REPORT

National Capacity Building Workshop
on
Operational Research in HIV/AIDS

28 – 30, March 2019
Negombo – Sri Lanka

Jointly organized by

National STD/AIDS Control Programme (NSACP)
Ministry of Health, Nutrition & Indigenous Medicine, Government of Sri Lanka
&
The Voluntary Health Services (VHS), India
Supported by **Centers for Disease Control and Prevention (CDC/DGHT-India)**

VHS-CDC PROJECT

MINISTRY OF HEALTH SRI LANKA

NATIONAL STD/AIDS CONTROL PROGRAMME

VOLUNTARY HEALTH SERVICES — VHS — WE SERVE THE PEOPLE WHO SERVE YOU

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Acronyms

ACASI	Audio Computer Assisted Self Interview
AIDS	Acquired Immunodeficiency Syndrome
ANC	Ante-Natal Care
AR	Attributable Risk
ART	Anti-Retroviral Treatment
CAPI	Computer Assisted Personal Interviewing
CDC	Centers for Disease Control and Prevention
CSS	Cross-Sectional Study
CSS	Case-Control Study
C&S	Care & Support
CST	Care, Support & Treatment
DD	Data Dictionary
DGHT	Division of Global HIV & TB
DQA	Data Quality Assurance
EPI Unit	Epidemiology Unit
FcFT	Facilitator cum Feedback Team
FGD	Focus Group Discussion
FSW	Female Sex Worker
GIS	Geographical Information Systems
HIV	Human Immunodeficiency Virus
HSS	HIV Sentinel Surveillance
IBBS	Integrated Biological and Behavioral Surveillance
IDI	In-Depth Interviews
IEC	Information Education Communication
KAP	Knowledge Attitude and Practice
KP	Key Population
M&E	Monitoring and Evaluation
MSM	Men who have Sex with Men
NCBW-OR	National Capacity Building Workshop on Operational Research in HIV/AIDS
NSACP	National STD/AIDS Control Programme
OR	Operational Research
OR	Odds Ratio
PAR	Population Attributable Risk

PEPFAR	President's Emergency Plan for AIDS Relief
PHI	Public Health Inspector
PHLT	Public Health Laboratory Technician
PHNS	Public Health Nursing Sister
PLHIV	People Living with Human Immunodeficiency Virus
PM	Project Management
PMTCT	Prevention of Mother To Child Transmission
PPT	Power-Point Presentation
PrEP	Pre-Exposure Prophylaxis
PRT	Peer Review Team
RCT	Randomized Controlled Trial
REC	Research Ethics Committees
RR	Risk Ratio / Relative Risk
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
SI	Strategic Information
SIMU	Strategic Information Management Unit
TA	Technical Assistance
TB	Tuberculosis
TNA	Training Needs Assessment
VHS	Voluntary Health Services
WHO	World Health Organization

Foreword

DR RASANJALEE HETTIARACHCHI
DIRECTOR - NSACP

I am happy to write a foreword to this technical report on the National Capacity Building Workshop on Operational Research in HIV/AIDS organized by National STD/AIDS Control Programme (NSACP), Sri Lanka and The Voluntary Health Services (VHS), India - Supported by Centers for Disease Control and Prevention (CDC/DGHT-India) - (VHS-CDC Project) from 28th to 30th of March 2019 in Negombo, Sri Lanka. Operational research is a very important component of Strategic Information generation. Although this is relatively a new discipline, now a day's operations research is almost used in all the fields. Operational research can produce key information on system issues and possible solutions in our journey to ending AIDS by 2025.

Training and capacity building are key elements of the VHS-CDC Project on providing Technical Assistance to NSACP on Strategic Information with the support of CDC/DGHT-India. This is one of the series of training activities planned and conducted according to the findings of a formal assessment of training and capacity building. This training on Operational Research was conducted for SI team through participatory methodologies and contributed for enhancing knowledge and skills. This training enhanced the capacity of the NSACP SI teams in Operational Research methods to support and strengthen programmatic decision making. This technical report contains the training objectives, training needs, profile of participants, process adopted including proceedings, operational research protocols developed, feedback, recommendations & follow-up plans and other relevant details.

On behalf of NSACP, I wish to express my sincere thanks to Dr Joseph D Williams, Director Projects-VHS for his immense support in ensuring partnerships and continue to support in providing TA. We also appreciate the strategic support being extended by Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project for coordinating with NSACP and SIMU in providing technical assistance on strategic information and managing the assessment and thanks to VHS-CDC Project team, resource persons / trainers for the support extended in successful conduct of this training.

My gratitude should go to Dr. Timothy Holtz, Country Director, CDC/DGHT-India for his strategic leadership and guidance in providing Technical Assistance to NSACP, Ministry of Health, Nutrition & Indigenous Medicine, Govt. of Sri Lanka and CDC team for their support and guidance in these technical assistance initiatives.

Appreciate Dr. Ariyaratne Manathunge, Consultant-Venereologist and Coordinator-SIMU, NSACP for his strategic leadership in coordinating the technical cooperation initiatives on TA to NSACP on SI with VHS-CDC Project, CDC team and contributions on meaningful, successful conduct of this capacity building program.

Dr Rasanjalee Hettiarachchi,
Director,
National STD/AIDS Control Programme (NSACP), Sri Lanka.

Acknowledgement

Dr Joseph D Williams
Director Projects - VHS

The Voluntary Health Services (VHS-CDC Project) with the support of Centers for Disease Control and Prevention (CDC/DGHT-India) and in partnership with National STD/AIDS Control Programme (NSACP), Ministry of Health, Nutrition & Indigenous Medicine, Govt. of Sri Lanka is providing Technical Assistance to NSACP on Strategic Information through a technical partnership initiative on the following areas:

1. Enhance SIM Unit capacity to utilize electronic and manual program data for decision making;
2. Improve capacity of SIM Unit to carryout management, analysis, documentation, and dissemination of summary program data reports;
3. Improve capacity of SIM Unit to conduct and disseminate results of operational research; and
4. Consultation with stakeholders on monitoring and documentation of accomplishments & sustainability plans.

As part of this technical cooperation initiatives, VHS-CDC Project is providing capacity building initiatives, system strengthening, documentation and dissemination. In accordance with the capacity building initiatives, the project is organizing a series of training programs. VHS-CDC Project with the support of CDC/DGHT-India and in partnership with NSACP has organized a *'National Capacity Building Workshop on Operational Research in HIV/AIDS'* with the objective to enhance the capacity of the NSACP SI teams in Operational Research methods to support and strengthen programmatic decision making.

To support this training, the project has developed a resource kit containing resource book, reference materials, tools, formats, presentations, etc. In addition, based on the Training Need Assessment, developed agenda, customized and developed resource materials, identified and engaged international professional trainers along with VHS-CDC Project team, and conducted the training program by adopting participatory approaches supported with hands-on training which lead to development of research protocols for conducting operational research. This training was conducted with the great participation and contribution from SIMU-NSACP.

VHS-CDC Project has documented the training program and brought out this report titled *'Training Report on National Capacity Building Workshop on Operational Research in HIV/AIDS'*. This report contains a brief on the key stakeholders and organizers involved in conducting this training program, CDC support on Technical Assistance to NSACP on Strategic Information; an overview of training on Operational Research; (objectives & methodologies of training; details & profile on participants, facilitators & coordination team; details on the resource book; Pre & Post-Training Assessment analysis & Post-Evaluation analysis; feedback of participants; and recommendations), day wise proceedings; operational research protocol and execution plan; outcome of the training; and follow-up plans. This report comprehensively captured the overall plan, process and outcomes of the training program.

We thank Dr Rasanjalee Hettiarachchi, Director, NSACP for her leadership and supportive guidance in this technical cooperation initiatives and in conducting this training program.

Contents

I.   Introduction

National STD/AIDS Control Programme (NSACP), Sri Lanka: National STD/AIDS Control Programme (NSACP), Government of Sri Lanka is a comprehensive program aimed at prevention and control of STDs & HIV/AIDS being implemented by the Ministry of Health, Nutrition & Indigenous Medicine in all the provinces of Sri Lanka. The key functions of NSACP includes: Preventive services; Diagnosis treatment and care services for HIV; Strategic Information Management; and Health Systems Strengthening. The country is currently implementing its National Strategic Plan (NSP) 2018-2022 for HIV/AIDS control. NSP 2018-22 aims at ending AIDS in Sri Lanka by 2025. NSACP networks with 31 full time, 20 branch STD Clinics and 21 ART centres.

Strategic Information Management Unit (SIMU): The Strategic Information Management (SIM) System is the key system that is responsible for providing information and evidence to guide the country in its health policy and planning, resource allocation, program management, service delivery and accountability. The monitoring and evaluation of the STD/HIV treatment & care and Laboratory services of NSACP is currently carried out using a manual paper-based system. Currently, SIMU-NSACP is in the process of developing an automated Electronic Information Management System (EIMS) which will provide timely information for efficient patient management and monitoring of HIV care and ART Program.

Some of the **unique strengths of Strategic Information (SI) system** includes: National HIV Monitoring & Evaluation Plan 2017-22 that outlines the broad vision, objectives, approaches and tools used in the program; standardized forms and formats specific to each field for feeding EIMS; redesigned the website for transparency and dissemination; bringing out comprehensive annual report; long-standing, dynamic leadership of SIM unit with strong institutional memory as a great asset to NSACP; good time series data on HIV prevalence through HIV Sentinel Surveillance and IBBS; system well-positioned to be evolved into a strong HIV case reporting system; and replacing the paper-based system with an EIMS for efficient patient management and monitoring of HIV care & ART program.

PEPFAR/India: The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) provides strategic, targeted support to strengthen the quality and impact of India's strong government-led response to HIV/AIDS. India's epidemic is concentrated among key populations, which include sex workers and their clients, men who have sex with men, transgender individuals, people who inject drugs, and mobile populations. The PEPFAR/India provides Technical Assistance (TA) to the Government of India (GoI) and its partners, to maximize impact on the HIV epidemic in India, by strengthening capacity in critical program areas within GoI, the private sector, and with civil society partners. PEPFAR/India has two implementing agencies in India: Centers for Disease Control and Prevention (CDC) and U.S. Agency for International Development (USAID).

CDC/DGHT-India: The U.S. Centers for Disease Control and Prevention's Division of Global HIV and Tuberculosis (DGHT) Program in India has focused its efforts on preventing new infections, increasing access to services for persons living with HIV and tuberculosis (TB), supporting a single monitoring and evaluation system, and strengthening the work of civil society organizations. DGHT provides TA on a broad range of issues, including prevention of HIV (including parent to child transmission), addressing care and treatment needs of key affected populations - people who inject drugs, men who have sex with men, commercial sex workers, trans-gender individuals, addressing comorbidities of TB and HIV, strengthening laboratory systems, blood safety, and strategic information.

The Voluntary Health Services – Cooperative Agreement (CoAg.,) implementing partner of CDC for providing TA on SI: Voluntary Health Services (VHS) was established in 1958 by Dr K S Sanjivi, an eminent physician, and visionary leader. Today, VHS is a 465 bedded multi-specialty tertiary teaching hospital guided by the philosophy of "***unto the last***". VHS is registered as a non-profit society under the Indian Registration of Societies Act, 1860. Since 1995, VHS with 60 years of committed service has been at the forefront of managing comprehensive community health and STI/HIV prevention programs. VHS has wide range experience in implementing innovative HIV/AIDS prevention, care and support programs, building the capacity of Civil Society Organizations (CSOs), training of Health Care Providers (HCPs), strengthening Strategic Information (SI), providing Technical Assistance (TA), facilitating knowledge transfer, etc. Over 25 years, VHS has been the nodal agency for implementing HIV/AIDS prevention, care, support and treatment programs in Tamil Nadu, partnering closely with the Government of India (GoI), National AIDS Control Organization (NACO), State AIDS Control Societies (SACS), line departments and other key stakeholders.

VHS has implemented several large, multi-site and multi-layered donor-funded programs including the USAID supported AIDS Prevention and Control (APAC) project; Bill and Melinda Gates Foundation (BMGF) supported Tamil Nadu AIDS Initiative (TAI) and GFATM supported Multi-country South Asia-Diversity in Action (MSA-DIVA) project. Currently, managing Centers for Disease Control and Prevention (CDC), Department of Health and Human Services, United States Government supported Technical Assistance to NACP IV. VHS has been involved in knowledge sharing initiatives both within the country and internationally. Through the USAID supported South-To-South HIV/AIDS Resource Exchange (SHARE) project, VHS provided TA to 12 selected sub-Saharan African nations and promoted bi-directional knowledge transfer of high-impact policies, practices and innovations for strengthening the HIV/AIDS program and improving health outcomes.

