Grant ID: 25670019

Integrating evidence-based tobacco control services into tuberculosis control in Armenia

Main Collaborators:
National Institute of Health, Armenia
National Tuberculosis Control Center, Armenia

Abstract*: Please include an abstract summary of your proposal including the overall goal, target population, methods and assessment. Please limit this to 250 words.*

There is a strong epidemiological evidence of a possible causal association between tobacco use and tuberculosis (TB). It is critical to facilitate the implementation of tobacco control activities as an integral part of TB case management interventions. The goal of the proposed project is to design, implement and evaluate an advocacy and training program for integrating tobacco control measures into tuberculosis care in Armenia, a country in transition with high smoking and tuberculosis burden.

The goal of the project will be achieved through establishment of a nationwide healthcare professional partnership between the National TB Control Center and the National Tobacco Control Program; development of capacity for enforcing a policy of smoke-free environments, and building smoking cessation capacity among TB healthcare providers in Armenia. Smoking cessation capacity of TB inpatient and outpatient healthcare providers will be increased through trainings on patient counseling and treatment of tobacco dependence. The training package will be developed mainly based on the newly adapted tobacco dependence treatment guideline for TB patients.

The research team will employ a non-experimental pre-test/post test design to assess the change in physicians' performance and patient-related outcomes. Physician smoking cessation counseling practices will be assessed according to the set of recommended behaviors of 5A model: Ask, Advise, Asses, Assist, and Arrange follow-up. Data for the pre-intervention and post-intervention assessments of the project will be collected through surveys, focus group discussions, and in-depth interviews with TB patients, physicians, nurses, and policy makers, as well as medical chart reviews and site visits.

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D. MAIN SECTION OF THE PROPOSAL

1. Goal and objectives

*Describe the overall goal for this project. Describe how this goal aligns with the focus of the RFP, the goals of the applicant organizations and the proposed project. List the **key** objectives and how they are intended to address the established need for this project.*

Goal: The goal of this project is to design, implement and evaluate an advocacy and training program for integrating tobacco control measures into tuberculosis (TB) care in Armenia, a country in transition with high smoking and tuberculosis burden.

The proposed project will contribute to the overall mission of the RFP to a) build and expand the number of healthcare professionals committed to treating tobacco dependence in Armenia and b) promote policies which facilitate stopping tobacco use.

This project is in line with the mission of the School of Public Health at the American University of Armenia "to have a significant impact on improving the health of the people of Armenia and the region through interdisciplinary training and development of health professionals to be leaders in public health, health services research and evaluation, and health care delivery and management".

Objectives: Our project objectives are developed based on the WHO/The Union Monograph on TB and Tobacco Control:[1]

1. Establish a nationwide healthcare professional partnership between the National TB Control Center and the National Tobacco Control Program, including the following:
   - Prepare a policy paper to provide guidance to managers of national TB and Tobacco control programs to plan and implement joint tobacco control activities within the framework of the existing and evolving TB strategies.
   - Describe the scope of TB and tobacco control programs in order to find points of common action between both programs;
   - Develop technical and operational policies for the identification, reporting of smokers and treatment of tobacco dependence among TB patients in primary health care settings and in TB facilities providing inpatient care;
   - Build institutional capacity necessary to ensure the sustainability of the joint activities of the National TB Control Center and the National Tobacco Control Program.
2. Develop capacity for enforcing a policy of smoke-free environments for all facilities where outpatient and inpatient services are delivered to TB suspects and TB patients: waiting room, outpatient room, hospital ward, room for directly observed treatment, TB laboratory, TB registry room, and others.
3. Build smoking cessation capacity among TB healthcare providers in Armenia through:
   - Adaptation of the existing evidence based guidelines for tobacco dependence treatment among TB patients;

- Development and implementation of smoking cessation training on patient counseling and treatment of tobacco dependence for healthcare providers (physicians and nurses) dealing with TB patients.
    - Brief routine advice ("Five As Approach")
    - Intensive support (individual and group counseling about smoking cessation)
    - Pharmacological interventions
4. Monitoring the project indicators and intermediate and final outcomes, produce reports and discuss the project activities through regular meetings with staff and partners.
5. Dissemination of results of the project and integration into the European and global smoking cessation networks.

2. Current assessment of need in target area

a. Describe the need for this project in your target area. Only include information that impacts your specific project, linking regional or local needs to those identified on the national basis if appropriate. Describe the need for your project in terms of "what is" versus "what should be".

*b. Please include quantitative baseline data summary, initial metrics (e.g., quality measures), or project starting point (please cite data on gap analyses or relevant patient-level data that describes the problem) in **your** target area. Describe the source and method used to collect the data. Describe how the data was analyzed to determine that a gap existed.*

Currently, tobacco is one of the leading preventable causes of death worldwide. The number of annual deaths caused by tobacco use has been estimated to increase to 8 million by 2030.[2] The negative consequences of tobacco use on a wide range of health conditions is firmly established, including cancer, respiratory and heart diseases,[3] while its association with tuberculosis (TB) has been studied since 1918.[4] There is consistent and strong epidemiological evidence of a possible causal association between smoking and TB.[5,6]

Recent publications have found links between smoking and many aspects of tuberculosis. Specifically, a systematic review that summarized 50 studies published before July 2005 concluded that active and passive exposure to tobacco smoke are significantly associated with TB infection, disease, recurrent TB and TB mortality.[7,8] It is estimated that 23% of TB cases in 22 high-burden TB countries could be attributable to active smoking.[5] Armenia has both high burden of smoking and TB.

Tuberculosis is a major public health concern in Armenia. According to the WHO, Armenia is among the 18 high TB priority countries in Europe, as well as it is among 27 high multidrug resistant (MDR-TB) burden countries in the world ranked 14 in the list.[9] According to the WHO, the incidence rate of TB was 45 per 100 000, and the prevalence rate 55 per 100 000 population in Armenia in 2014.[9]

Smoking rate among Armenian men is one of the highest in the European region (63%).[10] Smoking rates among TB patients are even higher than in the general population in Armenia.[11] The recent study conducted by the American University of Armenia, Center for health Services research and development (AUA/CHSR) among 395 TB patients revealed that smoking prevalence among males is 67.5% and 5.8% among female patients. About 80% of current nonsmoking male TB patients reported to be past smokers which resulted in 75.4% lifetime smoking prevalence with average smoking history of 27.9 years (SD=14.5). The findings

also confirmed the positive association of smoking and recurrence of TB: compared to primary TB cases, recurrent TB patients have higher odds of being current smoker (OR=1.93, p=0.014).

To prioritize TB control interventions the relative contribution risk factors of tuberculosis are calculated and presented in the table below.[12] Population Attributable Fraction (PAF) of each of risk factors was calculated using the formula:

$$PAF = \frac{p(RR-1)}{p(RR-1)+1}$$

PAF is a statistic used to estimate the proportion of cases that would be prevented if the risk factors were eliminated. The highest PAFs are associated with smoking, indoor air pollution, alcohol misuse, diabetes, in that order.

Table1. Prevalence and population attributable fractions (PAF) of selected TB risk factors, Armenia

Risk factor	RR	Prevalence of risk factor	PAF in population
HIV	26.7	0.2% (15-49y)	3.0%*
Diabetes	3.1	2.64%	5.3%
Smoking males and females	2	28.3% (>20-60y)**	15.9%
Alcohol misuse	2.9	5.3 (>15)	6.6%
Indoor air pollution	1.4	33.40%	11.8%

*PAF was adjusted accounting for children aged 0-14 y with assumption that children are free of risk factors mentioned.

** About 55% of the TB patients were smokers in Armenia which means that the PAF of smoking might be even higher.[11]

Armenia was the first former Soviet country to accede to the FCTC (November 2004), with following adoption of a national tobacco control law to ban smoking in healthcare, education, culture facilities and public transport. The country also banned tobacco advertising on TV and radio (2002) and on billboards (2006) and introduced larger health warnings on cigarette packs. One area where Armenia's progress has been less than satisfactory is the FCTC Article 14. The Ministry of Health approved "Guidelines for tobacco cessation counseling and treatment" for use by primary health care physicians in 2009. However, no further steps were undertaken to provide relevant trainings to providers to implement the guidelines in clinical practice. In the frame of the "Implementing the FCTC Article 14 in Armenia through Building National Capacity in Smoking Cessation Training" project funded by Global Bridges Healthcare

Alliance for Tobacco Dependence Treatment and hosted by the Mayo Clinic and Pfizer Independent Grants for Learning & Change (IGLC) CHSR team developed the first tobacco dependence treatment training package for primary healthcare physicians but not TB providers.

Article 14 of the WHO Framework Convention on Tobacco Control (WHO FCTC) states that "Parties should consider using existing infrastructure that would provide the greatest possible access for tobacco users, including but not limited to primary health care and other services such as those providing treatment for tuberculosis and HIV/AIDS".[13]

Several gaps in healthcare infrastructure in Armenia create additional hurdles for smokers to quit;

1. Smoking is remarkably high among Armenian physicians (48.5% M, 12.8% F) and medical students (50.0%M, 7.7% F).[14]
2. The country does not have tobacco dependence treatment clinics and a small number of specialists trained in smoking cessation counseling and treatment. No training on evidence-based approaches on nicotine dependence treatment is available for medical/nursing students.
3. There are no evidence-based guidelines developed/ Implemented for TB patients.
4. Smoke-free policies in healthcare facilities are poorly enforced.
5. Reporting of the patient's smoking status in the medical records is not mandatory.

Patients undergoing TB treatment under the directly observed therapy, short-course (DOTS) are typically in regular contact with TB care providers for a minimum of six months. At every encounter with their patients, TB care providers have a unique opportunity to deliver tobacco cessation interventions. At the beginning of the treatment when the patient has to assume a new role as a sick person TB patients are more likely to be emotionally affected and attentive to information about actions to be taken to improve their health. So, TB treatment under the directly observed therapy is an important teachable moment for behavior change, including smoking cessation.

Smoking cessation needs to be included in the standard tuberculosis case management protocol and information about smoking should be included in the reporting/monitoring process with all the medical forms. Health professionals providing TB care need to go through a training program to understand the importance of smoking cessation services. They should know what they are expected to do and need to have the skills and tools necessary.[4]

Therefore, to include information on tobacco use in patient records and to provide repeated smoking cessation advice/assistance over the course of TB treatments it is important to develop/ implement smoking cessation training for healthcare personnel and make necessary changes in TB management to assure the availability of the required materials/tools for them, as well as feedback and encouragement from the coordinators and managers of the joint Tobacco and TB projects.

3. Target audience

Describe the primary audience(s) targeted for this project.

a. Describe the level of commitment from the potential participants including your plan for recruitment as necessary.

b. Demonstrate the scope of your target audience has a potential to impact the goal established in this proposal.

c. Describe who will directly benefit from the project outcomes. Include in this description whom, beyond the primary target, would potentially benefit from the project in terms of this being a model for others to replicate or expand.

To control the TB epidemic, Armenia has been implementing the DOTS starting 1995 and reportedly achieved full national coverage by the end of 2002.[15] From the 27 high MDR-TB burden countries, 20 (including Armenia) began adapting their national TB control plans to adhere to the resolution to include MDR-TB treatment. In 2010, Armenia was one of the first countries to present their adapted national TB control plan to WHO.[15]

According to the National TB treatment protocol, the treatment for new drug-susceptible pulmonary and extra-pulmonary TB cases is six months. The first phase of treatment is two months of intensive treatment with HRZE[1]. The second phase is four months of continuation treatment with HR (Isoniazid (H), Rifampicin (R)). The treatment for drug-resistant TB is complicated and varies widely depending on the response of bacteria to the treatment and on side effects. Treatment for DR-TB requires a minimum of 21-24 months or 18 months after the smear and the culture are negative.

The diagnosis and treatment of TB in Armenia is included in the Basic Benefit Package (BBP) and is fully covered by the state budget. The necessary funding for TB control is generated through various sources, including the Global Fund to fight AIDS, TB and Malaria the Republic of Armenia state health budget, funds from international organizations, and other sources.

The number of TB cases registered in Armenia in 2014 was 1,342.[9] The TB services in the civilian sector are organized through five inpatient and 60 outpatient TB units in Armenia with 110 TB physicians and 250 nurses. The trainees will be TB physicians and nurses recruited from all inpatient and the largest outpatient TB centers; the anticipated number of participants is up to 100. This approach will make sure that patients in each TB facility have access to a provider trained in effective tobacco dependence treatment (counseling and/or pharmacotherapy).

This project aims to create opportunities within the healthcare system to support every TB patient who is a smoker to quit smoking and every TB patient who is not a smoker to avoid exposure to secondhand smoke. Therefore, this project's potential beneficiaries will include around 100 healthcare providers that will be enabled to provide better services to the patients. Overall, 1340 TB patients, including approximately 724 smoking TB patients annually will benefit from the smoking cessation advice/assistance. According to the WHO, these efforts can significantly improve patients' TB treatment outcomes and avoid the likelihood of recurrent TB and prevent 1 in 5 TB-related deaths.[5] The developed and implemented intervention could serve as a model intervention for other smoking cessation interventions implemented among

[1] Isoniazid(H), Rifampicin(R), Pyrazinamide(Z), Ethambutol(E), Streptomycin(S)

other special population groups (e.g. patients with HIV/AIDS, mental disorders etc) as well as for other countries with high burden of TB and tobacco use.

Multiple years of collaboration of the American University of Armenia with the governmental and non-governmental organizations working in TB control, including the Ministry of Health of the Republic of Armenia and its National TB Control Center, will help in organizing project-related activities, recruitment of study participants and training of health professionals.

4. Project design and methods

Describe your project design and methods.

a. Include a description of the overall strategy, methodology and analysis linking them to the goal of the project.

b. Describe the way the project planned addresses the established need and produces the desired results.

c. Indicate how you will determine if the target audience was fully engaged in the project.

d. Include a description of the measures you have taken to assure that this project idea is original and does not duplicate other projects or materials already developed.

e. If appropriate, show how this project builds upon existing work, pilot projects, or ongoing projects developed either by your institution or other institutions related to this project.

f. If your project includes the development of tools note if they be available publically at no cost.

The proposed project has both advocacy and training components. To develop the national infrastructure to support smoking cessation in the context of TB treatment, we will seek a broad consensus among key factors including the National TB Control Center and the National Tobacco Control Program on the urgent need in joint efforts to combat deadly pairing of TB and smoking and the important role of health professionals in this effort.

We have successful collaborative relationship with key stakeholders in the field (the Ministry of Health, the National Institute of Health, the National Tuberculosis Control Center, and the Armenian Red Cross) which serves as a firm basis for establishment of a nationwide health partnership. This Partnership will ensure joint tobacco control activities through the healthcare system within the framework of existing and evolving TB strategies, including:

1. Developing a joint policy paper to provide guidance to managers of National TB and Tobacco control programs to plan and implement joint efforts in "two-for-one" intervention.[16]

The working group of experts and key stakeholders will facilitate/coordinate the development of the joint policy paper. The existing scientific evidence and best practices on joint efforts on Tobacco and TB control will be explored through extensive literature review and then adapted for the local culture using data on situation analysis. Document review, quantitative (survey, record review) and qualitative (In-depth interviews, focus group discussions (FGDs)) research methods will be applied to explore existing resources to provide cessation support and treatment to TB patients in Armenia. The developed policy paper will include the technical and operational policies/strategies for appropriate identification, reporting of smokers and treatment of tobacco dependence among TB patients in primary health care settings and in TB facilities providing inpatient care.

2. Developing and implementing the tobacco use recording and reporting systems

According to the Article 14 of the WHO FCTC "parties should ensure that the recording of tobacco use status in all medical and other relevant notes is mandatory, and should encourage the recording of tobacco use in death certification". In order to achieve the best smoking cessation rates, all smokers must be systematically identified at each medical contact, whether or not the patient is in consultation for a tobacco-related disease. All doctors, independent of their specialty, should use these occasions to identify smokers and to organize cessation therapy. Clinical evaluation of tobacco use is a mandatory medical act and must be legitimized as a routine intervention.

According to the Decree N 1752-N adopted by the Ministry of Health of the Republic of Armenia in 2007, there are three types of outpatient medical record. The Decree N73-N adopted by the Ministry of Health of the Republic of Armenia in 2013 includes the Outpatient medical record for oncology patients.

None of the existing outpatient medical records have special place for recording the smoking status of patients. In the outpatient oncology patient's medical record point 19 refers to patients "harmful habits" without any further specification. The Decree N 02-N adopted by the Ministry of Health of the Republic of Armenia in 2014 there are four types of inpatient medical records. Only in adult inpatient medical record under "objective examination data" section there is a place where the physician may record smoking status of the patient (smoking yes/no) without any specification on the duration of smoking, number of smoked cigarettes per day, level of dependence, and other details.

To implement the tobacco use recording and reporting system, the existing recording/reporting forms will be adapted taking into account the organization of health services and national policies in Armenia. Among other resources we will use the recording and reporting forms (Modified TB treatment cards, Smoking cessation intervention card, Smoking cessation register etc.) recommended by the "Tobacco Cessation Interventions for TB patients: a Guide for Low-Income Countries" developed by the International Union against Tuberculosis and Lung Diseases.[4] The adapted tools will be first shared with the experts and healthcare professionals for review/recommendations and then will be pretested in pilot sites before the nationwide implementation.

3. Monitoring and enforcing the official smoking ban in TB health facilities through local capacity building and providing technical support and guidance.

The Armenian tobacco control law enacted in early 2005 prohibits smoking in educational, cultural and healthcare facilities. However, enforcement and compliance with the ban has been insufficient and the national anti-smoking policies are not properly implemented.

The successful model of smoke-free hospital intervention developed and implemented by the CHSR in close cooperation with the National Oncology center leadership (a part of a larger project that was funded by the Johns Hopkins FAMRI (Flight Attendant Medical Research Institute) Center of Excellence)[17] will serve as the bases for the development of the capacity for

enforcing a policy of smoke-free environments for all facilities where outpatient and inpatient services are delivered to TB suspects and TB patients. The intervention will include the information campaign about the hazards of SHS exposure and benefits of having a smoke-free hospital (posting of no-smoking signs, distribution of leaflets, verbal notifications about smoke free policy) as well as building institutional capacity to maintain no-smoking environment ("Training of trainers" for head nurses to enhance their knowledge on dangers of smoking and SHS exposure and their understanding of the benefits of smoke-free policy in the hospital and to increase their role in implementing smoke-free policy in the hospital).

4. Adapting of existing evidence based clinical guidelines on smoking cessation for TB patients.

To date, there are no clinical guidelines on smoking cessation among specific population groups, including TB patients, in Armenia. The clinical guidelines on smoking cessation for TB patients will bridge the new research evidence and clinical practice with the aim of changing the way healthcare is delivered, improving outcomes for patients, ensuring efficient use of healthcare resources and development of standards to assess clinical practice. In order to take advantage of existing guidelines and reduce the duplication of efforts, guideline adaptation is chosen as an alternative to guideline development. The ADAPTE process[18] which provides a systematic approach to adapting guidelines produced in one setting for use in a different cultural and organizational context will be utilized for adaptation of the National guideline for tobacco dependence treatment among TB patients. Among other resources we will use the translated and adapted ENSP-European Smoking Cessation Guideline.

5. Developing a training package for TB physicians/nurses based on the clinical guideline and its implementation.

Smoking cessation curriculum and materials will be developed specifically for the TB healthcare providers. The training curriculum will include both didactic and interactive components. Training sessions will be delivered to TB health care professionals by trained faculty members to arm them with evidence-based smoking cessation counseling and treatment knowledge and skills and to apply those to motivate and assist patients to quit. The training package will be developed and implemented in close collaboration with the National Institute of Health. Among other resources we will use the training package developed for the project "Implementing the FCTC Article 14 in Armenia through Building National Capacity in Smoking Cessation Training".

The training curriculum will include: a) scientific bases of smoking –cessation interventions; b) offering of brief advice interventions; c) training on the use of available medications and cognitive-behavioral therapy; d) familiarity with the newly developed recording and reporting systems for TB patients.

Existing or ongoing projects developed by AUA/CHSR related to this project.

AUA/CHSR conducted several studies related to tobacco control and TB research in close collaboration with Ministry of Health and the National TB Control Center.

Among the most recent studies are: the Innovative Approach in TB Care in Armenia. The aim of this randomized controlled trial was to evaluate the effectiveness of an alternative multistage and multi component TB outpatient care strategy different from the WHO strategy of the Directly Observed Therapy (DOT) during the outpatient phase of the TB treatment by educating and counseling of TB patients and their family members and enhancing patient-

centered approach in TB care.[11] Currently CHSR team continues its collaboration with the National TB Control Center on the project "In-patient Tuberculosis (TB) Treatment in Armenia: Establishment of Continuous Quality Improvement System" with financial support from the Armenian Medical Fund. This project aims to evaluate Republican TB Dispensary to determine the extent of inpatient TB organization's compliance to the internal policies, national and international guidelines for further recommendations toward improvements of inpatient TB services based on the quality assessment of the structural, diagnostic and treatment procedures of the hospital.

Currently CHSR team is running a project to develop a national capacity in implementing the FCTC Article 14 in Armenia ("Implementing the FCTC Article 14 in Armenia through Building National Capacity in Smoking Cessation Training" project). The main goal of this project is to design, implement and evaluate the first evidence-based smoking cessation training program for primary health care professionals in Armenia. This project targets primary healthcare physicians but not TB physicians and nurses. In collaboration with the European Network for Smoking and Tobacco Prevention (ENSP) AUA/CHSR implemented the EPACTT-project (EuroPean Accreditation Curriculum on Tobacco Treatment Project) to develop an accreditation curriculum for tobacco cessation clinicians in Eastern Europe (with a focus on Romania, Armenia, Georgia, Ukraine and Russia) and to build a network of accredited health care professionals dedicated to advancing evidence-based tobacco dependence treatment and advocates for tobacco control policies. In the scope of this project the CHSR team translated and adapted the second edition of the European Smoking Cessation Guideline based on which the materials of the upcoming EPACTT Training Course. The newly proposed study will be the first attempt in Armenia to integrate tobacco control/ smoking cessation in the context of TB control in Armenia and it will build on the existing work and ongoing projects implemented by the AUA School of Public Health and the strong partnership with the National TB Control Center and the National Institute of Health.

The National TB Control Center is responsible for the overall management and coordination of TB control activities, including training of staff, management of drugs and laboratory supplies, data collection and maintenance of the national databases, supervision, and organization of information, education and communication. The core responsibilities of the NIH include implementation of long-term and short-term continuing professional education trainings for healthcare professionals, development of public health policy and strategy, as well as development of clinical guidelines, standards and other regulatory documents, enabling and facilitating improvement of health care quality.

Importantly, the course materials/guidelines, including patient education brochures/ posters, will be made publicly available through Online Training and Resource Center for Smoking Cessation developed in the frame of the "Implementing the FCTC Article 14 in Armenia

through Building National Capacity in Smoking Cessation Training" project. This is crucial for the sustainability of the program.

5. Evaluation design

a. In terms of the metrics used to assess the need for this project, describe how you will determine if the practice gap was addressed for the target group.

b. Identify the sources of data that you anticipate using to make the determination.

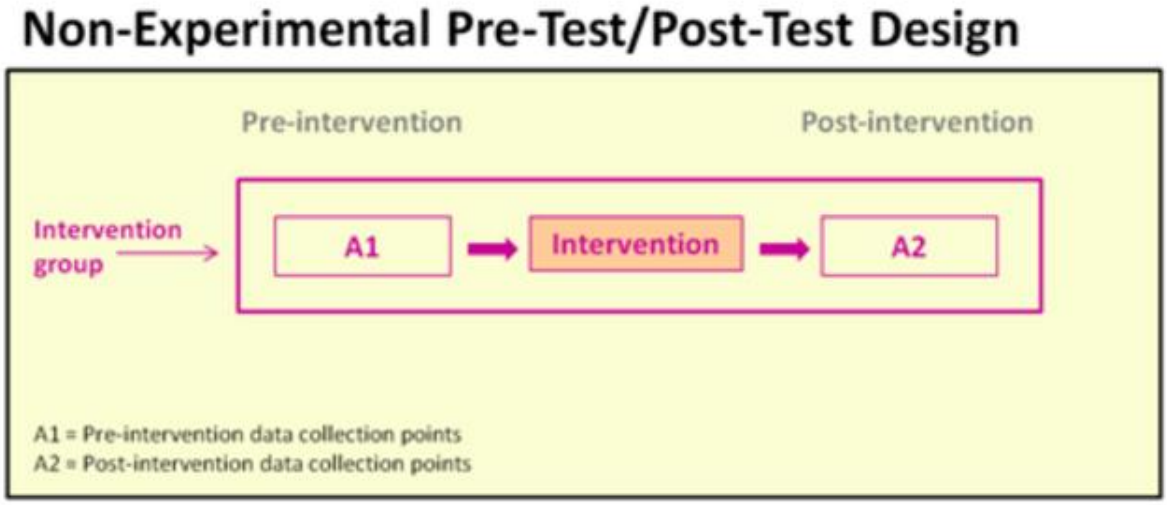
c. Describe how you expect to collect and analyze the data.

d. Describe how you will determine if the results evaluated are directly related to the intervention described in this proposal

e. Quantify the amount of change expected from this project in terms of your target audience (e.g., a 10% increase over baseline or a decrease in utilization from baseline between 20-40%)

f. Describe how you plan for the project outcomes to be broadly disseminated.

The project will employ a Non-experimental pre-test/post test design to assess the change in physicians' performance and patient-related outcomes.



The interventions will be implemented nationwide in both in-patient and out-patient TB healthcare facilities. Data for the pre-intervention and follow-up assessments of the project will be collected through surveys, FGDs, in-depth interviews conducted with TB patients, physicians, nurses, and policy makers, as well as medical chart reviews and site visits.

Pre-intervention data collection will be conducted for dual purposes: 1) to assess the baseline situation and 2) facilitate the development of the joint TB and Tobacco control policies Pre-intervention baseline data collection:

- Desk/document review
- Structural observations in healthcare facilities to assess the implementation of smoke-free policy
- PM monitoring
- FGD /IDI with healthcare professionals and experts
- Survey among healthcare professionals

- Survey among TB patients at the end of the TB treatment
- Medical chart review at the end of the TB treatment

Post-intervention data collection:

- Structural observations in healthcare facilities to assess the implementation of smoke-free policy
- PM monitoring
- Survey among healthcare professionals
- Survey among TB patients at the end of the TB treatment
- Medical chart review

FGD /IDI with healthcare professionals and experts will be conducted at pre-intervention phase to identify primary healthcare physicians' baseline knowledge, attitude and practices regarding smoking cessation, as well as to clarify their perceived needs for training and support for addressing tobacco use among their adult patients.

Physician smoking cessation counseling practices will be assessed according to the set of recommended behaviors of 5A model: Ask, Advise, Asses, Assist, and Arrange follow-up. Patients will be asked whether their physicians or other healthcare providers asked them about their smoking status (ask), advised them to quit smoking (advise), assessed their readiness to quit (assess), provided assistance with quitting (assist), or arranged follow-up support (arrange). For the assist strategy, patients will be asked whether they received the following forms of assistance with quitting: provision of self-help materials, identification of a quit date, and discussion and prescription of smoking cessation medications.

Patient centered outcomes

- Proportion of patients that regularly asked about their smoking status from TB healthcare provider;
- Proportion of patients that regularly received quitting advice from TB healthcare provider;
- Proportion of patients that regularly received quitting assistance from TB healthcare provider;
- Proportion of patients that quitted at the end of the TB treatment (point prevalence of quitting);
- Proportion of patients asked about setting a quit date;
- Proportion of patients that received self-help materials.

Based on the evidence from the WHO "Toolkit for delivering the 5A's and 5R's brief tobacco interventions to TB patients in primary care" we are expecting that upon completion of the project TB healthcare providers will trigger at least 40% of cases to make a quit attempt; and help up to 67% of these patients quit successfully by the end of the TB treatment[5].Two self-reported, structured questionnaires will be used during survey with healthcare professionals. The first questionnaire will contain three parts: trainee satisfaction, trainee confidence in

providing services after training, and the topic the trainees considered most useful. The five-point Likert scale will be used to encode satisfaction and confidence levels.

The second questionnaire will contain multiple-choice questions evaluating knowledge of smoking cessation. The questionnaire will be administered before and after the course to measure trainee progress.

To evaluate the effectiveness of the smoke-free interventions, the study team will utilize the baseline and follow-up structured observations and objective measurement of indoor tobacco smoke pollution using PM2.5 measurements in randomly selected TB healthcare facilities.

Medical chart review will utilize a standardized form developed by the study team to abstract data that would measure tobacco cessation counseling activities which included the "five A's".

Dissemination:

International meetings and conferences: *Global Bridges online network*: website, grantee calls and webinars, listervs.

International meetings and conferences: World and European Conferences on Tobacco or Health, The Union's Conferences on Tuberculosis and Lung Health, Smoke-Free Hospitals European Network, European Network for Smoking and Tobacco Prevention.

Local meetings: Round-table discussions and meetings of different formats with local stakeholders including policy/decision makers. Social media/Websites: Eastern European Network for Tobacco Control Facebook Group established by the Armenian team members (Russian, English) and the new website of Online Smoking Cessation Training and Resource Center.

Media: Press conferences, reports, briefs, interviews.

Publications: Peer-reviewed journals, abstract books.

6. Detailed work plan and deliverables schedule

*Include a narrative (which counts toward the 15-page limit) describing the **work plan** and outlining how the project will be implemented over the X-year period. Using a table format (no page limit); list the deliverables and a schedule for completion of each deliverable.*

Task	Deliverables	2016		2017												2018											
		Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sep	Oct.	Nov	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep	Oct.	Nov	Dec.
Objective 1. Establish a nationwide healthcare professional partnership between the National TB Control Center and the National Tobacco Control Program																											
Establishment of the working group of experts and stakeholders	• List of the working group members • Working plan developed																										
Review of the existing literature on best joint TB and tobacco control practices	• Summary report of the literature review prepared																										
Pre-intervention data collection/Situation analysis (FGD, IDI, survey, medical record review)	• Instruments ready • Interviewers/ facilitators trained • Fielding completed • Summary report prepared																										
Development of the tobacco use recording and reporting forms (modified TB treatment cards, smoking cessation intervention card, smoking cessation	• Forms translated/ adapted • Forms pretested • Forms approved by the MOH																										

Task	Deliverables	2016		2017												2018											
		Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sep	Oct.	Nov	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep	Oct.	Nov	Dec.
register)																											
Policy paper development	• Draft paper developed and shared with the stakeholders for the review • Final paper prepared and approved by the MOH																										
Objective 2. Develop capacity for enforcing a policy of smoke-free environments for all facilities																											
Pre-intervention data collection	• Instruments ready • Interviewers trained • Fielding completed • Summary report prepared																										
Information campaign about the hazards of SHS exposure and benefits of having a smoke-free hospital	• "No smoking" signs posted in all facilities • Leaflets on benefits of having a smoke-free hospital developed and distributed																										
"Training of trainers" for head nurses	• At least 1 head nurse from each TB facility participates in the "Training of trainers" • Materials provided for further training of the healthcare personnel																										
Post-intervention data collection	• Instruments ready • Interviewers trained • Fielding completed • Summary report prepared																										
Objective 3. Build smoking cessation capacity among TB healthcare providers in Armenia																											

Task	Deliverables	2016		2017												2018											
		Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sep	Oct.	Nov	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep	Oct.	Nov	Dec.
Adaptation of the existing evidence based guidelines for tobacco dependence treatment among TB patients	ADAPTE process • Set-up phase • Adaptation phase • Finalization phase																										
Developing smoking cessation training on patient counseling and treatment of tobacco dependence to healthcare providers	• Curriculum designed • Materials developed • Patient education materials ready																										
Implementing smoking cessation training on patient counseling and treatment of tobacco dependence to healthcare providers	• At least 100 TB health care practitioners participated in the smoking cessation trainings																										
Objective 4. Monitor the project indicators and intermediate and final outcomes, produce reports and discuss the project activities through regular meetings with staff and partners																											
Pre-intervention data collection	• Instruments ready • Interviewers/facilitators trained • Fielding completed • Summary report prepared																										

Task	Deliverables	2016		2017												2018											
		Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sep	Oct.	Nov	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep	Oct.	Nov	Dec.
Post-intervention data collection	• Instruments ready • Interviewers/facilitators trained • Fielding completed • Summary report prepared																										
Discussing the project activities with staff and partners	• Meeting minutes prepared																										
Preparing the final report	• Final report prepared																										
Objective 5. Disseminate results of the project																											
Sharing summary reports with main stakeholders	• Summary reports shared with the MOH, NTCC, YSMU, Nursing colleagues																										
Round table discussions/press conference	• Minutes of the discussion developed • Press release prepared					* WTBD		* WNTD										*WTBD		*WNTD							
Presentation of the results during conferences	• Abstracts • Presentations					*ECToH								*EUPHA			*SRNT	*WCTOH									
Peer-reviewed publication**	• Published articles																										

* WTBD-World TB Day
WNTD-World No Tobacco Day
ECToH-The 7th European Conferences on Tobacco or Health
EUPHA-The 10th European Public Health Conference
SRNT- The 24th Annual Meeting of the Society for Research on Nicotine and Tobacco (SRNT) 2018
WCTOH-The 17th World Conference on Tobacco or Health

** Up to 6 months after the end of the project

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