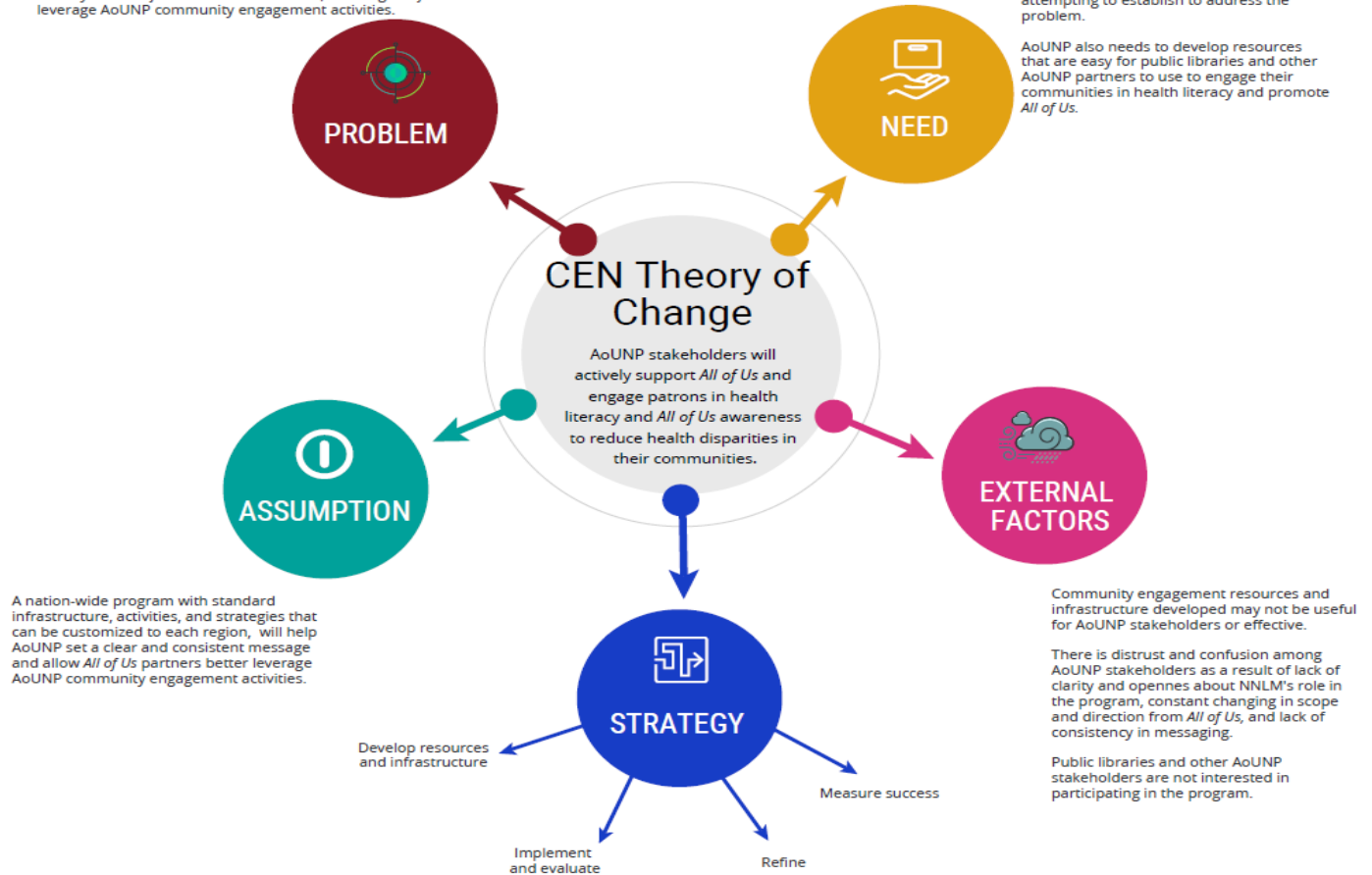


Figure 54. CEN Theory of Change model.