CDC support on Technical Assistance to NSACP on Strategic Information: The PEPFAR is a United States Governmental initiative to address the global HIV/AIDS epidemic. PEPFAR and CCDC is providing support to NSACP through its' Cooperative Agreement implementing partner The Voluntary Health Services (VHS) through its VHS-CDC Project. Overall goal is to enhance the contribution of Strategic Information (SI) towards the National HIV/AIDS response in Sri Lanka by facilitating Technical Assistance (TA) and cooperation on identified priority areas. Key strategies on TA to NSACP being adopted will include Evidence-based TA; Horizontal exposure & vertical expertise; Bottom up strategy; and Comprehensive in outlook.

VHS-CDC Project and NSACP jointly facilitated the exploratory visits, inter-agency visits, interactions with senior officials at Ministry & NSACP, key stakeholders and facilitated field visits. Through this process, CDC, VHS-CDC Project and NSACP jointly identified the specific areas of TA on SI. For facilitating Technical Cooperation Initiatives, Letter of Intent (LoI) was signed between Ministry of Health, Nutrition and Indigenous Medicine, Govt. of Sri Lanka and CDC/DGHT-India during February 2018.

NSACP and VHS-CDC Project jointly held discussions and identified TA areas for support and developed a comprehensive technical assistance plan on the following four broad areas:

1. Enhance SIM Unit capacity to utilize electronic and manual program data for decision making;
2. Improve capacity of SIM Unit to carryout management, analysis, documentation, and dissemination of summary program data reports;

3. Improve capacity of SIM Unit to conduct and disseminate results of operational research; and
4. Consultation with stakeholders on monitoring and documentation of accomplishments and sustainability plans.

As part of this TA initiatives, VHS-CDC Project is providing capacity building initiatives, system strengthening, documentation and dissemination. In accordance with the capacity building initiatives, the project is organizing a series of training programs which includes:

- Training on operational research methodology (qualitative & quantitative)
- Training on DHIS2 for data analysis and effective program planning (to align with national and international requirements).
- Training on DHIS2 for STD clinic staff.
- Enhance capacity to write abstracts for presentation at international conferences
- National training programs on data management and epidemiologic analysis for SIM and local reporting units.

Considering the overall capacity plans evolved, VHS-CDC Project has organized *"National Capacity Building Workshop on Operational Research in HIV/AIDS"* for SIMU team in NSACP.

II. Training Program – An overview

1.   Training details

VHS-CDC Project with the support of CDC/DGHT-India and NSACP, MoH-GoSL jointly organized a training on operational research and capacitated SI team in NSACP. The details on the same is given below:

Name of the program	Date	Venue
"National Capacity Building Workshop on Operational Research in HIV/AIDS"	28-30, March 2019	Negombo, Sri Lanka

Objective:

- To enhance the capacity of the NSACP SI teams in Operational Research methods to support and strengthen programmatic decision making.

Methodologies:

- Pre & Post Training Assessment
- Power-Point Presentations
- Question and answer session
- Group work
- Peer reviews/ literature reviews
- Hands-on training
- Individual/ group assignments
- Reference materials
- Feedback & evaluation
- Mentoring support

Audience:

- Consultant-Venereologists
- Medical Officer/ Planning
- Medical Officer/ Medical Informatics
- Acting Consultant - Venereologists
- Senior Registrar - Venereology
- Registrar - Venereology
  The above team are from SIM Unit and Peripheral STD clinics and others associated with SI.

2.   Participants

Overall, 29 personnel participated in the three-day training program. The participants represented from SIMU and Peripheral STD clinics. The category of participants in the training program includes: Consultant-Venereologists, Medical Officer/ Planning, Medical Officer/ Medical Informatics, Acting Consultant-Venereologists, Senior Registrar-Venereology and Registrar-Venereology. In this training, participants have been identified to provide representation from SIMU and Peripheral STD clinics.

The criteria adopted for selection of participants will include but not limited to:
- At present, the person should directly work in SIM or Reporting Units.
- Plans to continue to work in the same position for minimum period of six months.
- Interest/ inclination to undertake researches.
- Agreeing to participate in the training and complete follow-up actions as evolved in the training program.
- Willing to learn through training and mentorship.
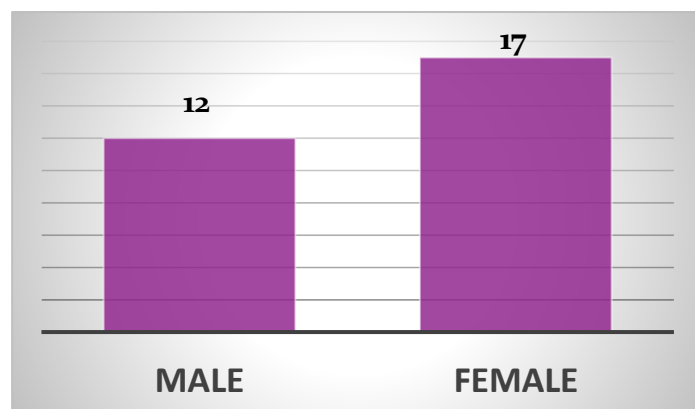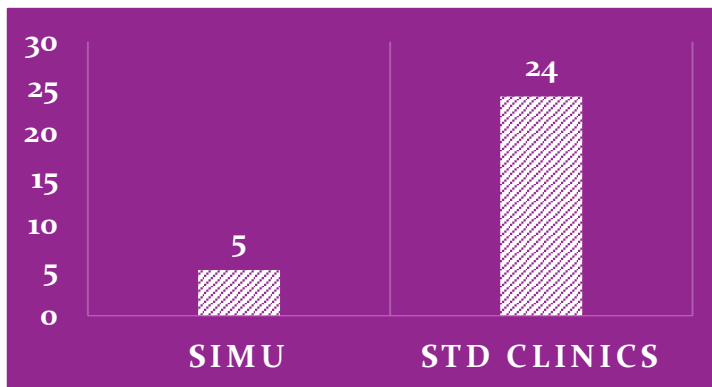
The *profile of the participants* is given below:

S. No.	Name of the participant	Designation and address	Gender	Contact Number	Contact number & Email ID
1	Dr Ariyaratne Manathunge	Consultant-Venereologist, NSACP	Male	777078443	ariyaratne1@gmail.com
2	Dr Priyantha Weerasinghe	Consultant-Venereologist, STD Clinic, DGH-Gampaha.	Male	718416464	weerasinghepriyanthak@gmail.com
3	Dr Niroshan Jayasekara	Acting Consultant-Venereologist, STD clinic, Hambanthora.	Male	712308239	jayasekara.niroshan@gmail.com
4	Dr P S Premadasa	Acting Consultant-Venereologist, STD Clinic, T.H Kuliyapitiya.	Male	718073467	prageethsuranga@rocketmail.com
5	Dr H A C W Hathurusinghe	Consultant-Venereologist, Kurnagla.	Male	714394622	hacwhathurusinghe17@yahoo.com
6	Dr D C L Wickramarathne	SR / Venereology, Anuradhapura.	Female	773646693	chatulakmali@yahoo.com
7	Dr Jayadarie Ranatunga	Consultant-Venereologist, Malambe.	Female	771504490	jayadarie@yahoo.com
8	Dr M K S H Jayasena	Acting Consultant-Venereologist, Pannipitiya.	Female	714477585	shanikajayasena@gmail.com
9	Dr H M A H Karunaratne	SR / Venereologist, Nugegoda.	Male	773320102	anruddha@gmail.com
10	Dr N G Mahakumbura	Reg / Venereology, Malabe.	Male	779553154	mawoexe@gmail.com
11	Dr S Muraliharan	MO / Planning, Colombo.	Male	772920371	vmsmurali@yahoo.com
12	Dr Lahiru Rajakaruna	MO/Medical Informatics, Malabe.	Male	777854477	lahirurajakaruna@gmail.com
13	Dr I L Jayaweera	Acting Consultant-Venereologist, NSACP.	Male	773557123	ireshlj@yahoo.com

S. No.	Name of the participant	Designation and address	Gender	Contact Number	Contact number & Email ID
14	Dr P A D M P Perera	SR / Venereologist, NSACP.	Female	772352785	piyumipp@gmail.com
15	Dr W S Chamani Dileka	SR / Venereologist, Nugegoda.	Female	772647431	chamdileka@gmail.com
16	Dr A W T N Peiris	SR / Venereologist, Pandura.	Female	718126728	peiristhanuja@gmail.com
17	Dr Rachini Perera	SR / Venereologist, Narahenpita.	Female	718021015	rachiniperera81@gmail.com
18	Dr Kanchana Wirasinghe	Reg / Venereology, Narahenpita.	Female	718456619	wirasinghekanchana@gmail.com
19	Dr N H Kumarasinghe	Reg / Venereology, Pitakotte.	Female	773146537	nadeera_kumarasinghe@yahoo.com
20	Dr P M H Colombage	Reg / Venereology, Battarmulla.	Female	772202718	heshanicooray@gmail.com
21	Dr M Thakshagini	Reg / Venereology, Ragama.	Female	779007569	thaksham@gmail.com
22	Dr D K J Thanthree	SR / Venereologist, Biyagama.	Male	713216647	damindu_jalath@yahoo.com
23	Dr S L Mahagamage	SR / Venereologist, Matara.	Male	718577349	sampathmahagamage@yahoo.com
24	Dr Kanchana Wijewickrama	Reg / Venereology, Colombo.	Female	772207810	kanchwjw@gmail.com
25	Dr U I P Gallage	Reg / Venereology, Makola.	Female	772399005	Udarigallage@gmail.com
26	Dr W S Pannala	SR/Venereology, STD clinic, rag.	Female	773913389	warunip@yahoo.com
27	Dr V S Dharmakulasinghe	Acting Consultant-Venereologist,	Female	773850900	vinodharmakulasinghe@gmail.com
28	Dr L P P Godakandaarachchi	SR / Venereology, NSACP.	Female	772096040	Piyumika8@gmail.com
29	Dr M K D N Mallikarachchi	Consultant-Venereologist, STD Clinic, Ratnapura	Female	718672995	darshanie.mallikarachchi@gmail.com

3.   Facilitators & Coordination Team

VHS-CDC Project has taken utmost care in identifying and engaging the facilitators for providing strategic TA, planning and conducting the training program and developing resource materials.

The following aspects has been considered in selection and engaging of resource persons:

- Minimum 10 years of experience in conducting training programs at national level / international level.
- Experience of the consultants in conducting training on Operational Research, Quantitative methods, Qualitative methods, etc.
- Experience in managing such training programs.
- Expertise in developing the resource materials / presentations to customize to the training needs of the participants.
- Understanding the HIV/AIDS program in Sri Lanka (added advantage).
- Credibility of the trainers with acceptability among the stakeholders.
- And other aspects.

The process adopted such as: review of existing consultants, suggestions and referral from stakeholders, Google search, mapping of institutions/ individuals experienced in conducting research training programs, contacting over the phone and other methods.

The project has undertaken rigorous efforts and finalize the team of core facilitators and facilitators for conducting the training program.

Core Facilitators: The following consultants were engaged as core facilitators for leading and conducting the technical sessions including development of presentations, resource materials, providing hands-on training, technical updates and other needful support:

Dr Niranjan Saggurti
Consultant
VHS-CDC Project

Dr Yujwal Raj
Technical Advisor (SI)
VHS-CDC Project

Dr Madhusudana Battala
Consultant
VHS-CDC Project

Facilitators: The project has engaged the following personnel as facilitators to conduct training programs/ sessions, provide value addition to the trainings, briefing and guiding the core facilitators, provide support during the group meetings and support in vetting the training content, course materials and other aspects:

NSACP	Dr Ariyaratne Manathunge, Consultant-Venereologist & Coordinator-SIMU
CDC	Ms Srilatha Sivalenka, Public Health Specialist
VHS-CDC PROJECT	Dr T Ilanchezhian, Senior Technical Advisor Mr Suneel Kumar Chevvu, M&E Officer
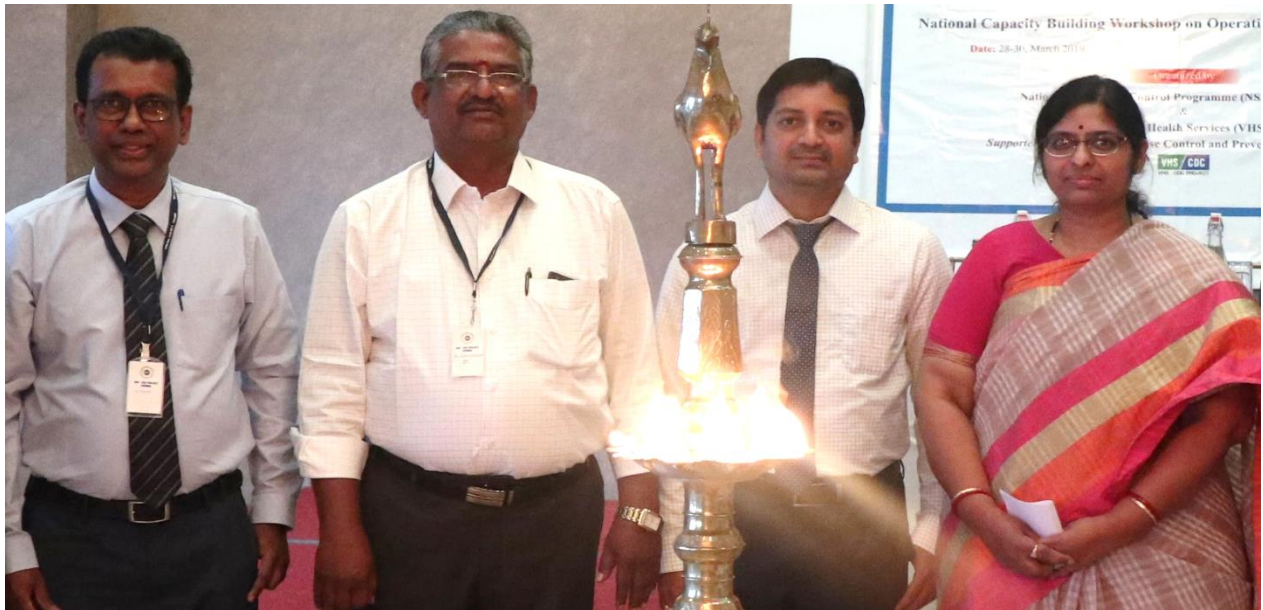
The engagement of facilitators representing from each stakeholder has helped in identifying the training needs, briefing core facilitators, ensuring coordination, developing ownerships, etc.,

Coordination team: The organizers has formed the following members as coordination team for planning and conducting the training program.

NSACP	Dr Ariyaratne Manathunge, Consultant-Venereologist & Coordinator-SIMU
	Dr S Muraliharan, MO/ Planning
	Dr Piyumi Perera, SR/ Venereologist
VHS-CDC Project	Dr Joseph D Williams, Director Projects
	Dr T Ilanchezhian, Senior Technical Advisor
	Mr Suneel Kumar Chevvu, M&E Officer
	Ms T Sudha, Senior Programme Associate
	Mr S Sathyaraju, Associate Manager - Finance

Some of the key responsibilities undertaken by the coordination team will include:

- Identifying the training needs by using the Training Need Assessment Tool.
- Developing criteria for inviting the participants for the training program.
- Facilitating communication between stakeholders and with participants.
- Confirmation of participants.
- Extend support in planning and arranging logistics.
- Providing feedback on the training sessions and evolving systems for overcoming the shortcomings if any.
- Facilitate in developing and sharing resource materials.
- And overall coordination for the successful conduct of the training.

The organizers and the coordination team had a planning meeting before the training program, during the training program and on the completion of the training program.

4.   Resource Materials

VHS-CDC Project with the support and guidance of SIMU-NSACP has developed the need-based resource materials/ kit as detailed below:

Resource book: Developed a resource book on Operational Research and provided to each participant to use as a ready reckoner. This resource book includes agenda, course details, methodologies, handouts of presentations, references, etc.

Power-Point Presentations (PPTs): Developed PPTs for each of the training session planned. Overall, developed 15 presentations for orienting, guiding and capacitating. These presentations have been developed considering the training needs & expectations of participants, local context, experience of the participants, etc.

Tools: The project has developed the following tools:

Training Need Assessment (TNA) tool	Developed a Training Need Assessment tool for identifying the key responsibilities, existing challenges, previous experience in research, skills in research, training needs / expectations, etc.
Pre & Post-Training Assessment tools	Developed Pre & Post-Training Assessment Tools. These tools have been developed for baseline or assessment of what participants know prior to instruction as well as an indication of what they know after instruction. These assessment tools will help to determine the extent to which participants met the learning objectives evolved for the training program.
Post-Training Evaluation tool	Developed training evaluation form with 5-point scale on aspects such as: course content, structure and process of training, trainers and mentors (knowledge and delivery style), facilities and amenities and overall. In addition, the form also has descriptive aspects covering what did you like, three important things learned, suggestions to strengthen and improve the training and recommendations. Overall, this training evaluation form has been developed for understanding overall evaluation of the training program, understanding the feedback and further expectations.

Reference materials: The facilitators and the organizing team has taken efforts to identified important / relevant further reading materials through Google search, suggestions from the facilitators, reference to the library, secondary review, etc.

The reference materials include books, abstracts, articles, resource materials, presentations, etc. The same has been developed in soft copies for sharing with the participants.

Name: .... Qualification: .... Designation: ....
Place of work: ....

NATIONAL CAPACITY BUILDING WORKSHOP ON OPERATIONAL RESEARCH IN HIV/AIDS

PRE & POST-TRAINING ASSESSMENT FORM

(Appropriate answer to be specified in the bracket by the participants before & after the training.)

1. Mean, Median and Mode are ( )
(A) Measures of deviation (B) Ways of sampling (C) Measures of central tendency (D) None of the above

2. Research is ( )
(A) Searching again and again (B) Finding solution to any problem (C) Working in a scientific way to search for truth of any problem (D) None of the above

3. Which of the following is the first step in starting the research process? ( )
(A) Searching sources of information to locate problem. (B) Survey of related literature
(C) Identification of problem (D) Searching for solutions to the problem

4. Action or Operational research means ( )
(A) A longitudinal research (B) An applied research (C) A research initiated to solve an immediate problem (D) A research wgth socioeconomic objective

5. A reasoning where we start with certain particular statements and conclude with a universal statement is called ( )
(A) Deductive Reasoning (B) Inductive Reasoning (C) Abnormal Reasoning (D) Transcendental Reasoning

6. Which of the following variables cannot be expressed in quantitative terms? ( )
(A) Socio-economic Status (B) Marital Status (C) Numerical Aptitude (D) Professional Attitude

7. The essential qualities of a researcher are ( )
(A) Spirit of free enquiry (B) Reliance on observation and evidence (C) Systematization or theorizing of knowledge (D) All the above

8. In the process of conducting research 'Formulation of Hypothesis" is followed by ( )
(A) Statement of Objectives (B) Analysis of Data (C) Selection of Research Tools (D) Collection of Data

9. A research paper is a brief report of research work based on ( )
(A) Primary Data only (B) Secondary Data only (C) Both Primary and Secondary Data (D) None of the above

10. Questionnaire is a ( )
(A) Research method (B) Measurement technique (C) Tool for data collection (D) Data analysis technique

NSACP, Sri Lanka & VHS-CDC Project

5. Planning and management of the training program

The project with the support and coordination of SIMU-NSACP undertaken systematic and strategic efforts for planning, conducting and undertaken follow-up plans. The key activities undertaken for planning and management of the training will be classified into three categories:

Preparatory Phase	→	**Training Phase**	→	**Follow-up Phase**
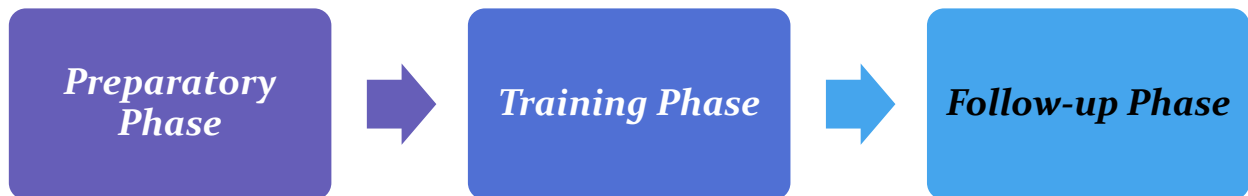
Preparatory Phase: Some of the key activities undertaken during the preparatory phase will include:

- Development of concept note.
- Discussions with key stakeholders.
- Training Need Assessment among participants by using a specific format and analysis.
- Development and finalization of the agenda.
- Identification of the facilitators, development of ToR, signing of contract and briefing.
- Development of tools such as: Pre & Post-Training Assessment Tool and Post- Training Evaluation Tool.
- Development of session wise presentations and resource kit (reference materials, handouts for presentations, PPTs, etc.).
- Coordination with stakeholders.
- Internal team meetings at project level and joint planning meeting between VHS-CDC Project and SIMU team.
- Logistic arrangements including accommodation, training hall, training facilities such as: LCD, menu, travel & ticket bookings, invitation letter for the participants, room allocation planning, etc.
- Stationery and resource materials development (i.e., bag, scribbling pad, pen, folder, communication aids, design and printing of certificates, etc.).
- Budget development, internal approvals and related communications.
- Branding of training program and development of display materials including banner.
- Confirmation and invitation letter to the participants with the briefing on the training program.
- And other planning and coordination efforts.

Training Phase: Some of the key activities undertaken during the training phase will include:

- Registration.
- Welcome note to the participants along with the guidelines and briefing about the training program.
- Undertaken Pre-Training Assessment.
- Inaugural function.
- Introduction of participants.

- Conducting training sessions including presentations, group work, presentation of group works, peer review, etc.
- Development of research topics, formation of groups, development of research protocols, etc.
- Development of follow-up plans.
- Formation of E-group and WhatsApp groups for facilitating interactions, sharing resource materials, technical update, sharing of experiences and ensuring coordination among all participants and facilitators.
- Sharing day wise presentations and resource materials to the participants.
- Release and distribution of resource book to each participant.
- Feedback and planning sessions among the coordination team members and with facilitators.
- Conducting recap sessions on the succeeding day to recap on the key learnings on the previous day sessions by adopting different innovative methods.
- Undertaken efforts to address the needs and requirements of the participants (technical and logistics).
- Mentoring and handholding support to each of the group for developing protocols on the identified research area.
- Undertaken Post-Training Assessment and Post-Training Evaluation among the participants.
- Valedictory function and distribution of certificates.
- And other efforts for ensuring coordination, effective delivery, ensuring active participation of trainees & provide opportunities for clarifications / cross-learning, etc.

Follow-up Phase: Some of the key activities proposed / undertaken as a part of the follow-up phase will include:

- Finalization of the research proposals, tools, budget, resource mobilization plan, study plan, etc., by the respective groups.
- Exchange of experiences between the members for coordinated efforts in undertaking the research (formation of e-group for each research title).
- Exchange of experiences between different research team and availing support from the peer groups for effective planning and execution of the study.
- Need-based mentoring support by the mentors.
- Monitoring and supportive supervision.
- Documentation of report.
- Finalization of the research reports and use of data for programmatic decision-making.

6. Innovative approaches

Some of the innovative approaches in conducting the training program will include:

- Undertaken Training Need Assessment.
- Undertaken Pre & Post-Training Assessment.
- Undertaken Post-Training Evaluation.
- Developed and brought out resource book.
- Formed E-group for exchange of experiences and coordination.
- Formed WhatsApp group for strengthening the communication and network.
- Shared all the soft copy of the presentations through e-group.
- Conducted feedback session with facilitators and NSACP to understand how was the session and planning for the next day.
- Provided hands-on experiences to each group by assigned mentors from the facilitators.
- Identified and developed research protocols for six operational research studies.
- Formulated system to identify about 30 possible operational researches which can be undertaken by NSACP based on the needs and priorities.
- Collected feedback / quotes from the participants about the effectiveness / usefulness of the training program.
- VHS-CDC Project team together, in a coordinated manner contributed for the success of the training program.
- VHS-CDC Project has arranged a good hall and room facilities – thus created an enabling environment for successful conduct of the program.
- Branded all the presentations developed by the resource team and shared the same with participants.

7. Coordination between the stakeholders

The key stakeholders involved in the training program will include: VHS-CDC Project / Facilitators, CDC and NSACP (including SIMU & Training Coordinator). The project has undertaken systematic efforts for ensuring coordination and conducting the training program through planning meetings, conference calls, communications and feedback sessions.
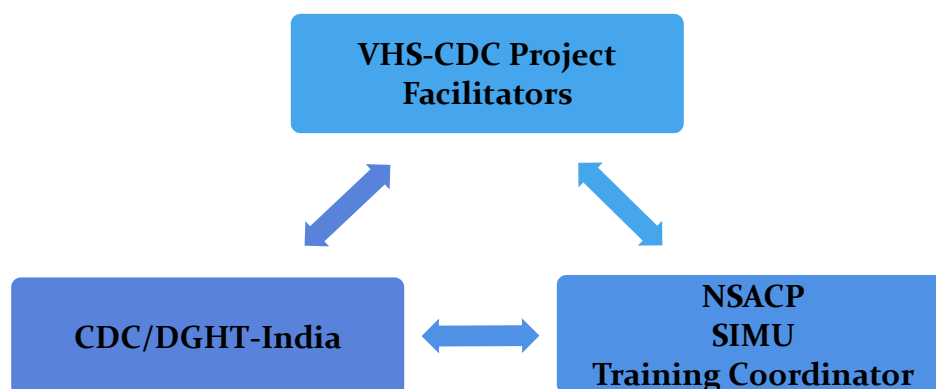
8.   Operational research protocols developed

Through a participatory process, identified 30 possible researches/ problem statements. From the list of titles emerged, 6 key prioritized titles covering different program areas were identified and developed protocols by the respective team members. The list of research titles are:

> **Factors affecting retention in care among People Living with HIV at treatment centres in Western Province, Sri Lanka**

> **Factors affecting timing of ART initiation among PLHIV in ART centres in Sri Lanka**

> **Perception among transwomen about outreach interventions in Colombo district; Cross sectional study**

> **Barriers in provision of Hospital based HIV Rapid testing in Western province, Sri Lanka**

> **Youth vulnerability for HIV & STD, Colombo, Sri Lanka**

> **A study on knowledge and perceptions among Health Care Providers on PrEP preparedness in Sri Lanka**

9.   Outcomes

Some of the **key outcomes** of the training program will include:

- Developed knowledge and skills among 29 Program Managers.
- Identified 6 research titles from the 30 titles proposed and provided hands on training and evolved 6 research protocols.
- Formed e-group on Operational Research for networking all the trained personnel and exchange of experiences.
- Formed WhatsApp group for strengthening communication and coordination between the trained research professionals.
- Developed a resource book and provided to the participants as a ready reckoner for further enhancing the knowledge and skills.

10. Training evaluation and effectiveness

10.1. Pre & Post-Training Assessment Analysis

As a part of the training, pre & post assessment was conducted with the participants. Overall, 29 participants undergone the training program and 28 participants submitted the pre & post-training assessment forms. The overall comparison on the pre & post assessment is given below:
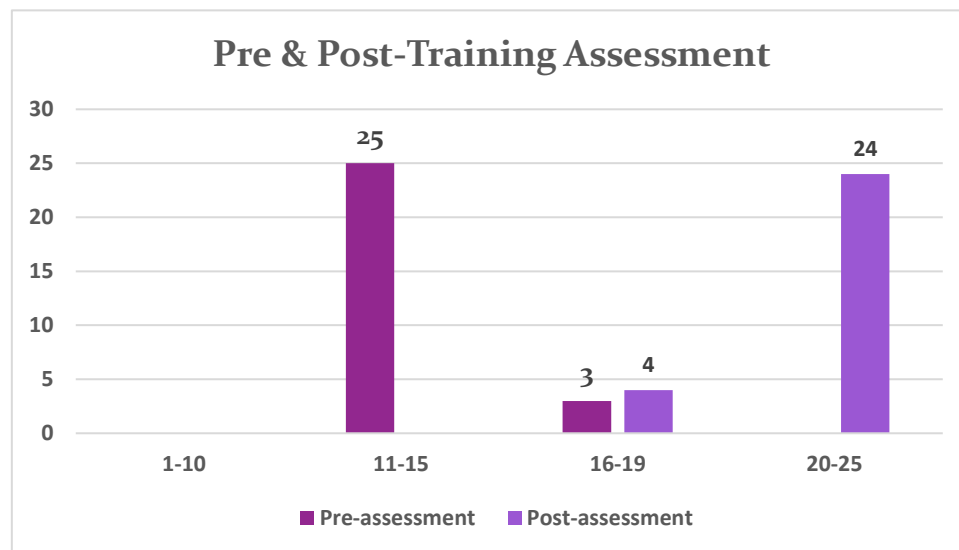
In the pre-assessment, overall 89.29% (25) of respondents has fallen in the category of scoring 11-15 against the overall scoring of 25 and 10.71% (3) of the respondents has fallen in the category of scoring 16-19.

In the post-assessment, overall 85.71% (24) of respondents has moved to the category of scoring 20-25 against the overall scoring of 24 and 14.29% (4) of the respondents has fallen in the category of scoring 16-19.

Overall, more than 80% of the respondent has scored more than 20 and above. This shows the training has created effectiveness in providing needful knowledge and skills among the participants.

10.2. Training Evaluation - Analysis

	5 Exemplary		4 Very Good		3 Good		2 Average		1 No Comments		Overall scoring combining exemplary and very good categories
	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	
Course content											
I understood the learning objectives well.	15	53.57	12	42.86	1	3.57					96.43
The course content met my expectations & was in line with the learning objectives.	17	60.71	10	35.71	1	3.57					96.43
I found the course material (slides, handouts, exercises, etc.) useful & easy to follow.	19	67.86	8	28.57	1	3.57					96.43
Training received was adequate for my position/ experience.	17	60.71	11	39.29		-					100.00
The course will directly or indirectly improve the performance of my duties.	18	64.29	9	32.14	1	3.57					96.43
I am clear about where to find answers to questions that I have about research.	12	42.86	12	42.86	4	14.29					85.71
Structure & process of training											
The training sessions are well structured & appropriately scheduled.	16	57.14	9	32.14	3	10.71					89.29
Instructional methods used during training are effective.	16	57.14	10	35.71	2	7.14					92.86
Participation and interaction were encouraged during the sessions.	16	57.14	9	32.14	3	10.71					89.29
The speed/ pace at which the training was conducted was appropriate.	12	42.86	11	39.29	5	17.86					82.14
I was comfortable with the length of the sessions.	11	39.29	11	39.29	6	21.43					78.57

	5 Exemplary		4 Very Good		3 Good		2 Average		1 No Comments		Overall scoring combining exemplary and very good categories
	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	
Group works/ hands-on exercises are well structured with clear instructions.	17	60.71	7	25.00	4	14.29					85.71
Guidance & mentoring support was adequately provided during group works.	16	57.14	6	21.43	6	21.43					78.57
Adequate chance was given for participants to ask questions and resolve doubts.	18	64.29	6	21.43	4	14.29					85.71
There was ample opportunity to practice the skills I am supposed to learn.	18	64.29	7	25.00	3	10.71					89.29
I received adequate feedback from the facilitators during the practice sessions.	18	64.29	7	25.00	3	10.71					89.29
Trainers & Mentors – Knowledge & Delivery Style											
The facilitators were knowledgeable on the subject matter.	24	85.71	4	14.29		-					100.00
The facilitators explained the concepts clearly and in an understandable way.	17	60.71	11	39.29		-					100.00
The facilitators effectively handled the questions that were asked.	20	71.43	7	25.00	1	3.57					96.43
The examples & experiences quoted by the trainers were relevant & apt to my situation.	15	53.57	11	39.29	2	7.14					92.86
I was well engaged during the sessions/ The sessions were kept alive, interesting & interactive.	16	57.14	9	32.14	3	10.71					89.29
How would you rate their facilitation skills overall?	19	67.86	8	28.57	1	3.57					96.43

	5 Exemplary		4 Very Good		3 Good		2 Average		1 No Comments		Overall scoring combining exemplary and very good categories
	Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%	
Facility & Amenities											
The venue and seating arrangement were comfortable and suitable for the training.	23	82.14	5	17.86		-					100.00
The environment was free from distractions and conducive to learning.	23	82.14	5	17.86		-					100.00
The audio-visual set up was good and clear.	22	78.57	5	17.86	1	3.57					96.43
The quality of food was good.	22	78.57	5	17.86	1	3.57					96.43
Overall											
How will you rate the training, overall?	20	71.43	6	21.43	2	7.14					92.86
I am satisfied with the training course.	21	75.00	5	17.86	2	7.14					92.86
I will recommend this course to others.	21	75.00	5	17.86	2	7.14					92.86

10.3. Feedback of Participants

"The three-day workshop on Operational Research was a very interactive and practical workshop. A lot of new knowledge was gained and we were able to learn the practical implications through the practical sessions. We would prefer to learn more on data analysis in future workshops."

— Dr N H Kumarasinghe, Registrar/Venereology, NSACP.

"The workshop was very useful for us as it covered areas such as: types of research, operational research, qualitative and quantitative research, sampling methods, data management and analysis, ethics as well as practical experience on how to create a research protocol."

— Dr P M H Colombage, Registrar /Venereology.

"Very useful workshop.
Many questions regarding the researches are clarified.
Good hospitality.
Overall well-coordinated & good program including technical aspects."

— Dr S Muraliharan, MO/Planning, NSACP

"Rather than having lectures, this training program is very effective for having this kind of practical session of research protocol development and carrying out research. All the lectures were informative."

— Dr W S Chamani Dileka, Senior Registrar/ Venereologist.

"This training program provided very good opportunity and learnt about the research methodology. Over the 35 years of my medical career, during this training only, first time I have learned comprehensively the research methodology."

— Dr. Jayadarie Ranatunga, Consultant-Venereologist.

"The workshop was very well organized and flew systematically provided much knowledge with hands-on skills on operational research. Starting from understanding a research problem, all the areas were covered in step wise manner which made the participants much easier to follow and understand the key components of operational research."

- Dr S L Mahagamage,
Senior Registrar/Venereologist.

"Thank you very much for organizing this excellent workshop and the organizers and resource persons. They gave their best to make this boring subject to a very interesting and possible one. This is going to be an eye-opener."

"You all not fast tired to fill a pot, but to lit a light"

– Dr H A C W Hathurusinghe,
Consultant-Venereologist.

"The three-day workshop provided with knowledge and different ideas on operational research. It was very useful with regard to identifying study and research areas and to conduct research. Comprehensive output on study methodology consisting of study designs, sampling methods, data tools and analysis was explained. New data collection methods like ACASI, CAPI was learned. Therefore, it was a valid and useful workshop to improve my knowledge on operational research."

– Dr Kanchana Nishamali Wijewickrama,
Registrar/venereology

"First of all, we would like to thank VHS-CDC Project for conducting such a valuable workshop for us. It is a well-planned, properly organized workshop, allowing us to get hands-on trainings at Operational Research. Each minute at the time was utilized fruitfully and all the facilitators were so helpful and always ensure we gained the proper knowledge on their topics. We value the kind opinions and suggestions on our research titles / protocols. We are so thankful to you again and encourage to conduct some more training programs in future."

– Dr L P P Godakandaarachchi,
Senior Registrar / Venereology.

"It gives us the technical knowledge regarding types of research, sampling method, statistical issues and writing. The practical sessions were very helpful to improve our knowledge and ability to utilized ascertain knowledge. The research protocol developed through mentorship and hands-on training will be of very useful for implementation. Appreciate the core facilitators, facilitators, organizers, VHS-CDC Project and NSACP."

- Dr D K J Thanthree,
Senior Registrar/Venereologist.

10.4.   Recommendations

Some of the *suggested recommendations* emerged during the process of conducting training, feedback sessions and through interactions will include:

φ Through the process, the trainees have identified 30 problem statements / research topics. These topics identified may be used for undertaking further researches by NSACP.

φ The e-group formed may be effectively used for providing technical update, mentoring support, exchange of experiences, clarification of doubts, facilitating peer led support, etc.

φ As a follow-up of this training, VHS-CDC Project will provide need-based TA for finalizing the study proposal, protocols, etc., through mentorship.

φ The existing data at SIMU and other peripheral STD clinics may be used for secondary review and conducting the study based on the need.

φ The trained team on OR may be networked and capitalized as a national resource team on OR to mobilize their support and contribution in strengthening the research activities.

III.   Training proceedings

1.   Proceedings of Day 1 – (28th March 2019)

Registration: Registration of participants was held from 0800 to 0900 hrs on 28th March 2019. The *registration* was coordinated by Ms T Sudha from VHS-CDC Project. Overall, 29 participants registered for the training program against already planned 30 participants. In addition, separate registration was held for facilitators & coordinators of the training program. Based on the registration, VHS-CDC Project has formed:

- Φ E-group linking all the participants titled **OR - WS - participants@gmail.com**
- Φ WhatsApp group linking all the participants titled **Operational research WS**

1.1.   Inaugural Function:

A brief inaugural function was held at 0915 to 1000 hrs with *lighting of lamp* by.....

Right to Left: *Dr S Muraliharan, MO/ Planning, SIMU-NSACP; Dr Madhusudana Battala, Consultant, VHS-CDC Project; Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project; Ms Srilatha Sivalenka, Public Health Specialist, CDC/DGHT-India; Mr Suneel Kumar Chevvu, M&E Officer, VHS-CDC Project; Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project; Dr Ariyaratne Manathunge, Consultant-Venereologist & Coordinator-SIMU-NSACP; Dr Jayadarie Ranatunga, Consultant-Venereologist, STD Clinic, Malambe; Ms T Sudha, Senior Programme Associate, VHS-CDC Project; and Mr S Sathyaraju, Associate Manager-Finance, VHS-CDC Project.*

Dr T Ilanchezhian mentioned that, Dr Joseph D Williams, Director Projects of VHS-CDC Project is unable to participate in this program. On behalf of him and the project, Dr T Ilanchezhian briefly introduced the key stakeholders associated with this training program (i.e.,) VHS-CDC Project, CDC and NSACP. He briefly shared the *background on* the *TA to NSACP on SI* and purpose behind for conducting this training program. He introduced VHS-CDC Project team who has extended support in organizing this training and appreciated their support for successful planning.

In continuation of setting the tone, Dr Ariyaratne welcomed the participants and briefly explained about the training program. He delivered a brief note on NSACP, SIMU and key activities undertaken with regard to TA to NSACP on SI as a part of Technical Cooperation between CDC and MoH. During the address, he mentioned that, VHS-CDC Project was very supportive in undertaking Situational Assessment study, Training Need Assessment study, development of technical report on comprehensive DashBoard, support in documenting and disseminating best practices, etc. He stated that, this training is being organized as a part of technical cooperation initiatives. He requested all participants to actively participate & benefit.

Dr T Ilanchezhian requested all the participants to *introduce themselves* with the details of name, designation, place of working and experience in undertaking research for the purpose of knowing each other and enabling facilitators to understand the participants.

Ms Srilatha delivered a speech on introduction to TA to NSACP on SI and PEPFAR initiatives. She explained about PEPFAR, CDC and other stakeholders associated with providing TA to Govt. of Sri Lanka. She recalled the process involved in developing this technical cooperation initiatives between CDC and MoH.

She appreciated the efforts of VHS-CDC Project and good support being extended by NSACP in this technical cooperation initiatives. She mentioned that, VHS is one of the Prime Partner for CDC headed by Dr Joseph D Williams and the team members are also helping CDC and NSACP in providing TA on SI.

Ms Srilatha Sivalenka
Public Health Specialist
CDC/DGHT-India

She stated that, "the Training Need Assessment Study conducted has contributed for identifying the training on Operational Research. It is very sure, this training will be of most interesting considering the good facilitators, technical planning, coordinated effort, excellent venue and many more. Apart from the trainings, VHS-CDC Project will also support in the areas of developing dashboard indicators, providing TA for post-EIMS, capacity building initiatives on scientific writing, DHIS2 training, etc. Wish to acknowledge and thank Dr Ariyaratne for his committed efforts & support being extended in the entire initiatives and thanks to entire SIMU team. Please enjoy the training program and request all of you to actively participate and benefit through the training program."

National Capacity Building Workshop on Operational Research in HIV/AIDS - An overview:

Dr Yujwal Raj presented an *overview* of the *"National Capacity Building Workshop on Operational Research in HIV/AIDS".* This session highligted the *objective and outcomes of the workshop* and *workshop approach.*

He introduced the *core facilitators and facilitators* of the training program. Further, he *outlined on the three-day program* and day wise plans evolved such as: day wise sessions overview including group works. He narrated on the process adopted for identifying the *training needs* and development of *agenda*. The training needs expressed by the participants:

Feedback from TNA

Programmatic areas that need improvements
- HIV testing among drug users
- STI prevention and sexual and reproductive health education among school children
- Health education and HIV testing among school leavers out of school students
- Programmes directed at children & youth
- Epidemic tracking using programme data
- Effective ways of analysing & presenting data, incl. infographics
- Easier & efficient ways of finding data errors – DQA
- Ability to frame goals & objectives to develop a comprehensive annual, mid term & long-term action plans for programme
- Database management, cross-sectional & longitudinal analysis

Specific areas of learning/ Expectations from the Workshop
- Data analysis using softwares – SPSS, etc.
- Sample size calculation & sampling
- Research proposal and paper writing
- Informative ways of presenting data
- Research designs
- Questionnaire or tool preparation
- Research planning & practical issues when engaging in research
- Qualitative data analysis
- Publications
- Supports available for research
- GIS

The training needs are integrated into the agenda. In addition, the participants are encouraged to discuss with the facilitators for clarifying the doubts, collecting additional information, etc., both during and after the training session.

He facilitated in forming the *ground rules* of the workshop for ensuring active participation of each member, providing opportunities for clarifications, efficient time management, creating an enabling environment for conducting sessions, etc. Shared information on: *guidance for forming groups, guidance for identifying priority topics for OR, things expected from participants and role of mentors/ facilitators.* Overall, this introductory note helped the

Ground Rules for the Workshop
- Timely reporting
- Active Participation in the sessions
- Mobile on the silent mode
- Contribute productively to the team works
- Feel free to seek clarifications
- Avoid arguments & side talks
- Respect others' point of views
- Handover the group work papers to the facilitators
- Consistent effort to develop the draft protocol by the end of the workshop
- Interact with the facilitators informally during the breaks
- Any Other???

participants to understand the significance of training, methodologies, approaches, process, etc. Dr T Ilanchezhian *introduced the coordination team*, made announcements on logistics and other facilities arranged as a part of this training. He informed the following:

- Formed E-group and WhatsApp group for facilitating interactions, sharing resource materials, technical update, sharing of experiences and ensuring coordination among all participants and facilitators.
- Soft copies of the presentations on day wise will be shared through email.
- Reference book on the training will be shared with the participants.
- Requested all the participants to actively participate, seek clarifications as and when required and contribute for achieving the overall envisaged outcomes of this training.

Dr T Ilanchezhian has delivered *vote of thanks* on behalf of Dr Joseph D Williams and thanked Dr Ariyaratne and SIMU team for the support extended in planning and conducting this training program. Thanked Ms Srilatha for the support and participation and thanked all the speakers, facilitators, organizing team and participants for joining in the inaugural session and in the training program.

Master of Ceremony in the inaugural function was done by Dr T Ilanchezhian.

Pre-Training Assessment: Dr T Ilanchezhian requested all the participants to fill in the pre-training assessment form. The same was filled by each participant and collected for scoring and developing the baseline.

1.2. Sessions and group work on Day 1 (28th March 2019)

Important sessions on Day 1 (28th March 2019)

- Operational Research – Need & Importance
- Discussing the priority issues under NSACP
- Framing research questions
- Types of Research
- Steps involved in undertaking research
- Structure of research protocol

Exercises / Group Works

- Framing research questions for the identified topics
- Group Work 1 – Protocol Writing Part 1 – Writing background, research problem, questions & objectives

Session Title	Need & Importance of Operational Research in HIV/AIDS
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Time	1000 – 1045 hrs

Dr Yujwal Raj conducted the session on *"Need & importance of Operational Research in HVI/AIDS"*. In this presentation, explained in detail on the *need and importance of the OR* in HIV/AIDS program. During the session, he shared the information covering the aspects such as: *research & service provision, need for OR, case scenario, basic vs applied research, basic research* that has changed the world / that saved lives and in health and *importance of OR* in HIV/AIDS programming. Some of the key messages delivered during the presentation will include:

Research & Service Provision

Research

Service Provision

Research and service provision feed each other!

Need for OR

- To explore what needs to be done to address an issue
- To understand the facilitators and barriers for a service or system or issue; factors that matter for the problem & solution
- To test an approach or intervention, whether it works or not
- To study how a planned intervention or strategy is working
- To assess the reasons for success/ failure of an approach or intervention, in one place vs other, etc.
- To identify the mid-course corrections needed
- To gather the beneficiary & stakeholder perspectives, acceptance, engagement, empowerment, etc. due to an intervention

Basic vs Applied Research

- Basic research is motivated by curiosity about the way the world works; interested in knowing the How & Why of the nature

- Applied research is motivated by desire to solve practical problems; interested in knowing the How & Why of the real life problems and the How & Why of solving them

Importance of Operational Research in HIV/AIDS Programming

- Diversity in the spread, patterns, drivers and factors of epidemic in various parts of the country
- Dealing with vulnerable & marginalised communities
- High levels of stigma & discrimination
- Not so confident knowledge about what works & what not
- Need to check intermittently, are we doing the right thing
- Constant need to innovate and improve the services
- Need to have dynamic programming for changing patterns
- National & Global commitments demand highly effective and efficient programming

He has narrated the need and importance of OR with examples. Also, he highlighted on the significance of OR in the present context in HIV/AIDS program. In between the session, the facilitators clarified the doubts raised by the participants.

Overall, this session has enabled the participants to understand need and importance of operational research in HIV/AIDS.

Session Title	Need for Operational Research in National STD/AIDS Control Programme
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Ariyaratne Manathunge, Consultant-Venereologist and Coordinator-SIMU, NSACP
Time	1045 - 1130 hrs

Dr Ariyaratne presented and shared the details on *"Need for Operational Research in National STD/AIDS Control Programme"*. During the presentation, the highlights are: *definition for OR, process involved in conducting OR, how OR is important for improve the program,* etc. In addition, shared the details on what are the possible *program problems* which will affect the objectives of NSACP program. This presentation has enabled the participants to understand on the need and importance of identifying the problem areas for undertaking OR. Some of the key highlights made in the presentation are:

During the session, shared the need for brainstorming to identify strategic problems for identifying the research titles. Some of the examples (i.e.,) under-utilization of some STD clinics by key populations; difficulty in initiating new approaches. E.g. PrEP; and delay in getting some reports on time. He made an appeal to each participant to identify minimum one problem area/ research title for consideration and prioritization. Dr Ariyaratne has also explained and enabled the participants to understand on the process associated with identification of the problems/ research topics.

Tea break: 1130 - 1145 hrs

Session Title	Group work / interactive session for identifying the problem statement and selection of research titles
Session Method	Group Work / Interactive session / discussions
Facilitators	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Co-Facilitator	Dr Ariyaratne Manathunge, Consultant-Venereologist and Coordinator-SIMU, NSACP Dr T Ilanchezhian, Sr. Technical Advisor, VHS-CDC Project Mr Suneel Kumar Chevvu, M&E Officer, VHS-CDC Project Dr Madhusudana Battala, Consultant, VHS-CDC Project
Time	1145 - 1300 hrs

In continuation of the discussions held on the need for brainstorming, identifying problem statement and prioritizing the titles for undertaking OR by the participants, interactive session was held. During the interactions:

- Each participant shared 1 or 2 problem statements/ possible research titles.
- Members were encouraged not to share the same title.
- All the topics suggested by the participants were listed out.

Through the process of interaction and active participation of trainees, 30 problem statements were suggested for consideration for undertaking OR. The list of problem statements titles of Operational Researches are:

1. Delays in initiation of ART
2. Barriers for starting PrEP / How to implement PrEP?
3. Reluctance of Medical Officers to work in STD clinic
4. Stigma against in-patient PLHIV
5. Sero-conversion among intervened STD clinic attendees
6. Satisfaction levels among PG doctors working at STD clinics
7. Knowledge of PEP / OE among Health Care Providers
8. Defaulters from ART / LFU from ART
9. Sexual well-being of PLHIV
10. Barriers for condom uptake and usage
11. Home-based HIV screening among Key Population
12. Sexual health education among secondary school children / adolescents
13. Cost analysis for identifying best communication strategy on HIV/AIDS
14. Knowledge on HIV/STI among youth
15. Data flow issues to NSACP
16. Knowledge of program guidelines among program manager and general public
17. Effectiveness of Key Population outreach activities
18. Improve partner testing for STI & HIV
19. ART drug adherence especially among IDUs
20. Inhalation and injecting practices among drug users
21. Can we prove / observe that undetected viral load – no trans in Sri Lanka?
22. Gaps in SRI/HIV defaulters tracing

23. Health seeking behaviours among STI/HIV patients
24. Patient satisfaction among care providers – treatment adherence
25. Evaluating the implementation of EIMS
26. Poor uptake of HIV testing at base hospitals
27. Disclosure related issues among HIV +ves
28. Networking among MSM in sub-urban Peripheral areas
29. Counselling effectiveness
30. Barriers for 2nd 90.
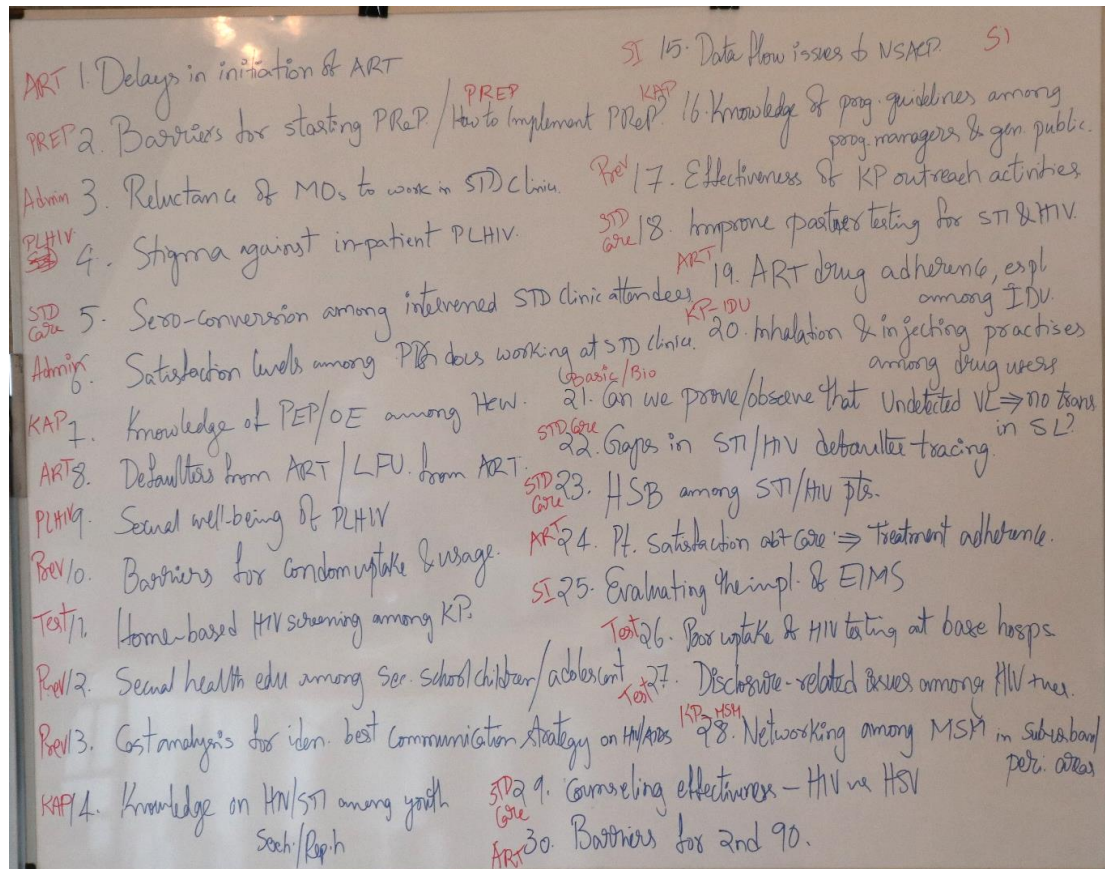
After listing out the titles, the facilitators with the support of participants grouped the activities in each program area. The consolidated summary of titles/ statements on each program area evolved through the process of discussion are:

S. No.	Priority areas	No. of statements
1	ART	5
2	PrEP	1
3	ADMIN	2
4	PLHIV	2
5	STD CARE	5
6	KAP	3
7	PREVENTION	4
8	TESTING	3
9	STRATEGIG INFORMATION	2
10	KEY POPULATION	2
11	BASIC RESEARCH	1
	Total	**30**

Consensus was evolved on the need for prioritizing the research titles by providing possible weightages to each of the program area. Through a consultative process, the team has identified the following 6 titles for developing the protocols and undertaking OR during training process.

Treatment adherence, factors & defaulter tracing

Linkages to Treatment

Effectiveness of KP Outreach

Rapid test at base hospitals

Knowledge on HIV/STI among youth

PrEP Perception study

On finalization of the specific research titles, it was decided to form a group for each title. The suggested criteria adopted for formation of group will include:

- Volunteering to select anyone of the interested research area.
- Interest/ association with the study area based on existing nature of work or association.
- Previous experience in conducting/working experience with related study titles.
- Feasibility in contributing to the study etc.
- Through discussions and consensus building, six groups have been formed considering one team for each study title.

The study title wise group team members formulated are:

AREA	TITLE	GROUP MEMBERS
ART	Treatment adherence, factors & defaulter tracing	Dr Jayadarie Ranatunga Dr Waruni S Pannala Dr Piyumi Perera Dr Piyumika Godakandaarachchi Dr Sampath L Mahagamage
ART	Linkages to Treatment	Dr S Muraliharan Dr Iresh L Jayaweera Dr Nadeera H Kumarasinghe Dr Kanchana Wirasinghe Dr Udari I P Gallage
PREVENTION	Effectiveness of KP Outreach	Dr Chathurika Wickramarathne Dr Heshani Colombage Dr M Thakshagini Dr Rachini Perera Dr Kanchana Nishamali
TESTING	Rapid Test at Base Hospitals	Dr Lahiru Rajakaruna Dr A H Karunaratne Dr W S Chamani Dileka Dr Thanuja Peiris
KAP	Knowledge on HIV/STI among Youth	Dr Vino S Dharmakulasinghe Dr Niroshan Jayasekara Dr H A C W Hathurusinghe Dr Damindu K J Thanthree
PrEP	PrEP Perception Study	Dr Priyantha Weerasinghe Dr Darshanie N Mallikarachchi Dr Prageeth S Premadasa Dr Shanika Jayasena Dr Gayan Mahakumbura

On formulation of the members for each group, the respective groups have been seated together for facilitating discussions, interactions and networking. During the discussion, the facilitators has suggested that:

- The group members will continue to remain same for the entire period of the training program.
- Each group will work on developing titles, objectives, methodologies, tools and other aspects as per the sessions planned during the training program.
- The respective group will undertake formulation of study plan during the training and undertake execution of the study as a follow-up of the training.

The group members were also encouraged to contribute to the other team in addition to concentrating on the respective team related assignments.

Lunch break: 1300 - 1400 hrs

Session Title	Framing Objectives & Research Questions
Session Method	Power-Point Presentation / Group Work / discussions
Facilitators	**Presentation by:** Dr Madhusudana Battala, Consultant, VHS-CDC Project **Group work facilitated by:** Dr Ariyaratne Manathunge, Consultant-Venereologist and Coordinator-SIMU, NSACP Dr T Ilanchezhian, Sr. Technical Advisor, VHS-CDC Project Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project Mr Suneel Kumar Chevvu, M&E Officer, VHS-CDC Project Dr Madhusudana Battala, Consultant, VHS-CDC Project
Time	1145 - 1300 hrs

Dr Madhusudana facilitated the session on "*Framing Objectives & Research Questions*". During the presentation, he has explained the details such as: approaches need to be adopted in research including in framing objectives and research questions, how to frame a good research title, how to write the background and context, guidelines for framing objectives, consideration of smart objectives, guidelines for framing research questions, etc.

Framing a good research title

- Not too long; Not too short
- Convey the subject area and the key question
- Consider a split title (e.g. "Treatment adherence among KP – Issues, Factors & Opportunities")
- Use catchy and highlighting words (Reaching the KP – A long way to go; STD/HIV Care in Sri Lanka – Unfinished agenda)
- My consider including a word on methodological aspect, if there is uniqueness or special value in the methods used (e.g. KAP relating to HIV/AIDS among youth in Sri Lanka – A multi-site cross-sectional study)
- Don't use less familiar words, confusing words, casual words & offending words or expressions

Writing the Background & Context

- Brief introduction to the subject (HIV/AIDS epidemic, prog response, intervention, etc)
- Narrow down to the research area
- Past & Current position of the issue – quote evidences from authentic publications (Papers, reports, articles, etc)
- Context for the study
- Rationale/ Justification of need for the study; How does the study contribute to the existing body of knowledge & to the ongoing efforts – Importance, Relevance, Usefulness
- Previous similar studies & their outcomes; Uniqueness of this study
- Referencing
- Brief & to the point; Not too elaborate;

Specify the Research Problem

- No generics
- Specify the geographic area
- Specify the time period under consideration
- Specify the intervention or health service under study
- Specify the community/ beneficiaries/ clients that will be involved
- Specify the core area of study in 2-3 lines
- Crisp; Clear; Concise;
- Support with data wherever possible
- No theories; No assumptions; No vagueness;

Articulate the Objectives

- What you exactly want to achieve through the study? Where? In whom? When?
- If comparing, what/ who is compared to what/ whom?
- Simple short sentences
- Only one idea or enquiry per objective
- Not more than three objectives, in the order of priority
- May consider adding not more than two secondary objectives, that may or may not be achieved, depending on feasibility and primary outcomes

SMART Objectives

- Simple
- Measurable
- Actionable
- Relevant
- Timely

Problems with Objectives

- Too ambitious, too much work proposed
- Unfocused aims, unclear goals
- Limited aims and uncertain future directions

Exercise on Framing Objectives & Research Questions

- Each team is given one research problem, based on the topics identified for the workshop
- Discuss among the team members and narrow down the research area and the research problem
- Discuss and specify three objectives for the study
- Define the geographic area, time period, population groups, etc. for the objectives
- Write one or two research questions for each objective, to further break it down and give more clarity
- Use simple, short sentences with direct, explicit meaning
- Review, Revise & Refine them till you are satisfied
- Include them in the protocol in the evening group work

Further, he has also emphasized on the need for undertaking a group work and discussions on framing objectives and research questions. For group work, he has shared the following suggestions:

- Each team is given one research problem, based on the topics identified for the workshop
- Discuss among the team members and narrow down the research area and the research problem
- Discuss and specify three objectives for the study
- Define the geographic area, time period, population groups, etc. for the objectives
- Write one or two research questions for each objective, to further break it down and give more clarity
- Use simple, short sentences with direct, explicit meaning
- Review, Revise & Refine them till you are satisfied
- Include them in the protocol in the evening group work

On completion of the sessions, the group members had a group exercise, interactions, discussions and contributed in framing the objectives and research questions based on the presentation made, guidelines provided.

In continuation of the presentation, question and answer session was held and participants clarified their doubts. The core facilitators Dr Madhu, Dr Yujwal, Dr Ariyaratne and facilitators provided needful clarifications.

The facilitators of the session has closely worked with each group and provided needful hands on training in framing objectives and other details. The hands-on training provided by the facilitator to each group has enabled each one of the members in the group to understand and evolve the research questions and objectives on the research title / problem identified.

Tea break: 1600 - 1615 hrs

Session Title	Presentation on the group work on Framing Objectives & Research Questions
Session Method	Oral discussions on the titles
Facilitators	Dr Ariyaratne Manathunge, Consultant-Venereologist and Coordinator-SIMU, NSACP Dr T Ilanchezhian, Sr. Technical Advisor, VHS-CDC Project Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project Mr Suneel Kumar Chevvu, M&E Officer, VHS-CDC Project Dr Madhusudana Battala, Consultant, VHS-CDC Project
Time	1615 - 1700 hrs

In continuation of the group work, each team has developed the presentation along with the title, research questions, objectives. As a part of the training, formed Facilitator cum Feedback Team (FcFT) as a panel which includes:

Core Facilitators – VHS-CDC Project Consultants	Facilitators
▪ Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project ▪ Dr Madhusudana Battala, Consultant, VHS-CDC Project	▪ Dr Ariyaratne Manathunge, Consultant-Venereologist and Coordinator -SIMU, NSACP ▪ Ms Srilatha Sivalenka, Public Health Specialist, CDC ▪ Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project ▪ Mr Suneel Kumar Chevvu, M&E Officer, VHS-CDC Project

Each group was invited to make a presentation on the title, research problem and objectives developed. The following steps has been adopted in providing the feedback:

- The same group members were requested to provide clarification on the facilitators' feedback.
- Other group members were asked to contribute in improving the title and objectives as a Peer Review Team (PRT).
- Finally, enabled the respective group rapporteur and the team to improve the title and objectives based on the suggestions emerged from Facilitator cum Feedback Team (FcFT) and PRT.

This process has enabled each team to finalize the research title, research questions and objectives with the greater understanding and planning for the operational research. The Facilitator cum Feedback Team (FcFT) has provided needful clarifications with examples to enable each group to understand and contextualize.

Session Title	Introduction to Research & Types of Research Designs
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Time	1700 – 1745 hrs

In continuation of the presentation on group wise research titles, research questions and objective, Dr Yujwal Raj facilitated a session on "*Introduction to Research & Types of Research Designs*". During the presentation, he has explained on the following:

- Definitions on research including common definition and technical definition.

- Scientific methods in research study such as: Problem/Question, Observation, Formulate a Hypothesis, Experiment, Collect and Analyze Results, Conclusion and Communicate the Results.

◈ Types of research studies including quantitative, qualitative and on Behavioral and Clinical researches. As a part of it, he has also explained on the differences between quantitative and qualitative research.

Quantitative vs Qualitative

Quantitative	Qualitative
General framework	**General framework**
• Seek to confirm hypotheses about phenomena	• Seek to explore phenomena
• Instruments use more rigid style of eliciting and categorizing responses to questions	• Instruments use more flexible, iterative style of eliciting and categorizing responses to questions
• Use highly structured methods such as questionnaires and surveys	• Use semi-structured methods such as in-depth interviews, focus groups, and participant observation
Analytical objectives	**Analytical objectives**
• To quantify variation	• To describe variation
• To predict causal relationships	• To describe and explain relationships
• To describe characteristics of a population	• To describe individual experiences
	• To describe group norms

Quantitative vs Qualitative

Quantitative	Qualitative
Question format	**Question format**
Closed-ended	Open-ended
Data format	**Data format**
• Numerical (obtained by assigning numerical values to responses)	• Textual (obtained from audiotapes, videotapes, and field notes)
Flexibility in study design	**Flexibility in study design**
• Study design is stable from beginning to end	• Some aspects of the study are flexible (for example, the addition, exclusion, or wording of particular interview questions)
• Participant responses do not influence or determine how and which questions researchers ask next	• Participant responses affect how and which questions researchers ask next
Software used: SPSS, STATA, SAS	**Software used:** Atlas-Ti, N-Vivo

As a part of the discussions, he also explained on the Observational vs. Experimental, Descriptive vs. Analytical, case reporters and series, Cross-Sectional (prevalence) studies, advantages and disadvantages of Cross-Sectional study and Case Control studies, Cohort study, Cohort vs. Case Control, experimental studies, Quasi-Experimental studies and other related information. He has also explained the examples of various type of research studies.

Observational vs Experimental

Observation (Natural Experiment)	Experiment
Nature affects the outcome	Researcher intervenes to affect the outcome.
Investigator measures only	Investigator intervenes & measures
Demonstrates association; may or may not imply causation	May prove causation
Ethical problem: Less. e.g. health hazards of Tsunami victims	Ethical problem: more e.g. Drug trial
Chance of Bias – more	Less – extraneous variables are relatively tightly controlled

Descriptive vs Analytical

Descriptive	Analytical
Describes the disease occurrence with general information	Explains the disease occurrence
Distribution of disease	Determinants of disease
More diffuse & superficial.	Narrow down to answer specific questions
No attempt to analyze the link between exposure and outcome	Exposure and outcome relationship is analyzed
Usually no hypothesis testing	Hypothesis testing usually done
Case reports, Case series	Cross-sectional, Case-control, Cohort

Advantages and Disadvantages of Cross-Sectional Study

Advantages
• Quick, inexpensive.
• Can study several exposures & outcomes at one time.
• Provides prevalence information.
• May provide clues to hypothesis generation.

Disadvantages
• Can't infer causality
• Prone to bias
• Not good for rare disease
• Not good for disease with short duration & high fatality

Advantages and Disadvantages of Case Control Study

Advantages:
• Quick, inexpensive, small sample size needed.
• Good for disease with long latent period.
• Can estimate multiple risk factors for a disease.

Disadvantages:
• Prone to recall bias.
• Can't measure incidence rate.
• Not good for rare exposure

Also explained the details on the following:

Research
- Observational/Non-Interventional
  - Descriptive
  - Analytical
- Experimental/Interventional
  - RCT
  - Quasi-Exp
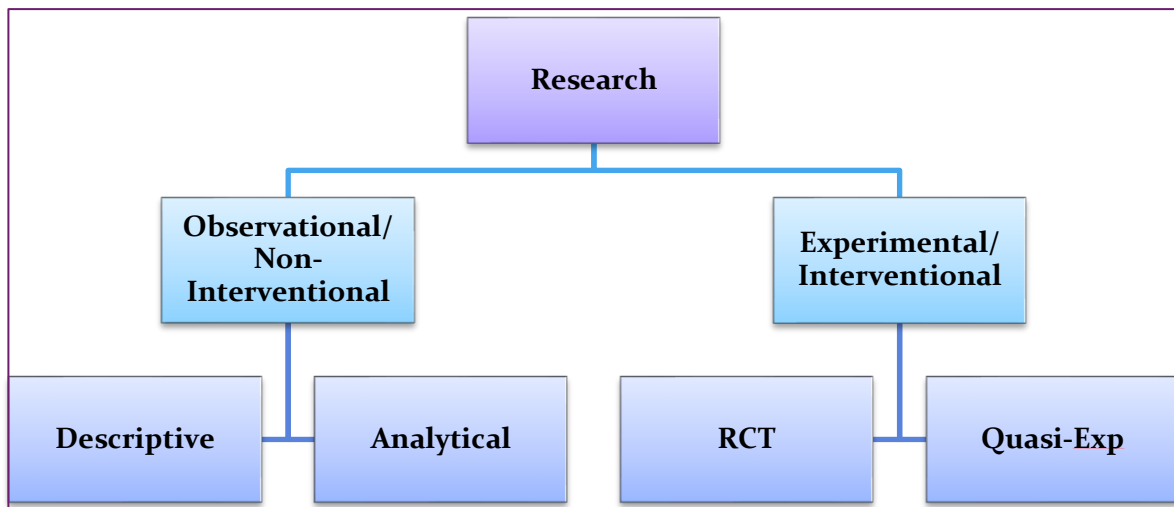
Advantages and disadvantages of cohort study

Advantages:
- Can estimate multiple outcomes of an exposure
- Less prone to recall bias
- Temporality clear
- Good for rare exposure
- Measures incidence

Disadvantages:
- Costly, large sample, time consuming
- Not good for rare disease
- Loss to follow up - common

Advantages and Disadvantages of Randomized Controlled Trial

Advantages
- Reliable & valid – Prospective
- Ensures temporality
- Clear Causality
- Can control confounders – by randomization

Disadvantages
- Ethical problem
- May be expensive, often need more time & large sample
- Non-representative ness of sample
- Non-compliance
- Attrition – Loss to follow up

Experimental Studies

Study Population → Experimental Group → Result
Study Population → Control Group → Result
compare
Random Assignment

Quasi-Experimental Studies

Study Population → Experimental Group → Result
Study Population → Control Group → Result
compare
NO Random Assignment
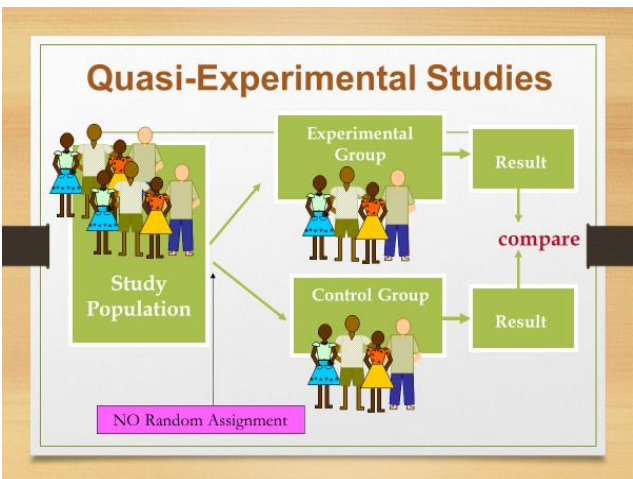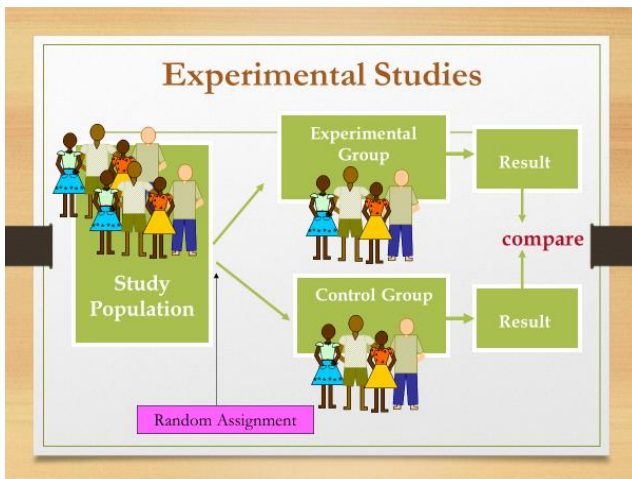
Dr Yujwal has informed the team that, the presentation cum discussions on qualitative research will be held on second day sessions. In continuation of the presentation, the participants clarified their doubts with the explanation and guidance provided by Dr Yujwal, facilitator and Facilitator cum Feedback Team (FcFT). The team has also encouraged the participants to provide their understanding with their own colleagues to enable peer learning and cross learning.

Session Title	Steps in Undertaking Research
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Time	1745-1800 hrs

In continuation of the discussions held on different types of researches. Dr Yujwal made a presentation and facilitated discussions on "*Steps in Undertaking Research*". During the presentation, he has explained on the basic steps of research on technical aspects will include:

- Identification and definition of the problem
  - Introduction of needs or issues; Context
  - Review of literature
  - Describe the research problem
  - Statement of objectives & research questions
  - Rationale/ Justification
- Planning the Research
  - Choosing research design
  - Selection of study population and subjects
  - Finalizing method of data collection
  - Plan data processing and analysis
- Implementation of Plan
  - Data collection
  - Data processing
  - Data analysis
- Interpretation and conclusion
- Reporting of the study results

He narrated and facilitated the discussions on the sections of the proposals / research paper. Further, he explained in detail on the administrative steps in undertaking the research such as:

- General preparations: Plan budget & secure resources for implementation; Identify necessary approvals, intimations, permissions, clearances and process; Hiring and training of personnel; Scheduling of activities – Timelines; Procurement of logistics and Preparation of study area.
- Feasibility study: Pre-survey assessments; Pre-testing of questionnaires and Piloting methodologies.
- Termination of study
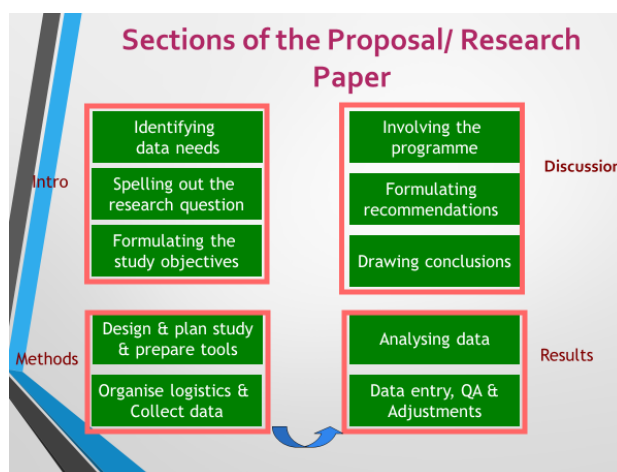
This session has enabled the participants to understand in detail on the steps involved in undertaking the researches including on the various sections of the proposals and the research paper.

Session Title	Proposed Structure of Research Protocol
Session Method	Outline Presentation (word document) / discussions
Facilitator	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Time	1800-1815 hrs

Further to the steps involved in research, Dr Yujwal continued the presentation cum discussion on the proposed structure of the research protocol to enable the participants to understand and develop such protocols in accordance with the format suggested.

Proposed Structure of Research Protocol

- **Title of the Study** – Title, Names of Institutions & Study Team Members
- Contents
- Acronyms
- **Abstract/ Executive Summary**
- **Introduction & Problem Statement**
    1. Background & Context
    2. Research Problem
    3. Present knowledge and relevant bibliography
    4. Rationale/ Justification & Application of the research outcomes to the ongoing program
    5. Objectives
    6. Research Questions/ Hypotheses
    7. Definitions for key technical terms used in the protocol
- **Methods**
    1. Study sites & study population (Case definitions/ Inclusion-Exclusion criteria)
    2. Sample size & sampling design (with justification)
    3. Interventions & Controls, if applicable
    4. Data collection methods
    5. Overview of tools (Type of tool, sections, types of questions, key variables)
    6. Broad domains of study/ measures
    7. Data analysis plan – indicators, statistical methods, tabulation plan
- **Ethical considerations** (including draft informed consent form)
- **Operational plan**
    1. Human resources – recruitment & training
    2. Logistics
    3. Field work plan
    4. Data management plan
    5. Quality control
    6. Dissemination plan
    7. Stakeholder coordination – Meetings

In continuation of the technical deliberation, Dr T Ilanchezhian and the Facilitator cum Feedback Team (FcFT) jointly shared the information on the following plan for the next day:

- Suggested the team to volunteer to recap on the first day activities.
- Based on the request, second group in-charge of study titled: "Factors affecting timing of ART initiation among PLHIV in ART centres in Sri Lanka" has volunteered to share the recap of the first day. The following suggestions were provided to the recap team:
  o Discuss within the group and evolve a comprehensive recap on the learnings from the day one.

  o Discuss and collect the recap from the other groups through informal discussions to make it more comprehensive.
  o Also share the feedback on the overall program including the content, sessions, methodology, etc.
- Dr T Ilanchezhian has also informed the team:
  o Soft copy of the presentations made on the first day will be send through email to the respective participants for immediate reference.
  o Announced that, the training session on second day will be commencing at 0830 hrs instead of 0900 hrs.

Overall the first day of the training program was concluded at 1815 hrs with the good interactions combined with technical inputs, hands-on training, group work and developing skills.

The organizing committee has shared the soft copy of the day 1 presentations, additional resource materials on the sessions conducted, photographs and plans for the next day with all the participants through e-group.

2. Proceedings of Day 2 – (29th March 2019)

2.1. Sessions and group works on Day 2 (29th March 2019)

Important sessions on Day 2 (29th March 2019)

- Operational Research - overview and approaches
- Quantitative Research Methods & Sampling Designs
- Qualitative Research Methods & Sampling Designs
- Study Tools – Principles of design

Exercises / Group Works

- Group Work 2 – Protocol Writing Part 2 - Writing the methodology & overview of tools

Mr Suneel Kumar welcomed the participants for the day-2 training and introduced Dr Niranjan Saggurti, consultant, VHS-CDC Project to the participants who has joined on the second day of the session as facilitated. Dr Yujwal requested group 2 to share the recap on the day 1.

Recap of 1ˢᵗ day sessions (0830–0900 hrs): On behalf of the group 2, Dr I L Jayaweera, Acting Consultant-Venereologist, NSACP shared the recap on the learnings from the day 1. During the recap, he has highlighted the following:

ϕ Need and importance of operational research in HIV/AIDS and how this operational research will be of more useful in programmatic decision making.

ϕ Learnt clarifications on differences between basic and applied researches.

ϕ Acquainted with process involved in identification of problems, prioritization of programs.

ϕ Learnt the knowledge and skills on how to structure title, frame objectives and research questions for undertaking operational research with examples and learning by doing in group work with the support of facilitators as mentors.

ϕ The SMART objectives and its significance in formulating the objective is enabled us to apply the SMART objectives in formulating the objectives.

ϕ Regain the definitions of researches (common and technical definition), scientific methods involved, different types of researches with examples and how each type of study contributes for the program strengthening.

ϕ The team has also clearly learnt on the steps involved in undertaking research along with sections of the proposal such as: introduction, methods, discussions, results, etc.

ϕ The structured / format for developing the research protocol was very useful in developing the protocol on each of the prioritized topic by each group.

ϕ Some of the key words attracted and highlights on the day will include: operational research, SMART objectives, research study design, quantitative and qualitative researches, observational and experimental researches, cohort studies, experimental and quasi-experimental studies and many more.

Overall, the day 1 session was very useful in gaining more knowledge and skills both through common presentation, group works, discussions, presentations by group, peer review, mentoring by the facilitators, etc. Overall the day sessions was meaningful and eager to learn more and work towards the development of protocols. In continuation of the presentation by Dr I L Jayaweera, the team members from the same group has added value addition by sharing additional learnings. Also, other group members shared the additional learnings which has not been highlighted by the presenter.

As a next step to engage each participant, further ensuring the recap, Dr Yujwal has conducted a quiz program pertaining to the discussions held, topics covered and learnings on day 1 sessions. The quiz program was conducted among the six groups and encouraged each group to answer. This has also helped to recap and regain the learnings based on the day 1 sessions.

Session Title	Introduction to Research & Types of Research Designs – qualitative research and methods
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Time	0900 - 0930 hrs

On day 1, discussions were held on *"Introduction to Research & Types of Research Designs"* with the more focus on introduction to research, types of research designs and brief introduction / outline to qualitative research. Linking with the above session, Dr Yujwal made a brief presentation and facilitated discussions on introduction to qualitative research as a part of introduction to research and types of research designs. During the discussions he explained on the five types of qualitative methods such as: Focus Group Discussions (FGD), In-depth Interview (IDI), Key informant interviews and Observation and Case studies. Further, he also explained in detail on the behavioral research, clinical research and data collection process. At concluding he also explained that, detailed presentation on qualitative met hods and sampling designs will be explained in the subsequent sessions.

Session Title	Operational Research – Overview, Types, Steps, Case Studies
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Time	0930 – 1000 hrs

Dr Yujwal Raj facilitated the session on *"Operational Research – Overview, Types, Steps, Case Studies"*. In this session, he has covered and highlighted the following aspects:

- Introduction to OR and definition
- Goal and objectives of the OR
- Five steps involved in OR such as: Problem identification and diagnosis, strategy selection, strategy testing an d evaluation, information dissemination and information utilization.

Definition of OR

- Winston: "a scientific approach to decision making, which seeks to determine how best to design and operate a system, usually under conditions requiring the allocation of scarce resources."
- attempts to solve complex problems by developing mathematical models to analyse the many variables
- the application of systematic research and evaluation techniques to improve programs and service delivery

Steps involved in OR

- 5 basic steps :
  - Problem Identification and diagnosis
  - Strategy selection
  - Strategy testing and Evaluation
  - Information dissemination
  - Information Utilization

- As a part of the methodology of OR, seven steps to a good OR analysis in detail.
- Explained that, OR is for better understanding of program operations in order to make needed program improvements.
- Explained on the OR broad classification as:
    - Exploratory / diagnostic studies - When the problem is not known
    - Field intervention studies - When the program approach is not known
    - Evaluative studies - When the impact is not known
    - Cost-effectiveness studies - When the cost & effectiveness is not known
- Categories of OR studies includes:
    - Exploratory / diagnostic studies (problem not known)
    - Field intervention studies (program approach not known)
    - Evaluative studies (impact not known)
    - Cost effectiveness studies (cost and effectiveness not known)

Further, he also explained the details on how to conduct OR and research questions.

He also explained on the process involved in OR such as:
- Problem identification (including definition and justification)
- Objectives and hypotheses
- Solution generation (intervention design, model building)
- Solution testing (sampling, implementation, data collection, analysis)
- Results dissemination and utilization

The OR Process

- Problem identification (including definition and justification)
- Objectives and hypotheses
- Solution generation (intervention design, model building)
- Solution testing (sampling, implementation, data collection, analysis)
- Results dissemination and utilization
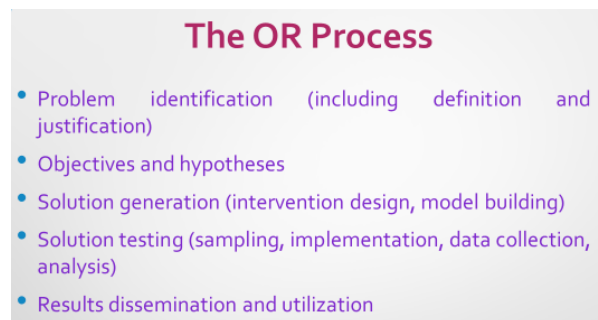
As a part of the presentation, he narrated on the two approaches in OR (secondary data analysis and primary level research studies) and three phases of OR studies (planning, implementation and follow through).

The participants were encouraged to clarify the doubts. Both Dr Yujwal and Facilitator cum Feedback Team (FcFT) jointly provided needful clarifications to enable the team to understand.

Two approaches

- Secondary data analysis
    - Review of program data, representative survey data, mathematical modeling
- Primary level research studies
    - Four type of primary OR studies
        - Exploratory/diagnostic (Problem Not Known)
        - Field intervention (Program Approach Not Known)
        - Evaluative (Impact Not Known)
        - Cost-effectiveness (Cost and Effectiveness Not Known)
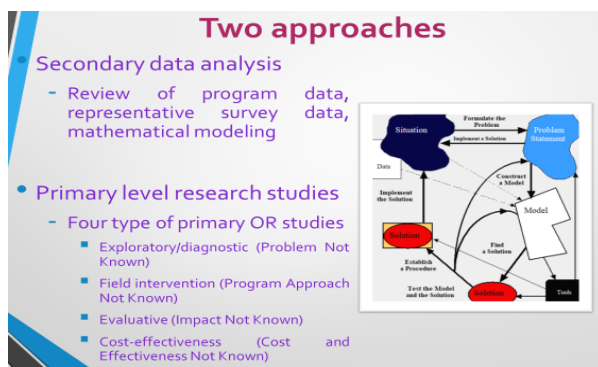
Overall this session has helped to understand the OR, objectives, steps involved, methodologies, designs, classification of OR studies, methodology of conducting this study, process involved, approaches and other relevant details.

Session Title	Quantitative Research Methods & Sampling Designs
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Niranjan Saggurti, Consultant, VHS-CDC Project
Time	1000 – 1145 hrs

Dr Niranjan facilitated the session on "*Quantitative Research Methods & Sampling Designs*" in an interactive way supported with presentations and discussions. In this session, he overall covered the data collection strategies, data collection tools, questionnaires – design and steps and sampling designs.

During the presentation, he has explained on the following quantitative data collection methods and tools along with the details on importance of each method, advantages, challenges, etc.:

- ϕ Records and Secondary Data
- ϕ Diaries, Self-reported Checklists
- ϕ Surveys and Interviews
    - o Face to Face Interviews
    - o Mail Surveys
    - o Telephone/Internet Surveys
    - o Computer Assisted Personal Interviewing (CAPI)
    - o Diaries, Self-reported Checklists

Further he explained on the steps involved in effective questionnaires, suggestions for developing questionnaire, things to avoid in questionnaire, etc. In continuation of this, he has also explained on the sampling, types of samples including:

Probability Samples	Nonprobability Samples

ϕ Each member of the population has a known non-zero probability of being selected
ϕ Methods include random sampling, systematic sampling, and stratified sampling.
ϕ Types:
  1. Simple random
  2. Systematic random
  3. Stratified random
  4. Random Cluster
  5. Stratified Cluster
  6. Complex Multi-stage random
	ϕ Members are selected from the population in some nonrandom manner
	ϕ Methods include convenience sampling, judgment sampling, quota sampling, and snowball sampling
	ϕ Types:
	  1. Convenience sampling - Subjects selected because it is easy to access them. E.g. TV reporter interviewing people on street regarding opinion about corruption
	  2. Purposive sampling - Subjects selected for a good reason tied to purposes of research. E.g. Hard-to-reach populations

Probability Samples	Nonprobability Samples
	3. Quota sampling - Pre-plan number of subjects in specified categories. E.g. 100 men, 100 women 4. Snowball sampling - Identifying someone who meets the inclusion criteria, then ask them to recommend others who they may know who also meet the criteria. *Nonprobability sampling means you cannot generalize beyond the sample*

In addition to providing clarifications at the respective slides / interactions, the participants had a clarification with Dr Niranjan and the Facilitator cum Feedback Team (FcFT).

Overall, this session has helped in understand the data collection strategies, tools and methods of quantitative data collection, steps involved in questionnaire and how to frame questionnaire, sampling including probability and non-probability samplings and other details.

Rapid fire round: As a part of the session, the facilitators conducted Rapid Fire Round on recapping in the key learnings on the day 2 covering all the three sessions. This session was conducted in the form of quiz program and encouraged each team to respond. This session has helped in active participation, recapping all the key messages, assessing the understanding of the participants, etc.

Further to the presentation, *"group wise interactive discussions"* was held through a process of facilitating discussions by the facilitators with the respective groups. The interactions were held focusing on:

- Who is the target audience for sampling? (Respondents, sampling frame, selection of respondents, what is the sampling designing will be used, etc.)
- What is the type of tool will be used for the study?
- How the questionnaire will be designed for the study title selected?

This interactive session has enabled each group to share the audience, sampling, tools and other details pertaining to each study title. The Facilitator cum Feedback Team (FcFT) has provided strategic guidance and suggestions to each team.

Tea break: 1145 - 1200 hrs

Session Title	Qualitative Research Methods & Sampling Designs
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Madhusudana Battala, Consultant, VHS-CDC Project
Time	1200 – 1240 hrs

In continuation of the session and discussions held on Quantitative methods, Dr Madhusudana facilitated the session on *"Qualitative Research Methods & Sampling Designs"*. As a part of the session, he has shared the following:

Definition: Qualitative Research is collecting, analyzing, and interpreting data by observing what people do and say. Qualitative research refers to the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things.

Elements of Research process:

- Deductive thinking (Quantitative) – Theory, Hypothesis, Observation and Confirmation.
- Inductive thinking (Qualitative) – Observation, Patterns, Hypothesis and Theory.

Sampling in Qualitative Research: Purpose sampling, Quota sampling, Snowball sampling and Random sampling.

As a part of the qualitative research techniques, he has explained in detail with examples on each of the qualitative research techniques such as: Focus Group Discussions, In-depth Interviews, Participant observation (Participatory Methods), Case Studies, Action Methods and Document and Record Reviews Including Media Analysis.

During the session, he has explained in detail on how to conduct and manage the FGDs, IDIs, etc.

He also posted pictures and requested the participants to share on the right methods of conducting interviews with the target group. These pictures include don'ts and do's in conducting the interviews. This interactive session enabled them to learn on ways and means of conducting qualitative study and how to collect data for successful conduct of the study.

Session Title	Principles of Designing Questionnaires
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Time	1240 – 1315 hrs

Dr Yujwal facilitated the session on *"Principles of Designing Questionnaires"*. In this session, he has explained on steps involved in developing questionnaire, things to avoid while developing questionnaire, guidance for completing the information, when to use questionnaire and other related details. Also, narrated the following:

Questionnaires:
Self-administered, staff time reduced
Biases due to variation in administration or instruction reduced
Privacy provided encourages honest and correct response

Interviews:
Administered verbally by researchers
Good for illiterates
Ambiguous/ unclear responses can be clarified
More complex and detailed information
There are no missing values
The order of questions can be controlled

Question formats:
  φ Structured: Fill-in the blank; Rating; