

TABLE OF CONTENTS

Executive Summary	2
Introduction	2
Methods	2
Results	3
Conclusions	3
Introduction	4
Evaluation Design	4
Methods	5
Instrument Design	5
Sampling Methods	5
Response Rate	6
Data Analysis	7
Limitations	7
Results – Overall	8
Demographics/Employment	8
TB-Specific Activities and Competencies	12
TB-related Support	14
TB Training Needs	15
TB Training Experience	16
General Training Preferences	18
Results – By State	20
Demographics/Employment	20
TB-Specific Activities and Competencies	23
TB-related Support	24
TB Training Needs	25
TB Training Experience	28
General Training Preferences	31
Open-Ended Questions - Selected Responses	33
Conclusions And Recommendations	34
TB Training Needs	34
Training Formats & Delivery	34
State-specific Recommendations	35
Tribal-specific Recommendations	35
Appendix A: Online Questionnaire Instrument	36
Appendix B: Alaska Tribal Affiliation Responses	45
Appendix C: Open-Ended Questions Responses	51
Appendix D: Tribal Only Results	53

EXECUTIVE SUMMARY

Introduction

Native American communities throughout the Northwest have historically suffered disproportionately from tuberculosis (TB) as evidenced by rates of TB that continue to be much higher than the general population. However, no comprehensive assessment has been performed of self-identified TB and latent TB infection (LTBI) related training needs in regional tribes.

The Firland Northwest Tuberculosis Center (FNWTBC) with the support of Northwest Center for Public Health Practice (NWCPHP) and the Northwest Portland Area Indian Health Board (NPHIAB), designed and administered a needs assessment on TB-related needs in tribal communities in a four-state region (Washington, Oregon, Idaho, and Alaska). This effort will allow key stakeholders to plan and execute projects targeted to specific tribes that fit within the scope of the FNWTBC's mission and professional expertise.

This assessment gathered the opinions of public health professionals regarding:

- Current TB-specific activities and competencies
- TB training needs and barriers in providing adequate TB-related care
- General training preferences
- Previous TB-related training experience

Methods

The original questionnaire used by NWCPHP to survey public health professionals within the four-state region was developed by NWCPHP's evaluation team, with input from the FNWTBC and the NPHIAB. The instrument included questions about employment, specific public health competencies related to TB, training modality preferences, and barriers to attending training. Basic demographic information questions, as well as questions assessing specific TB-related topic areas to gauge need for trainings in these particular areas. The primary audience for the needs assessment was public health professionals within state, local, and tribal public health departments in Alaska, Idaho, Oregon, and Washington that either work with or work in tribal health delivery clinics.

Overall, potential participants received a link to the questionnaire via email. NWCPHP staff contacted key public health professionals in each of the four states to obtain direct emails or listservs for relevant tribal and public health professionals in their state. For the needs assessment, there were a total of 241 responses out of 309 individuals receiving a questionnaire via email, and 68 responses from individuals who took the survey from the web link.

Results

Top Training Needs	Key Factors in Selecting Trainings	Preferred Formats	Target Audiences
<ul style="list-style-type: none">• Pediatric TB• Legal issues related to TB• LTBI in other special populations	<ul style="list-style-type: none">• Offered during work hours• Reputation of trainer• Using a case or problem-based learning approach	<ul style="list-style-type: none">• Online module (self-paced learning)• Live webinar• Pre-recorded webinar	<ul style="list-style-type: none">• Clinics (local & county)• Public health nurses• Tribal health departments or corporations

Other key findings include:

- Almost 40% of respondents have not received a TB-related training in the past two years, with Oregon respondents reporting the highest percentage (62%) of no trainings received.
- Some respondents indicated a need for more funding or more affordable trainings
- Idaho respondents reported a *moderate/high need* for training in more topic areas compared to the other states, and was the only state with need for training in general TB information.
- Francis Curry TB Center was reported to be the organization that previously provided the most TB-related trainings for most respondents.
- Patients with substance abuse problems that interferes with treatment adherence and low socioeconomic status were the most commonly reported barrier in providing adequate TB-related care

Tribal

When results were stratified by tribal-only and overall, there were some key differences in terms of TB-related training needs:

- Most tribal respondents were American Indian or Alaska Native (45%), and work for a tribal health department/corporation (74%).
- Tribal-only respondents reported that less than 5% of their time is spent working on TB-related activities in the past year, compared to 48% for overall respondents.
- Just over 22% of tribal-only respondents reported *not at all/somewhat confident* in their ability to manage a TB case, compared to 11% in overall respondents.
- The majority of tribal respondents reported a *moderate/high need* for training in all topic areas.
- A large percentage of tribal-only respondents indicated a preference for the opportunity to interact with the instructor as *moderately/extremely important*.

Conclusions & Recommendations

Future trainings should address the above topics, with particular emphasis on training public health professionals in Idaho and who work directly for tribal entities. Delivery of future trainings should be accessible via online, offered during work hours, and include clinics, public health nurses, and tribal health departments as the target audiences. Most respondents received previous TB trainings through the Francis Curry TB Center; this organization may serve as a potential partnership to provide more trainings for public health professionals that serve tribal communities.

INTRODUCTION

The Firland Northwest Tuberculosis Center (FNWTBC) is a new University of Washington Center of Excellence with a mission to enhance tuberculosis (TB) services in the WWAMI region (Washington, Wyoming, Alaska, Montana, and Idaho) through support of TB-related education, research, and clinical services. Native American communities throughout the Northwest have historically suffered disproportionately from TB as evidenced by rates of TB that continue to be much higher than the general population. However, no comprehensive assessment has been performed of self-identified TB and latent TB infection (LTBI) related needs in regional tribes.

In order to address this need, the FNWTBC with the support of Northwest Center for Public Health Practice (NWCPHP) and the Northwest Portland Area Indian Health Board (NPAIHB) designed and administered a needs assessment to evaluate the TB-related training needs of public health professionals that serve tribal communities in a four-state region (Washington, Oregon, Idaho, and Alaska). This effort will allow for the planning and execution of TB-related trainings for public health professionals that serve the various tribes in this region that fit within the scope of the FNWTBC's mission and professional expertise.

The NWCPHP evaluation team conducted a TB needs assessment among tribal communities throughout Washington, Oregon, Idaho, and Alaska. This effort included the development of a web-based needs assessment, dissemination of the needs assessment instrument, survey analysis, and a needs assessment report. The NWCPHP at the University of Washington serves to improve the quality and effectiveness of public health practice by linking the academic and practice communities.

Evaluation Design

The evaluation consisted of identifying TB-related needs among public health professionals that serve tribal communities in a four-state region (Washington, Oregon, Alaska, and Idaho). The evaluation assessed opinions from these public health professionals regarding:

- Current TB-specific activities and competencies;
- TB training needs regarding various TB-related topics (i.e., diagnosis, treatment, care management);
- Barriers in providing adequate TB-related care;
- Previous TB-related training experience; and
- General training preferences.

METHODS

Instrument Design

The questionnaire used to the survey public health professionals within the four-state region was developed by NWCPHP's evaluation team, with input from the FNWTBC and the Northwest Portland Area Indian Health Board. The instrument (Appendix A) included 35-questions about demographics and employment, specific tuberculosis competencies, previous TB-related training experience, training preferences, and barriers in providing adequate TB-related care. The instrument incorporated questions specific to various TB-related topic areas to assess need for trainings in these particular areas. The primary audience for the tribal TB needs assessment was public health professionals within state, local, and tribal public health departments or other health-related organizations in Alaska, Idaho, Oregon, and Washington.

To better address the specific needs of the tribal community and public health professionals of the four-state region, the questionnaire was slightly modified with input from Alaska TB Control epidemiologist and nurses. Given the length of the original needs assessment and the target audience's limited availability, questions that were not immediately relevant to TB-related trainings needs were eliminated from the needs assessment questionnaire.

Sampling Methods

The questionnaire was administered electronically using a Web-based survey tool, Survey Monkey. Table 1 outlines the recruitment and data collection strategies for each state. Overall, potential participants received a link to the questionnaire via email. The email explained the purpose of the needs assessment and the groups involved in the project (Northwest Center for Public Health Practice, Firland Foundation and Northwest Portland Area Indian Health Board). Participants were also informed that the Firland Foundation hopes to identify TB-related needs in public health professionals that serve tribal communities and then use this information to develop TB trainings relevant to their needs. Respondents were informed that their participation is voluntary. Additionally, the NPAIHB and Idaho TB controller announced the needs assessment at their respective local meetings of tribal leaders.

Email Collection

One group included potential respondents for whom we had obtained email address information. NWCPHP staff contacted key public health professionals in each of the four states to obtain direct emails or listservs for relevant tribal and public health professionals in their state. Emails were also collected from public health and governmental website directories. This sample received a personalized invitation and link to the survey specific to their email. In addition to receiving the invitation to participate in the needs assessment, individuals who had not yet completed the questionnaire also received reminder emails about once per week from the date of the initial invitation email. Table 2 shows when emails were delivered, how many were delivered, and when reminder emails were delivered. Overall, when surveys were sent to these email addresses, 28 were returned as undeliverable and 6 opted out, resulting in 605 questionnaires delivered. Of those, 241 responded to the questionnaire. It should be noted that many emails were collected from public information sources, therefore it could be that some emails were sent to people outside of the scope of the intended audience.

Web Link Collection

In order to collect additional tribal-affiliated respondents, the second group of respondents included those participants who received a web link to the survey. In Alaska, tribal health directors and community health aides were provided the web link and requested to send the email invitation to relevant public health professionals. In Idaho, Oregon and Washington, all recipients who completed the questionnaire were emailed the web link and encouraged to forward the web link to all relevant public health professionals in their state. Participants who used the web link to take the survey were notified of the survey by an email from a key public health professional in their state. The number of people who received a notification of the survey web link is unknown. Sixty-eight public health professionals took the needs assessment via the web link.

To conduct the TB needs assessment, NWC PHP worked closely each of the four states to collect names and email addresses, coordinate announcements to encourage participation, and disseminate the questionnaire to public health professionals in each of the four states.

Table 2. Recruitment methods by state.

State	Invitation Email Delivered	Reminder Emails Delivered	Web link invitation Sent
Alaska	June 23, 2015	June 30, 2015 July 7, 2015 July 15, 2015 July 23, 2015	July 28, 2015
Idaho	June 30, 2015	July 8, 2015 July 15, 2015 July 21, 2015 July 28, 2015	August 3, 2015
Oregon	June 12, 2015	June 23, 2015 June 30, 2015 July 7, 2015	August 3, 2015
Washington	June 12, 2015	June 23, 2015 June 30, 2015 July 7, 2015	August 3, 2015

Response Rate

For the needs assessment, there were a total of 241 responses out of 309 individuals that received a questionnaire via email, and 68 responses from individuals who took the survey from the web link (Table 2). Responses were reviewed to verify if there were any incomplete surveys, duplicate responses, or responses from individuals that do not work in public health. Responses were defined as “incomplete” if respondent did not answer any questions beyond the demographics. No responses were eliminated given this criteria, and therefore all responses were included in the analysis.

The total number of completed questionnaires from the email group was 241. Therefore, the response rate for this group was 40% (241/605). The total number of completed questionnaires from the web link group was 68. The number of people who received the invitation to respond to the survey using the web link is unknown, so it is not possible to calculate a response rate for this collection group. It can only be said that of the 309 total respondents from the four-state region, 68 (22%) responded using a web link.

The results presented are from a convenience sample rather than a random sample, and therefore not necessarily representative of public health professionals in Alaska, Idaho, Oregon, and Washington region, but rather of the 309 participants from the various health organizations who completed the questionnaire.

Table 3. Sample Composition.

State	Emails Delivered	# of Responses	# of Responses Included in Analysis	Response Rate	% of Sample
Email					
Alaska	213	95	95	45%	39%
Idaho	56	22	22	39%	9%
Oregon	89	35	35	39%	15%
Washington	247	89	89	36%	37%
Sub Total	605	241	241	40%	100%
Web link					
Alaska	-	36	36	-	53%
Idaho	-	4	4	-	6%
Oregon	-	7	7	-	10%
Washington	-	21	21	-	31%
Sub Total		68	68	-	100%
Total	605	309	309		

Data Analysis

Frequency distributions were calculated for each of the questions using Survey Monkey and Microsoft Excel. All responses, including partially completed responses, were included in the analysis. Missing responses to items were not included in the calculation of percentages. Qualitative data were coded and analyzed for themes.

The results are presented as overall (including all respondents), by state, and by tribal-only. Tribal-only respondents were defined as those respondents that currently work for a tribal hospital, clinic, tribal health department, or federal clinic (Indian Health Services). Where relevant, comparisons are drawn between the overall and tribal-only respondents.

Limitations

Tests of statistical significance were not conducted.

RESULTS – OVERALL

Demographics/Employment

Respondents were primarily *female* (84%), *40 years and older* (76%), and *White or Caucasian* (73%). The largest percentage of respondents reported that their highest level of education was a *bachelor's degree* (42%), and 25% earned a *master's degree* (Table 3).

Forty-three percent of respondents reside in Alaska, 35% in Washington State, 14% in Oregon, and 8% in Idaho. When respondents were asked about the type of health organization they work in, the majority of respondents reported working at a *local health department* (46%). Seventy-two percent of respondents have worked in public health or a related field for *more than ten years*, and 40% have worked at their organization for *more than ten years*. The largest percentage of respondents indicated that they were primarily *public health nurses* (40%) or a *health director, officer, or administrator* (16%) (Table 4).

Overall, most respondents (46-83% of state specific respondents) reported no tribal affiliation (Table 5-8). For tribal-only respondents, demographic differences were observed. For race and ethnicity, the majority of tribal respondents (45%) were *American Indian or Alaska Native*. Also, with respect to the health organizations in which they are employed, 74% of tribal respondents worked in a *tribal health department/corporation*. As for primary role, the largest percentage of tribal respondents (21%) reported other positions (i.e., physician assistant, environmental consultant), followed by *health director, officer, administrator* (16%) (Appendix D Tables A1-A2).

Table 3. Overall Demographics.

	%	n
Gender/Sex	100.0	236
Female	83.5	197
Male	16.5	39
Age	100.0	234
19 years or under	-	0
20 to 29 years	9.4	22
30 to 39 years	14.5	34
40 to 49 years	17.1	40
50 to 59 years	32.9	77
60 years or older	26.1	61
Primary Ethnicity/Race	100.0	233
American Indian or Alaska Native	15.0	35
Asian	2.1	5
Black or African American	0.9	2
Native Hawaiian/other Pacific Islander	0.4	1
White or Caucasian	72.5	169
Hispanic (all races)	1.7	4
Multiracial	7.3	17

Highest Level of Education	100.0	239
High school or equivalent	3.8	9
Certificate or training program	5.9	14
Associates degree	11.3	27
Bachelor's degree	42.3	101
Master's degree	24.7	59
Doctoral degree (MD, PhD, JD, DrPH, etc.)	10.0	24
Other*	2.1	5

*Other responses included: Nursing diploma (n=4) and community health practitioner graduate.

Table 4. Overall Employment Demographics.

	%	n
State of Primary Work.	100.0	309
Alaska	42.4	131
Idaho	8.1	25
Oregon	13.9	43
Washington	35.3	109
Other*	0.3	1
Health Organization Employment Type	100.0	309
Clinic (local or county)	11.7	36
Community-based organization	0.6	2
Hospital (non-tribal)	3.9	12
Hospital (tribal)	1.0	3
State health department	21.4	66
Local health department	46.3	143
Tribal health department/corporation	10.0	31
Other**	5.2	16
Years Worked in Field	100.0	292
Less than 6 months	1.0	3
Less than 1 year	0.3	1
1 to 3 years	8.6	25
4-6 years	7.9	23
7-10 years	10.3	30
More than 10 years	71.9	210
Years Worked at Current Organization	100.0	292
Less than 6 months	3.4	10
Less than 1 year	5.1	15
1 to 3 years	24.7	72
4-6 years	14.4	42
7-10 years	12.0	35
More than 10 years	40.4	118

Primary Role or Position	100.0	292
Clinical Director	2.1	6
Community Health Aide	6.2	18
Epidemiologist	4.8	14
Health Director, Officer, Administrator	15.8	46
Health Educator/Trainer	1.4	4
Infection Preventionist	3.1	9
Nurse/Nurse manager	3.1	9
Physician	2.4	7
Program or Project Manager	10.3	30
Public Health Nurse	39.7	116
Public Health Paraprofessional (Public Health Aide, Community Health Representative, etc.)	6.2	18
Tribal Health Director	0.7	2
Other***	4.5	13

*Other responses included: Nevada (but former ID employee)

**Other responses included: Assisted living facility (n=4), Tribal clinic (n=4), Indian Health Services (n=3), Federal clinic, Tribal health department (non-clinical), Veterans Affairs, Clinic and State health department, National Guard, State of Alaska PHC.

***Other responses included: Administrative Specialist, Care Manager, Clinical Pharmacist, Environmental Health Consultant, Environmental Health Specialist, Field Supervisor, Lab Manager, IP, Medical Floor Manager/Medical Assistant, Nurse epidemiologist (n=2), Physician Assistant (n=2), Physical therapist, Quality Improvement Manager, Worker's Compensation and Occupational Health.

Table 5. Alaska – Tribal Affiliations. (n=124)

Tribe	%	n
Not affiliated with a tribe	44.4	55
Village of Aniak	4.8	6
Native Village of Kwigillingok	4.0	5
Village of Kalskag	4.0	5
Village of Lower Kalskag	4.0	5
Emmonak Village	3.2	4
Holy Cross Village	3.2	4
Native Village of Mekoryuk	3.2	4
Native Village of Diomedes	3.2	4
Native Village of Elim	3.2	4
Native Village of Napakiak	3.2	4
Other*	16.1	20

Note: Given the large number of responses and tribal affiliations, all Alaska Tribal Affiliations are listed in Appendix B.

Table 6. Washington – Tribal Affiliations. (n=104)

Tribe	%	n
Not affiliated with a tribe	67.3	70
Chehalis Tribe	1.0	1
Colville Tribe	2.9	3
Cowlitz Tribe	3.8	4
Jamestown S’Klallam Tribe	3.8	4
Kalispel Tribe	1.9	2
Lower Elwha Klallam Tribe	2.9	3
Lummi Nation	1.0	1
Makah Tribe	1.9	2
Muckleshoot Tribe	1.0	1
Nooksack Tribe	1.0	1
Port Gamble S’Klallam Tribe	3.8	4
Puyallup Tribe	1.9	2
Quileute Tribe	1.9	2
Quinault Indian Nation	1.0	1
Samish Indian Nation	1.0	1
Shoalwater Bay Tribe	1.0	1
Skokomish Tribe	1.0	1
Spokane Tribe	2.9	3
Squaxin Island Tribe	1.0	1
Suquamish Tribe	1.9	2
Swinomish Tribe	1.9	2
Tulalip Tribe	1.9	2
Yakama Indian Nation	3.8	4
Other*	3.8	4

*Other included: Any eligible beneficiary, Coeur D’Alene, local public health, and none.

Table 7. Oregon – Tribal Affiliations. (n=41)

Tribe	%	n
Not affiliated with a tribe	82.9	34
Burns Paiute Tribe	4.9	2
Coquille Tribe	2.4	1
Cow Creek Band of Umpqua	2.4	1
Grand Ronde Tribes	2.4	1
Warm Springs Tribes	4.9	2
Other	-	0

Table 8. Idaho – Tribal Affiliations. (n=24)

Tribe	%	n
Not affiliated with a tribe	45.8	11
Coeur d'Alene Tribe	-	0
Kootenai Tribe of Idaho	4.2	1
Nez Perce Tribe of Idaho	16.7	4
NW Band of Shoshone	-	0
Shoshone-Bannock Tribe	33.3	8
Other	-	0

TB-Specific Activities and Competencies

When asked about their TB-related activities and competencies, the largest percentage (71%) of public health professionals reportedly spent up to 25% of their time on TB-related activities, such as screening and prevention, in the past 12 months. Also, nearly 50% of respondents indicated that they have one to two staff working on TB prevention and control activities (Table 9).

In terms of caring for a patient with active TB in the past two years, 43% of respondents reported that they have had no involvement, and 39% indicated they have had involvement with *one to five patients*. It should be noted that almost 14% of respondents have cared for an active TB patient *more than 10 times* over the past two years (Table 9).

Nearly 46% of respondents reported they had been involved in the screening of latent TB infection *more than 10 times* in the past two years. More than 62% had been involved with the care of a latent TB infection patient five times or less, and notably 28% of respondents cared for *more than 10* patients with LTBI in the past two years (Table 9).

In the open response question regarding other TB-specific activities and competencies, eight respondents indicated a need for more funding or affordable trainings for their TB program. Another frequent response was that TB is not a major focus of their organization, and that participants' organization do not have the capacity or staffing to manage an active TB case. All open responses are listed in Appendix C (n=52).

There were various differences between tribal and overall respondents regarding TB-related activities. The majority of tribal respondents (74%) reported that 5% or less of their time is spent working on TB-related activities over the past year, compared to 48% for overall respondents. Moreover, 66% of tribal respondents have had no active TB patient care involvement in the past two years, compared to 43% for all states combined. Finally, 5% of tribal respondents reported being involved with the management of a patient with LTBI *more than 10 times*, compared to 28% for the overall respondents (Appendix D Table A3).

Table 9. Overall TB-Related Activities.

	%	n
Percentage of time spent working on TB-related activities in past 12 Months	100.0	292
None	9.2	27
1 to 5%	39.0	114
6 to 25%	31.5	92
26 to 50%	11.3	33
More than 50%	8.9	26
Number of staff working on TB prevention and control	100.0	292
None	8.9	26
1 to 2	47.6	139
3 to 4	18.5	54
5 to 6	8.6	25
7 or more	16.4	48
Active TB Patient Care Involvement in the Past 2 Years	100.0	289
None	42.9	124
1 to 5 times	39.4	114
6 to 10 times	3.8	11
More than 10 times	13.8	40
Latent TB Screening in the Past 2 Years	100.0	290
None	26.9	78
1 to 5 times	21.4	62
6 to 10 times	6.2	18
More than 10 times	45.5	132
Latent TB Infection Patient Care Management in the Past 2 Years	100.0	290
None	33.8	98
1 to 5 times	28.6	83
6 to 10 times	9.7	28
More than 10 times	27.9	81

TB-related Support

The majority of respondents (76%) indicated that they are *very satisfied/satisfied* with the support they receive from their local health jurisdiction, and about 90% of respondents reported that the level of support received from their local health jurisdiction is *about right* (Table 10).

When asked about key partners for TB-related information, *state partners* was the most common response (82%), followed by the *Centers for Disease Control and Prevention* (42%) and *local partners* (41%). Finally, 89% of respondents felt *very/moderately confident* in their organization's ability to manage a TB case (Table 10).

In assessing tribal responses, the majority (69%) reported being *neutral/satisfied* with the support they receive from their local health jurisdiction. Also, the highest percentage of tribal respondents (61%) reported that *local partners* are key partners when they have TB-related questions, compared to 82% of all states combined reporting *state partners* as their key partners. Finally, 22% reported *not at all/somewhat confident* in their ability to manage a TB case, compared to 11% in the overall respondents (Appendix D Table A4).

Table 10. TB-Related Support.

	%	n
Local Health Jurisdiction Support Satisfaction	100.0	266
Very satisfied	39.5	105
Satisfied	36.8	98
Neutral	13.9	37
Unsatisfied	1.9	5
Very unsatisfied	3.0	8
Have not received support	4.9	13
Local Health Jurisdiction Level of Satisfaction	100.0	258
Not enough	10.1	26
About right	89.5	231
Too much	0.4	1
Key Partners for TB-related Questions*	-	276
Local partners	41.3	114
State partners	81.5	224
Regional trainings and medical consultation centers (e.g., Curry Center)	33.5	92
Centers for Disease Control and Prevention (CDC)	42.2	116
Indian Health Services (IHS)	12.7	35
Other partner**	8.4	23
Confidence in Organization's Ability to Manage a TB case	100.0	278
Very confident	62.2	173
Moderately confident	26.3	73
Somewhat confident	9.4	26
Not at all confident	2.2	6

*Respondents were asked to mark all that apply.

**Other responses included: Public health nurse (n=5), Health Officer (n=2), Physicians at KANA, Public health center in Kodiak, Skagit County Health Department, Dr. Scott Lindquist, Kakanak Hospital, Co-workers, YKHC Health Department, Local infectious disease MD; Warmline, State Epidemiology, State TB physician, ANTHC, Muni of Anchorage, TB consultant, Heart land for Arizona, and Infectious diseases and pulmonary colleagues.

TB Training Needs

Respondents were assessed for their need for training in various TB-related capabilities. For general TB information, 58% of respondents indicated they were in *moderate/high need* of culturally appropriate TB prevention strategies used by tribal communities (Table 11).

In regards to active TB infection training needs, the majority of respondents reported a *moderate/high need* for training on legal issues related to TB (62%), pediatric TB (59%), and HIV/TB co-infection (54%) (Table 11).

Respondents were asked about their training needs with respect to LTBI. The topic area with the largest percentage of *moderate/high need* of training (54%) was LTBI in other special populations (e.g., liver disease, pregnancy) (Table 11).

Of the 30 respondents who provided an open response in regards to additional training topics, the most common response was practice with active cases, especially identifying signs and symptoms, which was reported by three respondents. Other responses were related to LTBI management and treatment, medication administration, and more trainings in general. All open responses are listed in Appendix C.

There were vast differences in training needs between tribal and overall respondents. Overall, the majority of tribal respondents (47-77%) reported *moderate/high need* for training in all 17 topic areas. The trainings with the largest percentages of *moderate/high need* for training include culturally appropriate TB prevention strategies used by tribal communities (77%), treatment regimens for LTBI (71%), infection control (68%), and legal issues related to TB (68%) (Appendix D Table A5).

Table 11. Need for Training in TB-Related Topics (% of responses)

Topic	n	No need	Low need	Moderate need	High need	N/A
Capability 1: General TB Information						
General information about TB (e.g. risk factors, symptoms, diagnosis and treatment)	263	26.2	40.7	21.7	8.7	2.7
Culturally appropriate TB prevention strategies used by tribal communities	261	11.9	24.9	34.5	23.0	5.7
Capability 2: Active TB Infection						
Diagnosis of TB	264	21.6	41.7	23.9	7.6	5.3
Treatment regimens for active TB disease	264	18.2	33.3	33.3	11.0	4.2
HIV/TB co-infection	262	13.4	27.9	42.7	11.5	4.6
Pediatric TB	260	10.0	26.9	37.7	20.8	4.6
Legal issues related to TB	264	8.0	26.9	39.8	22.3	3.0
Infection control	263	17.9	36.1	30.0	13.7	2.3
Contact investigation and follow-up	264	16.7	34.8	31.1	13.6	3.8
TB case management	264	14.4	38.3	29.2	12.9	5.3

Capability 3: Latent TB Infection						
Diagnosis of LTBI with tuberculin skin test	264	29.9	37.5	18.9	8.7	4.9
Diagnosis of LTBI with interferon gamma release assays	262	22.1	32.8	24.4	13.4	7.3
Who and how to screen for LTBI	263	27.0	35.7	23.6	10.3	3.4
Treatment regimens for LTBI: INH, rifampin, INH/rifapentine	263	23.6	31.9	28.9	10.3	5.3
LTBI in other special populations, e.g. liver disease, pregnancy	263	12.5	28.9	36.5	17.9	4.2
LTBI case management	263	24.0	36.1	22.8	12.2	4.9
Pediatric LTBI	264	14.8	34.8	29.9	15.9	4.5

TB Training Experience

When respondents were asked about their previous TB training experience, the largest percentage of respondents (53%) indicated that in the past two years, they have received *one to three* trainings, while 38% of respondents reported receiving no trainings in the past two years (Table 12). As for the 155 public health professionals that provided a response to organizations that have provided previous TB trainings, a large proportion cited the *Francis Curry TB Center* (47%), followed by the *Washington State Department of Health (WA DOH)* (21%). See Appendix C for a list of all responses.

Respondents reported which organizations or health professional groups should be the target audience for TB-related trainings, with the largest percentage (83%) indicating that *clinics (local and county)*, *public health nurses* (77%), and *tribal health departments/corporations* (58%) should be the target audiences for future trainings (Table 12).

When asked about possible barriers in providing adequate TB-related care, the majority (77%) indicated that substance abuse problems among patients that interfere with treatment adherence was a *moderate/high barrier*. Moreover, 70% of respondents reported that a patient's socioeconomic status (e.g., education, income, transportation) was a *moderate/high barrier*, followed by different cultural beliefs between patients and providers (60%) (Table 13). Some respondents provided comments regarding barriers in providing adequate care, including language barriers, misinformation of IHS and tribal leaders in reporting laws, delays in treatment due to lack of staffing, lack of TB treatment knowledge, and distance between patients and healthcare access.

Table 12. Previous TB-related Training Experience.

	%	n
Number of TB Trainings Attended in the Past 2 Years	100.0	263
None	38.0	100
1 to 3	52.5	138
4 to 7	5.3	14
8 or more	4.2	11
Organization Delivered Previous TB Training*	-	155
Francis Curry TB Center	46.5	72
WA State Department of Health (WA DOH)	20.6	32
Centers for Disease Control and Prevention (CDC)	14.2	22
Alaska TB Program/Control and Epidemiology	9.0	14
State of Alaska	6.5	10
WA State TB Program	3.9	6
Alaska Native Tribal Health Consortium (ANTHC)	3.2	5
OR State TB Control	3.2	5
OR Health Authority TB Program	2.6	4
Yukon Kuskokwim Health Corporation	2.6	4
Community Health Aides Program (CHAP)	1.9	3
Association for Professionals in Infection Control and Epidemiology (APIC) Conferences	1.9	3
Indian Health Services (IHS)	1.9	3
State health department	1.9	3
Tribal Health Infection/Safety Control Officers	1.3	2
Other**	17.4	27
TB Training Target Audience*	-	259
Clinics (local or county)	83.4	216
Community-based organizations	47.5	123
Community Health Aides	1.9	5
Community members	1.5	4
Correctional facilities	1.2	3
Emergency room departments	0.8	2
Hospitals (non-tribal)	50.6	131
Hospitals (tribal)	47.9	124
Local primary care physicians/practitioners	1.2	3
Public health nurses	76.8	199
Schools	1.5	4
Tribal elders	34.0	88
Tribal health departments/corporations	57.5	149
Tribal nurses	52.5	136
Tribal physicians	54.7	141
Other***	1.9	5

*Open response question.

**Other responses are listed in the Open-Ended Questions section.

***Other responses included: Area & Pan American International High School (PAIHS) Officials, County public health officer (doctors) and epidemiologists, Homeless Shelters, Local Health Jurisdictions (LHJ), and Long-term care facilities.

Table 13. Barriers in providing adequate TB-related Care. (% of responses)

Topic	n	Not a barrier	Low barrier	Moderate barrier	High barrier
Patient's socioeconomic status (e.g., education, income, transportation)	257	13.2	16.7	42.4	27.6
Different cultural beliefs between patients and providers	257	12.8	27.2	42.8	17.1
Provider sensitivity/awareness toward their TB patients	255	18.8	39.6	33.3	8.2
Availability of trained specialists	256	16.0	28.9	39.8	15.2
Resources for adequate laboratory procedures	256	29.3	44.5	18.4	7.8
Availability of isolation facilities	255	12.5	29.0	36.1	22.4
Substance abuse problems among patients that interfere with treatment adherence	253	4.3	19.0	40.3	36.4
Other*	12				

*Other responses included: lack of TB knowledge (screening , recognition) (n=3), language (n=2), access to telephones, distance to patients, funding, inadequate time for providers to properly evaluate TB patients, lack of housing for infectious TB patients, misinformation of IHS and tribal leaders regarding reporting, and patients feeling social isolation and shame.

General Training Preferences

In order to best support planning for future trainings, respondents were asked about their training format preferences and factors that impact their ability to attend trainings. The largest percentage of respondents (71%) preferred a training format using an *online module (self-paced learning)*, followed by *live webinar* (69%) and *pre-recorded webinar* (61%). Also, the majority of respondents felt *moderately/ extremely comfortable* with online distance education (92%), and have *moderately/ extremely reliable* internet access (91%) (Table 14). In terms of important factors of selecting training courses, most indicated that it was *moderately/ extremely important* to have trainings *offered during work hours* (80%). The *reputation of the trainer* (77%) and *using a case or problem-based learning approach* (70%) were also important considerations when choosing to attend a training (Table 15).

There were some differences observed between tribal and overall respondents in terms of general training preferences. A larger percentage of tribal respondents (19%) reported *not at all/ somewhat* comfortable with online distance education, compared to 9% for overall respondents. Finally, a notable percentage of tribal respondents (69%) reported the opportunity to interact with the instructor to be *moderately/ extremely important*, compared to 54% for all states combined (Appendix D Tables A8-A9).

Table 14. General Training Preferences.

	%	n
Preference for Training Format*	-	259
Live webinar	69.1	179
Pre-recorded webinar	60.6	157
Online module (self-paced learning)	71.4	185
Web-based video teleconferencing (live group viewing)	43.6	113
In-person day-long workshop	53.3	138
In-person multi-day conference	33.2	86
Other**	1.9	5
Distance Education Comfort Level	100.0	258
Extremely comfortable	59.3	153
Moderately comfortable	32.2	83
Somewhat comfortable	6.6	17
Not at all comfortable	1.9	5
Internet Access Reliability	100.0	260
Extremely reliable	64.6	168
Moderately reliable	26.2	68
Somewhat reliable	8.1	21
Not at all reliable	1.2	3
I have no internet access	-	0

*Respondents were asked to mark all that apply.

**Other responses included: No training (n=2), any training, in-person Thursday morning, and not applicable.

Table 15. Key Factors in Training Selection. (% of responses)

	n	Not important	Slightly important	Moderately important	Extremely important
Being able to take the course with a group	257	53.3	21.0	21.0	4.7
Completing the course at your own pace	256	14.5	35.9	33.2	16.4
Offered during work hours	258	7.8	12.4	31.8	48.1
Opportunity to interact with the instructor	256	12.1	34.0	35.9	18.0
Opportunity to interact with other participants	257	23.7	39.3	26.1	10.9
Reputation of the trainer	257	3.1	19.8	46.7	30.4
Using a case or problem-based learning approach	256	3.9	26.6	48.4	21.1

RESULTS – BY STATE

The results in this section will highlight the differences observed between the states by each of the topics. Tables 16-26 are stratified by state – Alaska (AK), Idaho (ID), Oregon (OR), and Washington (WA).

Demographics/Employment

For gender, Idaho had the largest percentage of males (38%) compared to Alaska with only 6%. Washington State had the highest percentage (36%) of those who reported being *60 years or older* compared to the other states. Although *White or Caucasian* represented the largest ethnic group for all states (62-89%), Alaska and Idaho had notably large proportion of *American Indian or Alaska Native*, with 25% in Alaska and 19% in Idaho. Washington State had the highest percentage of respondents that have earned a *doctoral degree* (17%), followed by Oregon (16%), and Idaho had a large proportion of respondents with a *master's degree* (38%) (Table 16).

When respondents were asked about the type of public health organization in which they are currently employed, 46% of Alaskan respondents reported currently working in a *state health department*, whereas the large majority for the other states (48-63%) work at the *local health department*. Moreover, a large percentage of Alaskan respondents reported working at a *clinic (local or county)* (23%), compared to 2-5% for the other states. Notably, 32% of Idaho respondents reported working at a *tribal health department/corporation*, compared to 5-11% in the other states. For years worked at current organization, Alaskan respondents reported the highest proportion of those who have worked at their current organization for *1 to 3 years*, compared to 2-5% in the other states. In Alaska and Washington State, the largest percentage of respondents indicated that they were primarily *public health nurses* (45-46%), whereas in Oregon, *health director, officer, or administrator* represented the large proportion (45%), followed by *public health nurses* (29%). In Idaho, *health director, officer, or administrator* were the highest reported (29%) position, followed by *program or project manager* (25%) (Table 17).

Table 16. Demographics by State. (% of responses)

	AK	ID	OR	WA
Gender/Sex n	94	21	36	84
Female	93.6	61.9	80.6	78.6
Male	6.4	38.1	19.4	21.4
Age n	93	21	35	84
19 years or under	-	-	-	-
20 to 29 years	17.2	9.5	5.7	2.4
30 to 39 years	19.4	19.0	14.3	8.3
40 to 49 years	17.2	19.0	11.4	19.0
50 to 59 years	32.3	38.1	28.6	34.5
60 years or older	14.0	14.3	4.0	35.7
Primary Ethnicity/Race n	91	21	36	84
American Indian or Alaska Native	25.3	19.0	5.6	7.1
Asian	1.1	-	-	4.8
Black or African American	1.1	-	-	1.2
Native Hawaiian/other Pacific Islander	-	-	2.8	-
White or Caucasian	61.5	76.2	88.9	76.2
Hispanic (all races)	2.2	-	2.8	1.2
Multiracial	8.8	4.8	-	9.5
Highest Level of Education n	96	21	37	84
High school or equivalent	8.3	-	-	1.2
Certificate or training program	10.4	-	2.7	3.6
Associates degree	8.3	4.8	5.4	19.0
Bachelor's degree	46.9	47.6	40.5	35.7
Master's degree	21.9	38.1	29.7	22.6
Doctoral degree (MD, PhD, JD, DrPH, etc.)	2.1	9.5	16.2	16.7
Other*	2.1	-	5.4	1.2

*Other responses included: Community Health Practitioner (AK), Nursing Diploma (AK, ID), and Diploma Registered Nurse (ID).

Table 17. Employment Demographics by State. (% of responses)

	AK	ID	OR	WA
Health Organization Employment Type n	131	25	43	109
Clinic (local or county)	22.9	4.0	4.7	2.8
Community-based organization	1.5	-	-	-
Hospital (non-tribal)	9.2	-	-	-
Hospital (tribal)	2.3	-	-	-
State health department	45.8	8.0	9.3	-
Local health department	4.6	48.0	81.4	82.6
Tribal health department/corporation	6.1	32.0	4.7	11.0
Other*	7.6	8.0	-	3.7
Years Worked in Field n	122	24	42	103
Less than 6 months	2.5	-	-	-
Less than 1 year	0.8	-	-	-
1 to 3 years	14.8	4.2	2.4	4.9
4-6 years	9.8	4.2	11.9	4.9
7-10 years	11.5	12.5	11.9	7.8
More than 10 years	60.7	79.2	73.8	82.5
Years Worked at Current Organization n	122	24	42	103
Less than 6 months	4.9	-	4.8	1.9
Less than 1 year	8.2	4.2	2.4	2.9
1 to 3 years	31.1	16.7	16.7	22.3
4-6 years	19.7	16.7	9.5	8.7
7-10 years	9.8	4.2	21.4	12.6
More than 10 years	26.2	58.3	45.2	51.5
Primary Role or Position n	122	24	42	103
Clinical Director	4.2	-	4.9	
Community Health Aide	14.8	-	-	1.9
Epidemiologist	2.5	16.7	-	4.9
Health Director, Officer, Administrator	2.5	29.2	45.2	17.5
Health Educator/Trainer	1.6	8.3	-	-
Infection Preventionist	4.1	-	-	1.0
Nurse/Nurse manager	4.1	-	2.4	2.9
Physician	-	-	2.4	5.8
Program or Project Manager	5.7	25.0	16.7	9.7
Public Health Nurse	45.1	8.3	28.6	45.6
Public Health Paraprofessional (Public Health Aide, Community Health Representative, etc.)	9.0	-	-	1.0
Tribal Health Director	0.8	-	-	1.0
Other*	9.8	8.3	4.8	3.9

*Other responses are included in Appendix C.

TB-Specific Activities and Competencies

When asked about their TB-related competencies and activities, public health professionals reported that in the past 12 months the largest percentage (77-90%) spend up to 25% of their time on TB-related activities, such as screening and prevention. Notably, a portion of respondents from Alaska (23%) and Washington State (23%) more than 25% of their time working on TB-related activities. In terms of TB staffing, there were notable proportions of respondents who have seven or more staff working on TB prevention and control in Alaska (26%) and Washington State (13%) (Table 18).

For all states, most respondents (61-71%) reported that they have cared for an LTBI patient for up to five times in the past two years. In addition, 35% of Idaho and 29% of Alaska respondents indicated they have cared *more than 10 times* for patients with LTBI in the past two years (Table 18).

Table 18. TB-related work and effort allocations. (% of responses)

TB-related Activities	AK	ID	OR	WA
Percentage of time spent working on TB-related activities in past 12 Months.				
n	122	24	42	103
0%	9.8	12.5	11.9	6.8
1 to 5%	36.9	41.7	45.2	38.8
6 to 25%	30.3	37.5	33.3	31.1
26 to 50%	13.1	8.3	4.8	11.7
More than 50%	9.8	-	4.8	11.7
Number of staff working on TB prevention and control.				
n	122	24	42	103
None	13.9	4.2	2.4	6.8
1 to 2	27.0	54.2	66.7	62.1
3 to 4	15.6	33.3	26.2	15.5
5 to 6	17.2	-	2.4	2.9
7 or more	26.2	8.3	2.4	12.6
Active TB Patient Care Involvement in the Past 2 Years.				
n	122	24	42	103
None	45.9	47.8	43.9	37.3
1 to 5 times	36.9	39.1	41.5	42.2
6 to 10 times	5.7	-	-	3.9
More than 10 times	11.5	13.0	14.6	16.7
Latent TB Screening in the Past 2 Years.				
n	122	23	42	102
None	25.4	26.1	35.7	25.5
1 to 5 times	26.2	26.1	14.3	17.6
6 to 10 times	6.6	4.3	7.1	5.9
More than 10 times	41.8	43.5	42.9	51.0
Latent TB Patient Care Management in the Past 2 Years.				
n	122	23	42	102
None	34.4	39.1	33.3	32.4
1 to 5 times	26.2	21.7	33.3	30.4
6 to 10 times	10.7	4.3	16.7	6.9
More than 10 times	28.7	34.8	16.7	30.4

TB-related Support

For local health jurisdiction support satisfaction, Idaho indicated the largest percentage (14%) of *have not received support* compared to the other states. Moreover, Idaho respondents reported the largest portion (21%) of *not enough* support from their local health jurisdiction, compared to only 6% in Washington State (Table 19).

Apart from state partners, when asked about key partners for TB-related information, the *Centers for Disease Control and Prevention* (65%) was commonly reported among Idaho respondents, compared to 38% for Alaska respondents (Table 19).

Table 19. TB-related Support and Satisfaction. (% of responses)

TB-related Activities	AK	ID	OR	WA
Local Health Jurisdiction Support Satisfaction				
n	117	22	41	85
Very satisfied	40.2	22.7	39.0	42.4
Satisfied	34.2	40.9	34.1	41.2
Neutral	17.9	22.7	17.1	4.7
Unsatisfied	1.7	-	4.9	1.2
Very unsatisfied	3.4	-	2.4	3.5
Have not received support	2.6	13.6	2.4	7.1
Local Health Jurisdiction Level of Support Satisfaction				
n	116	19	39	83
Not enough	9.5	21.1	15.4	6.0
About right	90.5	78.9	84.6	92.8
Too much	-	-	-	1.2
Key Partners for TB-related Questions*				
n	118	23	41	93
Local partners	41.5	39.1	36.6	44.1
State partners	78.0	65.2	92.7	83.9
Regional trainings and medical consultation centers (e.g., Curry Center)	24.6	39.1	48.8	36.6
Centers for Disease Control and Prevention (CDC)	38.1	65.2	39.0	41.9
Indian Health Services (IHS)	16.9	30.4	4.9	6.5
Other partner**	11.9	-	2.4	8.6
Confidence level in Organization's Ability to Manage a TB case				
n	118	23	40	96
Very confident	60.2	52.2	65.0	66.7
Moderately confident	28.8	26.1	25.0	22.9
Somewhat confident	8.5	17.4	10.0	8.3
Not at all confident	2.5	4.3	-	2.1

* Percentages will add up to more than 100% because respondents were able to select more than one response.

** Other responses are included in Appendix C.

TB Training Needs

Capability 1: General TB Information

Respondents were assessed for their need for training regarding TB in general. 45% of Idaho respondents reported *moderate/high need* for training in general information about TB (e.g., risk factors, symptoms, diagnosis, and treatment), compared to 22% for Washington State respondents. A large proportion of respondents in Alaska, Idaho, and Washington (54-82%) reported *moderate/high need* for training in culturally appropriate TB prevention strategies, compared to 36% for Oregon respondents (Table 20).

Capability 2: Active TB

Respondents were asked about their training needs with respect to active TB disease. Trainings in pediatric TB (46-73%) and legal issues related to TB (51-82%) were reported to be of *moderate/high need* for training by the majority of respondents from all states. Idaho respondents reported the highest percentages (50-82%) of *moderate/high need* for trainings six of the eight topics in this section. The majority of Alaska respondents (50-68%) identified five of the eight topics in this section as *moderate/high need* for training (Table 21).

Capability 3: LTBI

Participants reported varying training needs with respect to LTBI. Alaska respondents reported the highest percentages (50-57%) of *moderate/high need* for training in the topic areas of LTBI in other special populations (e.g. liver disease, pregnancy) and pediatric LTBI. Idaho respondents reported the highest percentages (50-73%) of *moderate/high need* for training in six of the seven topics of this section compared to the other states. The majority of Oregon respondents (49%) reported *moderate/high need* for training in the topic areas of LTBI in other special populations. Finally, Washington State participants (49%) indicated a *moderate/high need* for training in the topic areas of LTBI in other special populations (Table 22).

Table 20. Need for Training in TB-Related Topics. (% of responses)

Capability 1: General TB Information	n	No need	Low need	Moderate need	High need	N/A
General information about TB (e.g. risk factors, symptoms, diagnosis and treatment)						
Alaska	110	25.5	39.1	25.5	8.2	1.8
Idaho	22	4.5	50.0	22.7	22.7	-
Oregon	39	25.6	30.8	30.8	-	12.8
Washington	92	33.0	45.1	13.2	8.8	-
Culturally appropriate TB prevention strategies used by tribal communities						
Alaska	109	11.0	25.7	39.4	22.9	0.9
Idaho	22	4.5	9.1	27.3	54.5	4.5
Oregon	39	2.6	41.0	25.6	10.3	20.5
Washington	92	18.9	21.1	34.4	20.0	5.6

Table 21. Need for Training in TB-Related Topics. (% of responses)

Capability 2: Active TB Infection	n	No need	Low need	Moderate need	High need	N/A
Diagnosis of TB						
Alaska	110	22.7	41.8	21.8	10.0	3.6
Idaho	22	4.5	50.0	40.9	-	4.5
Oregon	39	12.8	41.0	25.6	2.6	17.9
Washington	92	28.3	40.2	21.7	7.6	2.2
Treatment regimens for active TB disease						
Alaska	111	14.4	36.0	36.9	10.8	1.8
Idaho	22	4.5	45.5	31.8	13.6	4.5
Oregon	39	10.3	33.3	33.3	5.1	17.9
Washington	91	29.7	27.5	29.7	12.1	1.1
HIV/TB co-infection						
Alaska	111	6.3	33.3	44.1	13.5	2.7
Idaho	22	-	22.7	59.1	13.6	4.5
Oregon	39	10.3	25.6	41.0	5.1	17.9
Washington	89	27.0	23.6	37.1	11.2	1.1
Pediatric TB						
Alaska	110	5.5	27.3	40.0	23.6	3.6
Idaho	22	-	22.7	45.5	27.3	4.5
Oregon	39	5.1	35.9	33.3	12.8	12.8
Washington	88	20.5	23.9	34.1	19.3	2.3
Legal issues related to TB						
Alaska	111	4.5	23.4	43.2	25.2	3.6
Idaho	22	-	18.2	54.5	27.3	-
Oregon	39	5.1	28.2	43.6	15.4	7.7
Washington	91	15.4	33.0	29.7	20.9	1.1
Infection control						
Alaska	111	15.3	33.3	36.0	14.4	0.9
Idaho	22	4.5	45.5	27.3	22.7	-
Oregon	38	10.5	50.0	23.7	5.3	10.5
Washington	91	27.5	31.9	26.4	13.2	1.1
Contact investigation and follow-up						
Alaska	111	11.7	36.0	36.0	14.4	1.8
Idaho	22	-	31.8	50.0	18.2	-
Oregon	39	10.3	46.2	23.1	5.1	15.4
Washington	91	29.7	29.7	24.2	14.3	2.2
TB case management						
Alaska	111	10.8	39.6	33.3	14.4	1.8
Idaho	22	-	40.9	40.9	18.2	-
Oregon	39	7.7	51.3	20.5	5.1	15.4
Washington	91	25.3	30.8	25.3	13.2	5.5

Table 22. Need for Training in TB-Related Topics. (% of responses)

Capability 3: Latent TB Infection	n	No need	Low need	Moderate need	High need	N/A
Diagnosis of LTBI with tuberculin skin test						
Alaska	111	22.5	39.6	21.6	11.7	4.5
Idaho	22	18.2	36.4	27.3	13.6	4.5
Oregon	39	30.8	41.0	10.3	2.6	15.4
Washington	91	41.8	34.1	17.6	5.5	1.1
Diagnosis of LTBI with interferon gamma release assays						
Alaska	110	12.7	34.5	27.3	19.1	6.4
Idaho	22	13.6	31.8	36.4	13.6	4.5
Oregon	39	20.5	35.9	20.5	2.6	20.5
Washington	90	36.7	30.0	20.0	10.0	3.3
Who and how to screen for LTBI						
Alaska	111	19.8	38.7	26.1	12.6	2.7
Idaho	22	18.2	18.2	45.5	18.2	-
Oregon	39	25.6	38.5	15.4	5.1	15.4
Washington	90	38.9	35.6	18.9	6.7	-
Treatment regimens for LTBI: INH, rifampin, INH/rifapentine						
Alaska	110	18.9	31.5	31.5	12.6	5.4
Idaho	22	13.6	31.8	31.8	18.2	4.5
Oregon	39	20.5	41.0	20.5	2.6	15.4
Washington	90	33.3	28.9	28.9	7.8	1.1
LTBI in other special populations, e.g. liver disease, pregnancy						
Alaska	111	9.9	29.7	35.1	21.6	3.6
Idaho	22	4.5	18.2	50.1	22.7	4.5
Oregon	39	7.7	30.8	38.5	10.3	12.8
Washington	90	20.0	30.0	34.4	14.4	1.1
LTBI case management						
Alaska	111	18.9	36.9	23.4	15.3	5.4
Idaho	22	9.1	36.4	36.4	18.2	-
Oregon	38	18.4	50.0	13.2	2.6	15.8
Washington	91	36.3	29.7	23.1	9.9	1.1
Pediatric LTBI						
Alaska	111	9.9	36	30.6	18.9	4.5
Idaho	22	4.5	18.2	45.5	27.3	4.5
Oregon	39	5.1	46.2	23.1	10.3	15.4
Washington	91	27.5	33	27.5	12.1	-

TB Training Experience

When asked about their previous TB training experience, Washington State respondents reported the highest percentage (20%) of those who have received four or more TB-related trainings in the past two years. On the other hand, the majority of Oregon respondents (62%) indicated having no trainings in the past two years. The majority of respondents from Alaska (57%), Idaho (50%), and Washington (55%) reported having *one to three* trainings in the past two years (Table 23).

Respondents reported which organizations should be the target audience for TB-related trainings. For Alaska and Washington, the largest percentages (80-90%) of respondents favored targeting *clinics (local and county)*, followed by *public health nurses* (73-75%). For Idaho and Oregon, *public health nurses* were the highest reported (84-91%) target audience for TB-related trainings. For five Alaska respondents, community health aides were also reported to be a target audience for such trainings. Moreover, two Oregon respondents included correctional facilities as a potential target audience (Table 23).

Participants were asked which organizations provided their previous TB trainings. For Alaska, Idaho, and Washington, the *Francis Curry TB Center* was the most reported (41-53%) organization. The majority of Oregon respondents (38%) reported that *Oregon State TB Control* provided their previous TB trainings, followed by the *Francis Curry TB Center* (31%). Almost a quarter of Alaska respondents (24%) reported that the *Alaska TB Program and Epidemiology department* delivered their previous training. For Idaho, equal proportions (23%) were reported for the *Centers for Disease Control and Prevention*, *Indian Health Services*, and *Tribal Health Infection and Safety Control officers* delivered previous TB trainings. For Washington State, a large proportion of respondents (42%) reported that the *WA DOH* delivered their trainings (Table 23).

When asked about possible barriers in providing adequate TB-related care, nearly all potential barriers listed were reported to be a *moderate/high barrier* by the majority of respondents (51-91%) from all states. Some differences observed between the states included provider sensitivity and awareness towards their TB patients, where 55% of Idaho respondents reported it to be a *moderate/high barrier*, compared to 28% in Washington. Also, for substance abuse problems among patients that interfere with treatment adherence, 91% of Oregon respondents reported it as a *moderate/high barrier*, compared to 68% in Washington. More specifically, for Alaska, 79% of respondents reported that substance abuse problems among patients that interfere with treatment adherence was a *moderate/high barrier*, followed by 68% reporting that a patient's socioeconomic status. For Idaho, 77% of respondents reported that substance abuse problems among patients that interfere with treatment adherence was a *moderate/high barrier*, followed by 68% reporting availability of trained specialists. Oregon respondents also reported different cultural beliefs between patients and providers (71%), and patient's socioeconomic status (70%) to be a *moderate/high barrier* (Table 24).

Table 23. Previous TB Training Experience. (% of responses)

Training Experience	AK	ID	OR	WA
Number of TB Trainings Attended in the Past 2 Years.				
n	109	22	39	92
None	40.4	40.9	61.5	25.0
1 to 3	56.9	50.0	33.3	55.4
4 to 7	0.9	4.5	-	13.0
8 or more	1.8	4.5	5.1	6.5
TB Training Target Audience.				
n	108	22	37	91
Clinics (local or county)	89.8	81.8	73.0	80.2
Community-based organizations	60.2	45.5	40.5	35.2
Hospitals (non-tribal)	52.8	50.0	43.2	51.6
Hospitals (tribal)	65.7	36.4	29.7	37.4
Public health nurses	73.1	90.9	83.8	74.7
Tribal elders	50.0	18.2	21.6	24.2
Tribal health departments/corporations	61.1	63.6	45.9	57.1
Tribal nurses	51.9	72.7	37.8	54.9
Tribal physicians	56.5	59.1	37.8	57.1
Other**	12.0	-	13.5	6.6
Organization Delivered Previous TB Training*				
n	59	13	16	66
Francis Curry TB Center	40.7	46.2	31.3	53.0
WA State Department of Health (WA DOH)	-	-	-	42.4
Centers for Disease Control and Prevention (CDC)	6.8	23.1	19.0	15.2
Alaska TB Program/Control and Epidemiology	23.7	-	-	-
State of Alaska	15.3	-	-	-
WA State TB Program	-	-	-	9.1
Alaska Native Tribal Health Consortium (ANTHC)	8.5	-	-	-
OR State TB Control	-	-	38.0	1.5
OR Health Authority	-	-	19.0	-
Yukon Kuskokwim Health Corporation	6.8	-	-	-
Community Health Aides Program (CHAP)	3.4	-	-	-
Association for Professionals in Infection Control and Epidemiology (APIC) Conferences	3.4	-	-	-
Indian Health Services (IHS)	-	23.1	-	-
Local/State health department	-	-	12.5	1.5
Tribal Health Infection/Safety Control Officers	-	23.1	-	-
Other**	13.6	15.4	25.0	24.2

*Open response question.

**Other responses are listed in Appendix C.

Table 24. Barriers in providing adequate TB-related Care. (% of responses)

Potential Barrier	n	Not a barrier	Low barrier	Moderate barrier	High barrier
Patient's socioeconomic status (e.g., education, income, transportation)					
Alaska	106	15.1	17.0	38.7	29.2
Idaho	22	9.1	22.7	40.9	27.3
Oregon	36	13.9	16.7	38.9	30.6
Washington	92	12.0	15.2	48.9	23.9
Different cultural beliefs between patients and providers					
Alaska	107	16.8	26.2	41.1	15.9
Idaho	22	9.1	27.3	40.9	22.7
Oregon	35	11.4	17.1	51.4	20.0
Washington	92	9.8	32.6	42.4	15.2
Provider sensitivity/awareness toward their TB patients					
Alaska	106	17.9	31.1	42.5	8.5
Idaho	22	13.6	31.8	40.9	13.6
Oregon	35	14.3	42.9	37.1	5.7
Washington	91	23.1	49.5	19.8	7.7
Availability of trained specialists					
Alaska	107	13.1	34.6	40.2	12.1
Idaho	22	9.1	18.2	45.5	27.3
Oregon	35	11.4	37.1	28.6	22.9
Washington	91	23.1	22	42.9	12.1
Resources for adequate laboratory procedures					
Alaska	106	25.5	45.3	19.8	9.4
Idaho	22	18.2	59.1	13.6	9.1
Oregon	35	22.9	48.6	20.0	8.6
Washington	92	39.1	38.0	17.4	5.4
Availability of isolation facilities					
Alaska	107	12.1	24.3	37.4	26.2
Idaho	22	-	31.8	50.0	18.2
Oregon	34	8.8	38.2	26.5	26.5
Washington	91	17.6	29.7	35.2	17.6
Substance abuse problems among patients that interfere with treatment adherence					
Alaska	105	3.8	17.1	32.4	46.7
Idaho	22	-	22.7	50.0	27.3
Oregon	34	2.9	5.9	52.9	38.2
Washington	91	6.6	25.3	41.8	26.4

General Training Preferences

Respondents were asked about the general training preference in order to tailor future presentations and trainings. For all states, the most preferred training format reported was *live webinar* (62-82%) and *online module (self-paced learning)* (59-82%). For Alaska and Idaho, a large proportion of respondents (58-64%) preferred an *in-person day-long workshop*. Also, a high percentage of Idaho, Oregon, and, Washington respondents (59-74%) indicated that a *pre-recorded webinar* was preferable (Table 25).

The vast majority of respondents from all states (81-97%) reported being *moderately/extremely comfortable* with online distance education. Notably, 11% of Alaska respondents and 19% of Idaho reported *not at all/somewhat* comfortable with online distance education (Table 25).

When asked about internet reliability, the majority of respondents from all states (82-97%) reported having *moderately/extremely reliable* internet access. Notably, 18% of Alaska respondents reported *not at all/somewhat reliable* internet access (Table 25).

Overall, the majority of respondents across all states reported the factors pertinent to training that are *moderately/extremely important* are trainings *offered during work hours* (75-96%), *reputation of the training* (68-80%), and *using a case or problem-based learning approach* (59-76%). Seventy-three percent of Idaho respondents indicated that the *opportunity to interact with the instructor* was *moderately/extremely important*, compared to 44% in Washington State (Table 26).

Table 25. General Training Preferences. (% of responses)

Training Preferences		AK	ID	OR	WA
Training Format*	n	107	22	38	91
Live webinar		61.7	81.8	76.3	71.4
Pre-recorded webinar		50.5	59.1	73.7	67.0
Online module (self-paced learning)		70.1	59.1	81.6	71.4
Web-based video teleconferencing (live group viewing)		37.4	45.5	55.3	45.1
In-person day-long workshop		57.9	63.6	44.7	49.5
In-person multi-day conference		43.9	45.5	23.7	22.0
Other**		-	4.5	7.9	1.1
Distance Education Comfort	n	107	21	38	91
Extremely comfortable		52.3	42.9	68.4	67.0
Moderately comfortable		35.5	38.1	26.3	29.7
Somewhat comfortable		8.4	19.0	2.6	3.3
Not at all comfortable		3.7	-	2.6	-
Internet Access Reliability	n	107	22	38	92
Extremely reliable		44.9	59.1	81.6	82.6
Moderately reliable		37.4	36.4	18.4	14.1
Somewhat reliable		15.0	4.5	-	3.3
Not at all reliable		2.8	-	-	-
I have no internet access		-	-	-	-

* Percentages will add up to more than 100% because respondents were able to select more than one response.

**Other responses included in overall results.

Table 26. Key Factors in Training Selection. (% of responses)

Training Aspect	n	Not important	Slightly important	Moderately important	Extremely important
Being able to take the course with a group					
Alaska	106	46.2	22.6	24.5	6.6
Idaho	22	36.4	18.2	31.8	13.6
Oregon	37	64.9	16.2	18.9	-
Washington	91	61.5	20.9	15.4	2.2
Completing the course at your own pace					
Alaska	105	14.3	36.2	33.3	16.2
Idaho	22	18.2	40.9	36.4	4.5
Oregon	38	13.2	28.9	31.6	26.3
Washington	90	14.4	36.7	33.3	15.6
Offered during work hours					
Alaska	107	8.4	16.8	32.7	42.1
Idaho	22	4.5	-	45.5	50.0
Oregon	38	5.3	13.2	28.9	52.6
Washington	90	8.9	10.0	27.8	53.3
Opportunity to interact with the instructor					
Alaska	105	11.4	32.4	36.2	20.0
Idaho	22	4.5	22.7	45.5	27.3
Oregon	38	13.2	28.9	36.8	21.1
Washington	90	14.4	41.1	33.3	11.1
Opportunity to interact with other participants					
Alaska	106	19.8	40.6	28.3	11.3
Idaho	22	13.6	31.8	27.3	27.3
Oregon	35	26.3	47.4	15.8	10.5
Washington	90	30.0	36.7	27.8	5.6
Reputation of the trainer					
Alaska	106	1.9	17.9	47.2	33.0
Idaho	22	4.5	27.3	40.9	27.3
Oregon	38	5.3	26.3	47.4	21.1
Washington	90	3.3	17.8	46.7	32.2
Using a case or problem-based learning approach					
Alaska	105	1.9	21.9	55.2	21.0
Idaho	22	-	40.9	40.9	18.2
Oregon	37	5.4	24.3	56.8	13.5
Washington	91	6.6	29.7	38.5	25.3

Open-Ended Questions - Selected Responses

Note: All open-ended responses are listed in Appendix C.

Other comments about your organization's TB-specific activities and competencies (n=52):

- More affordable trainings – more funding to support trainings and TB program (n=8)
- TB is not a major focus – low incidence (n=5)
- Do not have the capacity/staffing to manage an active TB case (n=3)
- Health department health officer treats all TB cases (n=2)
- Kodiak Native clinics are not set up for an active TB patient
- Training topics
 - Trainings on latent TB and treatment (n=2)
 - Risk of clinic exposure to TB when patient is unaware of diagnosis (n=2)
 - Two-step testing and placement for new nurses
 - Newest medications for active TB
 - TB knowledge and prevention classes

Organization that delivered previous TB trainings (n=155):

- Health officer for Grant County Health District
- Idaho Service Unit Safety and Infection Control Committee
- Interactive teleconferences
- Kenai public health nurse Patty
- Kodiak Area Native Association
- Local health department
- Local hospital in Alaska
- National Jewish Hospital/TB training Center
- National TB Control Association
- Nevada TB Program
- Oregon epidemiology
- Public Health Nursing
- Regional Training and Medical Consultation Center (RTMCC)
- UW School of Nursing – Annual Ambulatory Nursing Conference

Additional TB training needs/topics (n=30):

- Practice with active cases; signs and symptoms (n=3)
- Additional center module trainings from centers (i.e., CDC, Curry Center)
- Challenges with medication interactions
- Medication intake standardization
- More in-depth LTBI management and treatment education
- Multi-drug resistant (MDR) TB - diagnosis and treatment
- Positive purified protein derivative (PPD) conversion of employees
- Protection of employees managing TB cases
- Region-focused trainings
- TB in combination with another chronic disease (i.e., diabetes, cancer)
- Working with partners to complete LTBI treatment
- TB in special populations (i.e., pediatrics, pregnant women)

CONCLUSIONS AND RECOMMENDATIONS

TB Training Needs

Most individuals that participated in this needs assessment have had little to no TB-related trainings in the past two years. The majority of public health professionals from all states indicated that they need trainings in the topics of pediatric TB, legal issues related to TB, and LTBI in other special populations. Moreover, a large proportion of respondents also indicated culturally appropriate TB prevention strategies and HIV/TB co-infection as topics in need of training. Idaho respondents indicated the most need for training in more TB topic areas compared to the other states, and tribal respondents indicated a need for training in all topic areas within each of the three capability sections.

Top TB Training Topics

- Pediatric TB
- Legal issues related to TB
- LTBI in other special populations
- Culturally appropriate TB prevention strategies used by tribal communities
- HIV/TB co-infection

Open-ended questions provided some valuable insight into the disparities seen in TB-related trainings. Eight respondents noted that they were in need of funding or more affordable trainings. Moreover, another common response indicated that some organizations may not have the staffing or capacity to manage active TB cases. Therefore, future trainings should address the above topics, with particular emphasis on training public health professionals in Idaho and who work directly with tribal communities.

Training Formats & Delivery

Respondents indicated that the ability to take the training during work hours, the trainer's reputation, and using a case or problem-based learning approach. Moreover, a large portion of tribal respondents indicated that the opportunity to interact with the instructor as *moderately/extremely important*.

Key Factors in Training Selection

- Offered during work hours
- Reputation of the trainer
- Using a case or problem-based learning approach

The most preferred training formats reported included the use of online modules (self-paced learning), live webinar, and pre-recorded webinar. A notable portion of tribal respondents indicated being *not at all/somewhat comfortable* with online distance education. Inconsistencies in internet reliability should be considered when delivering future trainings online.

Preferred Formats

- Online module (self-paced learning)
- Live webinar
- Pre-recorded webinar

When asked about which audiences should be the targeted for future TB-related trainings, the top responses included clinics (local and county), public health nurses, and tribal health departments/corporations. Tribal physicians, nurses, and community health aides were also regarded as high priority for TB prevention and control trainings.

Target Audiences

- Clinics (local and county)
- Public health nurses
- Tribal health departments

Thus, delivery of future trainings should be accessible via online, offered during work hours, and include clinics, public health nurses, and tribal health departments as the target audiences.

State-specific Recommendations

When assessing training needs for competencies and activities within various TB-related topic areas, respondents from different states reported different training needs (Table 27). Idaho respondents reported a *moderate/high need* for training in 13 of the 17 topic areas, compared to 8 in Alaska, and 4 in both Washington and Oregon. Given that a large portion of Idaho respondents are tribal and most tribal respondents have had less TB-related training compared to overall respondents, this could be a further indication that public health professionals that serve tribal communities are in need of TB-related trainings.

Table 27. High/Moderate Need for Training by State and Tribal.*

TB-related Topic	AK	ID	OR	WA	Tribal
Capability 1: General TB Information					
General information about TB					✓
Culturally appropriate TB prevention strategies	✓	✓		✓	✓
Capability 2: Active TB					
Diagnosis of TB					✓
Treatment regimens for active TB disease					✓
HIV/TB co-infection	✓	✓	✓		✓
Pediatric TB	✓	✓	✓	✓	✓
Legal issues related to TB	✓	✓	✓	✓	✓
Infection control	✓	✓			✓
Contact investigation and follow-up	✓	✓			✓
TB case management		✓			✓
Capability 3: Latent TB Infection					
Diagnosis of LTBI with tuberculin skin test					✓
Diagnosis of LTBI with interferon gamma release assays		✓			✓
Who and how to screen for LTBI		✓			✓
Treatment regimens for LTBI: INH, rifampin, INH/rifapentine		✓			✓
LTBI in other special populations	✓	✓	✓	✓	✓
LTBI case management		✓			✓
Pediatric LTBI	✓	✓			✓

*✓ Represents majority of respondents indicated a moderate/high need for training.

Note: Red shading indicates topic is a top three training needs for each corresponding state.

Tribal-specific Recommendations

The majority of tribal respondents reported *moderate/high need* for training in all 17 TB topics. The topics with the largest percentages of moderate/high need for training were comparable to the overall respondents, but also included Treatment regimens for LTBI and LTBI case management. Given the large need for training among this population, future trainings should be tailored similarly to the overall respondents, but ensuring that those who directly serve tribal communities are included in such trainings.

APPENDIX A: ONLINE QUESTIONNAIRE INSTRUMENT

Tuberculosis Needs Assessment for Tribal Communities in Washington, Oregon, Idaho, and Alaska

Conducted by

Northwest Center for Public Health Practice, University of Washington
in collaboration with the Northwest Portland Area Indian Health Board

The purpose of this questionnaire is to identify tuberculosis (TB) related needs among tribal communities in a four-state region (Washington, Oregon, Idaho, and Alaska). The results of this process will enable the Firland Northwest TB Center at the University of Washington (<http://depts.washington.edu/fnwbtbc/>) to develop appropriate trainings and resources to address TB needs in regional tribal communities.

Your responses are confidential and will be analyzed collectively with the responses of others. No individually identifiable information will be disclosed. You do not need to answer all of the questions, although it would be helpful to have as much information as possible about your thoughts and interests. Only the questions in the first section (employment information) require a response in order to move to the next page of the questionnaire.

I. Employment Information

1. **What type of health organization do you work in?**

- Clinic (local or county)
- Community-based organization
- Hospital
- Tribal health department/corporation
- Other (please specify): _____

2. **Which state do you primarily work in? (use skip logic for question 3)**

- Alaska
- Idaho
- Oregon
- Washington
- Other (please specify): _____

3. **Which tribe are you employed by or affiliated with?**

(Dropdown with state-specific tribes)

4. **How long have you worked in the health field?**
- Less than 6 months
 - Less than 1 year
 - 1 to 3 years
 - 4 to 6 years
 - 7 to 10 years
 - More than 10 years
5. **How long have you worked at your current organization?**
- Less than 6 months
 - 6 months to 1 year
 - 1 to 3 years
 - 4 to 6 years
 - 7 to 10 years
 - More than 10 years
6. **Which one of the following categories best describes your primary role?**
- Clinical Director
 - Health Educator/Trainer
 - NPAIHB Delegate
 - Physician
 - Program or Project Manager
 - Public Health Nurse
 - Public Health Paraprofessional (WIC, Public Health Aide, Community Health Representative Etc.)
 - Tribal Health Committee Member
 - Tribal Health Director
 - Tribal Elected Official
 - Other (please specify): _____
7. **In the past 12 months, approximately what percentage of your time did you spend working on activities related to TB screening, prevention and/or control?**
- 0%
 - 1 to 5%
 - 6 to 25%
 - 26 to 50%
 - More than 50%
8. **As far as you know, how many staff at your organization are specifically working on activities related to TB prevention and/or control?**
- 0
 - 1 to 2
 - 3 to 4
 - 5 to 6
 - 7 or more

II. TB-Specific Activities and Competencies

9. In the past 2 years, how many times have you been involved in the care of a patient with an active TB infection?
- None
 - 1 to 5 times
 - 6 to 10 times
 - More than 10 times
10. In the past 2 years, how many times have you been involved in screening a patient for latent TB infection?
- None
 - 1 to 5 times
 - 6 to 10 times
 - More than 10 times
11. In the past 2 years, how many times have you been involved in the management of a patient with a latent TB infection?
- None
 - 1 to 5 times
 - 6 to 10 times
 - More than 10 times
12. How satisfied are you with the support you have received from your local health jurisdiction (AK: state health department) around TB prevention and control?
- Very satisfied
 - Satisfied
 - Neutral
 - Unsatisfied
 - Very unsatisfied
 - Have not received support
13. The level of support you receive from your local health jurisdiction (AK: state health department) around TB prevention and control is:
- Not enough
 - About right
 - Too much
14. Which partner(s) do you look to when you have TB-related questions?
Please choose all that apply.
- Local partners
 - State partners
 - Regional training and medical consultation centers (e.g. Curry Center)
 - Centers for Disease Control and Prevention (CDC)
 - Indian Health Service (IHS)
 - Other partner (please specify): _____

15. How confident are you in your organization's ability to manage a TB case?

- Very confident
- Moderately confident
- Somewhat confident
- Not at all confident

16. Do you have any other comments about your organization's TB-specific activities and competencies?

DRAFT

III. Tuberculosis Training Needs

Below is a list of tuberculosis-related topics. Please select a number to indicate your need for training on the topic, or indicate that the topic is not applicable (N/A) to your job. Please respond to the questions as they pertain to your needs and not your agency's needs. Thank you!

Need for Training					
Please rate your level of need for training in this task					
	No need 1	Low need 2	Moderate need 3	High need 4	Not applicable N/A
Capability 1: General TB Information					
17. General information about TB (e.g. risk factors, symptoms, diagnosis and treatment)	1	2	3	4	N/A
18. Culturally appropriate TB prevention strategies used by tribal communities	1	2	3	4	N/A
Capability 2: Active TB Infection					
19. Diagnosis of TB	1	2	3	4	N/A
20. Treatment regimens for active TB disease	1	2	3	4	N/A
21. HIV/TB co-infection	1	2	3	4	N/A
22. Pediatric TB	1	2	3	4	N/A
23. Legal issues related to TB	1	2	3	4	N/A
24. Infection control	1	2	3	4	N/A
25. Contact investigation and follow-up	1	2	3	4	N/A
26. TB case management	1	2	3	4	N/A
Capability 3: Latent TB Infection					
27. Diagnosis of LTBI with tuberculin skin test	1	2	3	4	N/A
28. Diagnosis of LTBI with interferon gamma release assays	1	2	3	4	N/A
29. Who and how to screen for LTBI	1	2	3	4	N/A
30. Treatment regimens for LTBI: INH, rifampin, INH/rifapentine	1	2	3	4	N/A
31. LTBI in other special populations, e.g. liver disease, pregnancy	1	2	3	4	N/A
32. LTBI case management	1	2	3	4	N/A
33. Pediatric LTBI	1	2	3	4	N/A

34. Thinking over the past 2 years, how many TB trainings have you attended?

- None
- 1 to 3
- 4 to 7
- 8 or more

35. Please specify who or what organization delivered your previous TB training(s). (If you answered "None" to the previous question, please skip this question).

36. Please specify any additional TB training needs/topics that you may have.

37. Who should be the target audience for TB prevention and control trainings? (Check all that apply).

- Clinics (local or county)
- Community-based organizations
- Hospitals
- Public health nurses
- Tribal elders
- Tribal health department/corporation
- Tribal nurses
- Tribal physicians
- Other (please specify): _____

38. How much are the following factors a barrier to providing adequate TB-related care?

	Not a barrier	Low barrier	Moderate barrier	High barrier
Patient's socioeconomic status (e.g., education, income, transportation)	1	2	3	4
Different cultural beliefs between patients and providers	1	2	3	4
Provider sensitivity/awareness toward their TB patients	1	2	3	4
Availability of trained specialists	1	2	3	4
Resources for adequate laboratory procedures	1	2	3	4
Availability of isolation facilities	1	2	3	4
Substance abuse problems among patients that interfere with treatment adherence	1	2	3	4
Other (please specify): _____	1	2	3	4

IV. General Training Preferences

39. Which of the following training formats would you be likely to participate in? (*Check all that apply*)

- Live webinar
- Pre-recorded webinar
- Online module (self-paced learning)
- Web-based video teleconferencing (live group viewing)
- In-person day-long workshop
- In-person multi-day conference
- Other (*please specify*): _____

40. What is your comfort level with distance education?

- Extremely comfortable
- Moderately comfortable
- Somewhat comfortable
- Not at all comfortable

41. How reliable is the internet access at your workplace?

- Extremely reliable
- Moderately reliable
- Somewhat reliable
- Not at all reliable
- I have no internet access

42. How important are each the following aspects when selecting training courses?

	Not important	Slightly important	Moderately important	Extremely important
Being able to take the course with a group	1	2	3	4
Completing the course at your own pace	1	2	3	4
Offered during work hours	1	2	3	4
Opportunity to interact with the instructor	1	2	3	4
Opportunity to interact with other participants	1	2	3	4
Reputation of the trainer	1	2	3	4
Starting at any time	1	2	3	4
Using a case or problem-based learning approach	1	2	3	4

V. Demographic Information

The following demographic questions are optional, but will help us better plan for the delivery of training courses.

43. Gender/Sex:

- Female
- Male

44. Age:

- 19 years or under
- 20 to 29 years
- 30 to 39 years
- 40 to 49 years
- 50 to 59 years
- 60 years or older

45. Primary ethnicity/race:

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or other Pacific Islander
- White or Caucasian
- Hispanic (all races)
- Multiracial
- Other (*please specify*): _____

46. Highest level of education:

- High school or equivalent
- Certificate or training program
- Associates degree
- Bachelor's degree
- Master's degree
- Doctoral degree (MD, PhD, JD, DrPH, etc.)
- Other (*please specify*): _____

Thank you for completing this questionnaire!

APPENDIX B: ALASKA TRIBAL AFFILIATION RESPONSES

Alaska – Tribal Affiliations. (n=124)

Tribe	n	%
Not affiliated with a tribe	55	44.4
Agdaagux Tribe of the King Cove	1	0.8
Akiachak Native Community	3	2.4
Akiak Native Community	3	2.4
Alatna Village	2	1.6
Algaaciq Native Village	0	-
Allakaket Village	2	1.6
Angoon Community Association	0	-
Anvik Village	2	1.6
Arctic Village	3	2.4
Asa' carsarmiut Tribe	1	0.8
Atqasuk Village	0	-
Beaver Village	3	2.4
Birch Creek Tribe	2	1.6
Central Council of the Tlingit & Haida Indian Tribes	1	0.8
Chalkyitsik Village	3	2.4
Cheesh-Na Tribe	0	-
Chevak Native Village	3	2.4
Chickaloon Native Village	0	-
Chignik Bay Tribal Council	0	-
Chignik Lake Village	0	-
Chilkat Indian Village	0	-
Chilkoot Indian Association	0	-
Chinik Eskimo Community	0	-
Chuloonawick Native Village	0	-
Circle Native Community	1	0.8
Craig Tribal Association	0	-
Curyung Tribal Council	0	-
Douglas Indian Association	0	-
Egegik Village	0	-
Eklutna Native Village	0	-
Ekwok Village	1	0.8
Emmonak Village	4	3.2
Evansville Village	2	1.6
Galena Village	2	1.6
Gulkana Village	1	0.8
Healy Lake Village	1	0.8
Holy Cross Village	4	3.2
Hoonah Indian Association	0	-
Hughes Village	2	1.6
Huslia Village	2	1.6
Hydaburg Cooperative Association	0	-

Igiugig Village	1	0.8
Inupiat Community of the Arctic Slope	0	-
Iqurmit Traditional Council	1	0.8
Ivanoff Bay Village	0	-
Kaguyak Village	0	-
Kaktovik Village	0	-
Kasigluk Traditional Elders Council	3	2.4
Kenaitze Indian Tribe	2	1.6
Ketchikan Indian Corporation	1	0.8
King Island Native Community	1	0.8
King Salmon Tribe	0	-
Klawock Cooperative Association	0	-
Knik Tribe	0	-
Kokhanok Village	2	1.6
Koyukuk Native Village	2	1.6
Levelock Village	1	0.8
Lime Village	2	1.6
Manley Hot Springs Village	2	1.6
Manokotak Village	1	0.8
McGrath Native Village	1	0.8
Native Village of Mekoryuk	4	3.2
Mentasta Traditional Council	3	2.4
Metlakatla Indian Community, Annette Island Reserve	1	0.8
Naknek Native Village	1	0.8
Native Village of Afognak	0	-
Native Village of Akhliok	2	1.6
Native Village of Akutan	1	0.8
Native Village of Aleknagik	1	0.8
Native Village of Ambler	1	0.8
Native Village of Atka	0	-
Native Village of Barrow Inupiat Traditional Government	2	1.6
Native Village of Belkofski	0	-
Native Village of Brevig Mission	3	2.4
Native Village of Buckland	1	0.8
Native Village of Cantwell	2	1.6
Native Village of Chenega	1	0.8
Native Village of Chignik Lagoon	0	-
Native Village of Chitina	1	0.8
Native Village of Chuathbaluk	2	1.6
Native Village of Council	0	-
Native Village of Deering	1	0.8
Native Village of Diomedes	4	3.2
Native Village of Eagle	3	2.4
Native Village of Eek	3	2.4
Native Village of Ekuk	0	-
Native Village of Elim	4	3.2
Native Village of Eyak	1	0.8

Native Village of False Pass	1	0.8
Native Village of Fort Yukon	3	2.4
Native Village of Gakona	0	-
Native Village of Gambell	3	2.4
Native Village of Georgetown	0	-
Native Village of Goodnews Bay	2	1.6
Native Village of Hamilton	0	-
Native Village of Hooper Bay	3	2.4
Native Village of Kanatak	0	-
Native Village of Karluk	0	-
Native Village of Kiana	1	0.8
Native Village of Kipnuk	3	2.4
Native Village of Kivalina	1	0.8
Native Village of Kluti Kaah	1	0.8
Native Village of Kobuk	2	1.6
Native Village of Kongiganak	1	0.8
Native Village of Kotzebue	2	1.6
Native Village of Koyuk	2	1.6
Native Village of Kwigillingok	5	4.0
Native Village of Kwinhagak	3	2.4
Native Village of Larsen Bay	1	0.8
Native Village of Marshall	2	1.6
Native Village of Mary's Igloo	1	0.8
Native Village of Minto	2	1.6
Native Village of Nanwalek	2	1.6
Native Village of Napaimute	0	-
Native Village of Napakiak	4	3.2
Native Village of Napaskiak	4	3.2
Native Village of Nelson Lagoon	1	0.8
Native Village of Nightmute	3	2.4
Native Village of Nikolski	0	-
Native Village of Noatak	1	0.8
Native Village of Nuiqsut	1	0.8
Native Village of Nunam Iqua	3	2.4
Native Village of Nunapitchuk	2	1.6
Native Village of Ouzinkie	1	0.8
Native Village of Paimiut	0	-
Native Village of Perryville	0	-
Native Village of Pilot Point	1	0.8
Native Village of Pitka's Point	3	2.4
Native Village of Point Hope	2	1.6
Native Village of Point Lay	1	0.8
Native Village of Port Graham	2	1.6
Native Village of Port Heiden	0	-
Native Village of Port Lions	2	1.6
Native Village of Ruby	2	1.6
Native Village of Saint Michael	4	3.2

Native Village of Savoonga	4	3.2
Native Village of Scammon Bay	2	1.6
Native Village of Selawik	1	0.8
Native Village of Shaktoolik	4	3.2
Native Village of Shishmaref	4	3.2
Native Village of Shungnak	1	0.8
Native Villages of Stevens	3	2.4
Native Village of Tanacross	3	2.4
Native Village of Tanana	3	2.4
Native Village of Tatitlek	1	0.8
Native Village of Tazlina	1	0.8
Native Village of Teller	4	3.2
Native Village of Tetlin	3	2.4
Native Village of Tuntutuliak	3	2.4
Native Village of Tununak	3	2.4
Native Village of Tyonek	2	1.6
Native Village of Unalakleet	3	2.4
Native Village of Unga	1	0.8
Native Village of Venetie Tribal Government	3	2.4
Native Village of Wales	4	3.2
Native Village of White Mountain	4	3.2
Nenana Native Association	1	0.8
New Koliganek Village Council	1	0.8
New Stuyahok Village	1	0.8
Newhalen Village	1	0.8
Newtok Village	3	2.4
Nikolai Village	1	0.8
Ninilchik Village	2	1.6
Nome Eskimo Community	4	3.2
Nondalton Village	1	0.8
Noorvik Native Community	1	0.8
Northway Village	3	2.4
Nulato Village	3	2.4
Nunakauyarmiut Tribe	0	-
Organized Village of Grayling	3	2.4
Organized Village of Kake	0	-
Organized Village of Kasaan	0	-
Organized Village of Kwethluk	3	2.4
Organized Village of Saxman	0	-
Orutsararmuit Native Village	1	0.8
Oscarville Traditional Village	4	3.2
Pauloff Harbor Village	0	-
Pedro Bay Village	1	0.8
Petersburg Indian Association	0	-
Pilot Station Traditional Village	4	3.2
Platinum Traditional Village	0	-
Portage Creek Village	1	0.8

Pribilof Islands Aleut Communities of St. Paul & St. George Islands	0	-
Qagan Tayagungin Tribe of Sand Point Village	1	0.8
Qawalangin Tribe of Unalaska	0	-
Rampart Village	3	2.4
Saint George Island	0	-
Saint Paul Island	0	-
Seldovia Village Tribe	1	0.8
Shageluk Native Village	4	3.2
Sitka Tribe of Alaska	1	0.8
Skagway Village	0	-
South Naknek Village	0	-
Stebbins Community Association	3	2.4
Sun'aq Tribe of Kodiak	0	-
Takotna Village	0	-
Tangirnaq Native Village	0	-
Telida Village	0	-
Traditional Village of Togiak	1	0.8
Tuluksak Native Community	3	2.4
Twin Hills Village	1	0.8
Ugashik Village	0	-
Umkumiut Native Village	0	-
Village of Alakanuk	1	0.8
Village of Anaktuvuk Pass	2	1.6
Village of Aniak	6	4.8
Village of Atmautluak	3	2.4
Village of Bill Moore's Slough	0	-
Village of Chefornak	3	2.4
Village of Clarks Point	1	0.8
Village of Crooked Creek	3	2.4
Village of Dot Lake	2	1.6
Village of Iliamna	0	-
Village of Kalskag	5	4.0
Village of Kaltag	3	2.4
Village of Kotlik	3	2.4
Village of Lower Kalskag	5	4.0
Village of Ohogamiut	0	-
Village of Old Harbor	1	0.8
Village of Red Devil	2	1.6
Village of Salamatoff	0	-
Village of Sleetmute	3	2.4
Village of Solomon	1	0.8
Village of Stony River	3	2.4
Village of Wainwright	1	0.8
Wrangell Cooperative Association	0	-
Yakutat Tlingit Tribe	0	-
Yupiit of Andreafski	0	-
Other*	20	16.1

*Other responses included:

- Kodiak Area Native Association
- It is spelled Akhiok :)
- Clarks Point Village
- Native village of Mekoryuk
- Bristol Bay Area Health Corporation
- Doyon
- Native Village of Chefornek, Traditional Council
- Not employed by a tribe
- NSB not tribal
- MANILAQ ASSOCIATION
- The VA works with SCF
- Alaska Native Tribal Health Consortium
- Cities of Cold Bay, Adak, Whittier
- As a State of Alaska Division of Public Health/Public Health Nursing regional manager, our PHNs work with all of these tribal organizations (as we work with all Alaskans). Tribal organizations are one of our most important local and regional partners.
- Tlingit, Native villages of Angoon and Hoonah
- Kodiak Island
- Native Village of Atkasuk, Native Village of Kaktovik
- Chugachmiut
- I do not know the answer to this question
- We work with any active TB patient and their community

APPENDIX C: OPEN-ENDED QUESTIONS RESPONSES

Other comments about your organization's TB-specific activities and competencies (n=52):

- More affordable trainings – more funding to support trainings and TB program (n=8)
- TB is not a major focus – low incidence (n=5)
- Do not have the capacity/staffing to manage an active TB case (n=3)
- Health department health officer treats all TB cases (n=2)
- Kodiak Native clinics are not set up for an active TB patient
- Training topics
 - Trainings on latent TB and treatment (n=2)
 - Risk of clinic exposure to TB when patient is unaware of diagnosis (n=2)
 - Two-step testing and placement for new nurses
 - Newest medications for active TB
 - TB knowledge and prevention classes
 - Move away from preventive treatment and moving towards active case treatment only
 - Managing MDR and XDR cases
- Manage large number of TB cases from non-local residents
- Active TB should be referred to as a “disease” and latent TB as “infection”
- Communicable disease nurse handles all TB cases
- Health officer is a great resource for TB guidelines
- Curry Center is useful resource for the most current TB-related information
- Meeting with WA State TB staff to review TB cases and discussing best practices
- Guidance on maintaining/supporting a negative air flow room
- Lacked support from leadership to attend TB training
- Developing a TB response plan
- State of Alaska public health nurses have primary responsibility for TB case management (both active and LTBI) and concentrated TB "sweeps" of villages
- Annual updates for active and latent TB infection training
- Need for housing and support from AK native leaders in reducing the burden of TB in the population
- Losing support from Skagit Health Department
- More capacity to offer IGRA testing
- Currently working with Curry Center to provide trainings for regional nurses and providers (WA)
- Offering Quantiferon Gold
- Local health jurisdiction manage and treat all active cases (OR)
- Need continued support from OR TB Program

Organization that delivered previous TB trainings (n=155):

- Health officer for Grant County Health District
- Idaho Service Unit Safety and Infection Control Committee
- Immunization nurse
- Interactive teleconferences
- Kenai public health nurse Patty
- Kodiak Area Native Association
- Local health department
- Local hospital in Alaska
- National Jewish Hospital/TB training Center
- National TB Control Association
- Nevada TB Program
- Oregon epidemiology
- Public Health Nursing
- Regional Training and Medical Consultation Center (RTMCC)
- Relias Web Based
- Rutgers
- Rural Broadband Association (RTCA)
- Seattle Training Center
- Southeastern TB Center
- South Puget Intertribal Planning Agency (SPIPA)
- TB Education and Training Network (ETN) - CDC
- TB Program Evaluation Network (TB PEN) – CDC
- Touched upon by Stericycle
- Training through employer
- Tribal Bear TB/HIV
- UW School of Nursing – Annual Ambulatory Nursing Conference
- WA State regional TB centers webinars

Additional TB training needs/topics (n=30):

- Practice with active cases; signs and symptoms (n=3)
- Additional center module trainings from centers (i.e., CDC, Curry Center)
- Challenges with medication interactions
- Interferon gamma release assay (IGRA) usage and challenges
- Medication intake standardization
- More in-depth LTBI management and treatment education
- More trainings in general
- Multi-drug resistant (MDR) TB - diagnosis and treatment
- Positive purified protein derivative (PPD) conversion of employees
- Protection of employees managing TB cases
- Radiographic findings of active TB
- Region-focused trainings
- TB in combination with another chronic disease (i.e., diabetes, cancer)
- Working with partners to complete LTBI treatment
- TB in special populations (i.e., pediatrics, pregnant women)

APPENDIX D: TRIBAL ONLY RESULTS

Table A1. Tribal Demographics.

	%	n
Gender/Sex	100.0	31
Female	87.1	27
Male	12.9	4
Age	100.0	31
19 years or under	-	0
20 to 29 years	6.5	2
30 to 39 years	6.5	2
40 to 49 years	25.8	8
50 to 59 years	41.9	13
60 years or older	19.4	6
Primary Ethnicity/Race	100.0	31
American Indian or Alaska Native	45.2	14
Asian	-	0
Black or African American	3.2	1
Native Hawaiian/other Pacific Islander	-	0
White or Caucasian	38.7	12
Hispanic (all races)	3.2	1
Multiracial	9.7	3
Highest Level of Education	100.0	31
High school or equivalent	6.5	2
Certificate or training program	3.2	1
Associates degree	16.1	5
Bachelor's degree	35.5	11
Master's degree	25.8	8
Doctoral degree (MD, PhD, JD, DrPH, etc.)	12.9	4
Other	-	0

Table A2. Tribal Employment Demographics.

	%	n
State of Primary Work.	100.0	42
Alaska	33.3	14
Idaho	21.4	9
Oregon	4.8	2
Washington	38.1	16
Other*	2.4	1
Health Organization Employment Type	100.0	42
Clinic (local or county)	-	0
Clinic (tribal)	9.5	4
Clinic (federal)	9.5	4
Community-based organization	-	0
Hospital (non-tribal)	-	0
Hospital (tribal)	7.1	3
State health department	-	0
Local health department	-	0
Tribal health department/corporation	73.8	31
Other	-	0

Years Worked in Field	100.0	38
Less than 6 months	-	0
Less than 1 year	-	0
1 to 3 years	7.9	3
4-6 years	2.6	1
7-10 years	10.5	4
More than 10 years	78.9	30
Years Worked at Current Organization	100.0	38
Less than 6 months	-	0
Less than 1 year	10.5	4
1 to 3 years	13.2	5
4-6 years	21.1	8
7-10 years	10.5	4
More than 10 years	44.7	17
Primary Role or Position	100.0	38
Clinical Director	2.6	1
Community Health Aide	13.2	5
Epidemiologist	-	0
Health Director, Officer, Administrator	15.8	6
Health Educator/Trainer	5.3	2
Infection Preventionist	2.6	1
Nurse/Nurse manager	5.3	2
Physician	7.9	3
Program or Project Manager	13.2	5
Public Health Nurse	10.5	4
Public Health Paraprofessional (Public Health Aide, Community Health Representative, etc.)	-	0
Tribal Health Director	2.6	1
Other**	21.1	8

*Other responses included: Nevada

**Other responses included: Physician assistant, Care Manager, Medical Floor Manager, Physician Assistant, Employee Health/Infection Control (n=2), Environmental Health Consultant, and Quality Improvement Manager.

Table A3. TB-Related Activities.

	%	n
Percentage of time spent working on TB-related activities in past 12 Months	100.0	38
None	18.4	7
1 to 5%	55.3	21
6 to 25%	15.8	6
26 to 50%	7.9	3
More than 50%	2.6	1
Number of staff working on TB prevention and control	100.0	38
None	15.8	6
1 to 2	44.7	17
3 to 4	21.1	8
5 to 6	10.5	4
7 or more	7.9	3
Active TB Patient Care Involvement in the Past 2 Years	100.0	38
None	65.8	25
1 to 5 times	28.9	11
6 to 10 times	5.3	2
More than 10 times	-	0

Latent TB Screening in the Past 2 Years	100.0	38
None	34.2	13
1 to 5 times	26.3	10
6 to 10 times	7.9	3
More than 10 times	31.6	12
Latent TB Patient Care Management in the Past 2 Years	100.0	38
None	50.0	19
1 to 5 times	39.5	15
6 to 10 times	5.3	2
More than 10 times	5.3	2

Table A4. TB-Related Support.

	%	n
Local Health Jurisdiction Support Satisfaction	100.0	35
Very satisfied	22.9	8
Satisfied	40.0	14
Neutral	28.6	10
Unsatisfied	2.9	1
Very unsatisfied	-	0
Have not received support	5.7	2
Local Health Jurisdiction Level of Satisfaction	100.0	34
Not enough	20.6	7
About right	79.4	27
Too much	-	0
Key Partners for TB-related Questions*	-	36
Local partners	61.1	22
State partners	52.8	19
Regional trainings and medical consultation centers (e.g., Curry Center)	5.6	2
Centers for Disease Control and Prevention (CDC)	38.9	14
Indian Health Services (IHS)	44.4	16
Other partner**	13.9	5
Confidence level in Organization's Ability to Manage a TB case	100.0	36
Very confident	44.4	16
Moderately confident	33.3	12
Somewhat confident	16.7	6
Not at all confident	5.6	2

*Other responses included: physicians at KANA, Dr. Scott Linquist, public health nurses, State epi, and ANTHC.

Table A5. Need for Training in TB-Related Topics (% of responses)

Topic	n	No need	Low need	Moderate need	High need	N/A
Capability 1: General TB Information						
General information about TB (e.g. risk factors, symptoms, diagnosis and treatment)	34	17.6	26.5	23.5	26.5	5.9
Culturally appropriate TB prevention strategies used by tribal communities	34	5.9	14.7	32.4	44.1	2.9

Capability 2: Active TB Infection						
Diagnosis of TB	34	5.9	38.2	38.2	8.8	8.8
Treatment regimens for active TB disease	34	2.9	29.4	35.3	23.5	8.8
HIV/TB co-infection	34	11.8	17.6	50.0	11.8	8.8
Pediatric TB	33	9.1	18.2	39.4	24.2	9.1
Legal issues related to TB	34	5.9	20.6	41.2	26.5	5.9
Infection control	34	8.8	23.5	38.2	29.4	-
Contact investigation and follow-up	34	11.8	23.5	32.4	26.5	5.9
TB case management	34	8.8	20.6	35.3	26.5	8.8
Capability 3: Latent TB Infection						
Diagnosis of LTBI with tuberculin skin test	34	11.8	23.5	32.4	20.6	11.8
Diagnosis of LTBI with interferon gamma release assays	33	9.1	12.1	33.3	30.3	15.2
Who and how to screen for LTBI	33	12.1	21.2	33.3	24.2	9.1
Treatment regimens for LTBI: INH, rifampin, INH/rifapentine	34	5.9	8.8	47.1	23.5	14.7
LTBI in other special populations, e.g. liver disease, pregnancy	34	5.9	17.6	35.3	29.4	11.8
LTBI case management	34	8.8	11.8	38.2	29.4	11.8
Pediatric LTBI	34	8.8	14.7	41.2	23.5	11.8

Table A6. Previous TB-related Training Experience

	%	n
Number of TB Trainings Attended in the Past 2 Years	100.0	34
None	52.9	18
1 to 3	47.1	16
4 to 7	-	0
8 or more	-	0
Organization Delivered Previous TB Training*	-	16
Francis Curry TB Center	6.3	1
WA State Department of Health (WA DOH)	-	0
Centers for Disease Control and Prevention (CDC)	-	0
Alaska TB Program/Control and Epidemiology	6.3	1
State of Alaska	-	0
WA State TB Program	-	0
Alaska Native Tribal Health Consortium (ANTHC)	18.8	3
OR State TB Control	-	0
OR Health Authority TB Program	-	0
Yukon Kuskokwim Health Corporation	-	0
Community Health Aides Program (CHAP)	-	0
Association for Professionals in Infection Control and Epidemiology (APIC) Conferences	-	0
Indian Health Services (IHS)		2
State health department	-	0
Tribal Health Infection/Safety Control Officers	18.8	3
Other**	37.5	6

TB Training Target Audience*	-	34
Clinics (local or county)	67.6	23
Community-based organizations	38.2	13
Community Health Aides	8.8	3
Community members	-	0
Correctional facilities	-	0
Emergency room departments	-	0
Hospitals (non-tribal)	29.4	10
Hospitals (tribal)	32.4	11
Local primary care physicians/practitioners	-	0
Public health nurses	61.8	21
Schools	-	0
Tribal elders	26.5	9
Tribal health departments/corporations	61.8	21
Tribal nurses	50.0	17
Tribal physicians	52.9	18
Other	-	0

Table A7. Barriers in providing adequate TB-related Care. (% of responses)

Topic	n	Not a barrier	Low barrier	Moderate barrier	High barrier
Patient's socioeconomic status (e.g., education, income, transportation)	33	18.2	12.1	45.5	24.2
Different cultural beliefs between patients and providers	34	14.7	23.5	44.1	17.6
Provider sensitivity/awareness toward their TB patients	34	20.6	44.1	26.5	8.8
Availability of trained specialists	34	26.5	8.8	44.1	20.6
Resources for adequate laboratory procedures	34	35.3	35.3	17.6	11.8
Availability of isolation facilities	34	12.1	27.3	33.3	27.3
Substance abuse problems among patients that interfere with treatment adherence	33	2.9	11.8	52.9	32.4
Other	0				

Table A8. General Training Preferences.

	%	n
Preference for Training Format*	100.0	33
Live webinar	60.6	20
Pre-recorded webinar	51.5	17
Online module (self-paced learning)	78.8	26
Web-based video teleconferencing (live group viewing)	39.4	13
In-person day-long workshop	57.6	19
In-person multi-day conference	39.4	13
Other**	3.0	1
Distance Education Comfort Level	100.0	31
Extremely comfortable	48.4	16
Moderately comfortable	32.3	10
Somewhat comfortable	16.1	5
Not at all comfortable	3.2	1
Internet Access Reliability	100.0	33
Extremely reliable	54.5	18
Moderately reliable	33.3	11
Somewhat reliable	9.1	3
Not at all reliable	3.0	1
I have no internet access	-	0

Table A9. Important Aspects in Selecting Training Courses. (% of responses)

	n	Not important	Slightly important	Moderately important	Extremely important
Being able to take the course with a group	33	42.4	15.2	33.3	9.1
Completing the course at your own pace	32	15.6	37.5	37.5	9.4
Offered during work hours	32	3.1	18.8	40.6	37.5
Opportunity to interact with the instructor	32	3.1	28.1	31.3	37.5
Opportunity to interact with other participants	32	21.9	34.4	25.0	18.8
Reputation of the trainer	32	3.1	15.6	53.1	28.1
Using a case or problem-based learning approach	33	3.0	24.2	57.6	15.2