## Appendix J

### CEN Logic Model (Year 4)

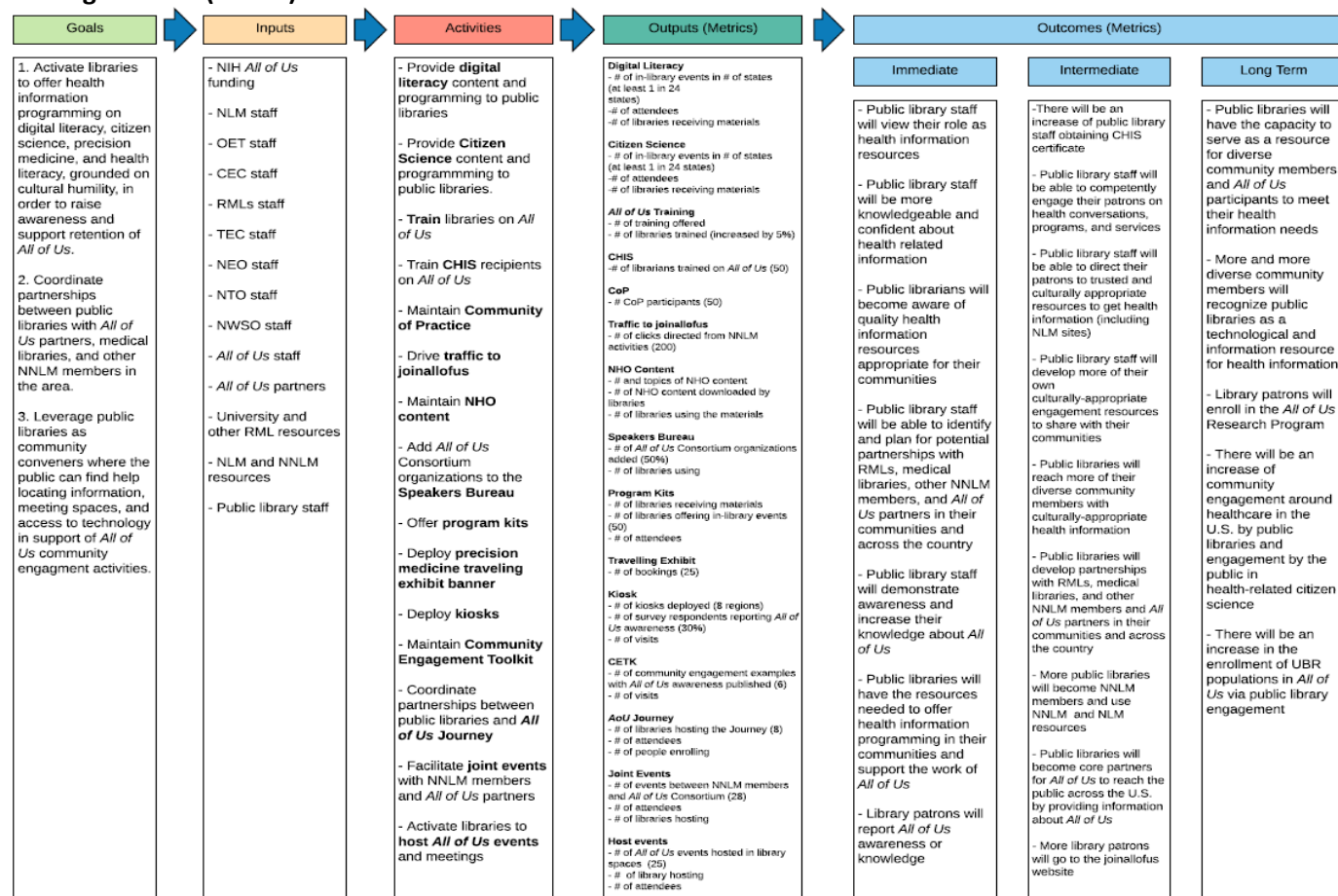


Figure 55. CEN Logic Model (Year 4).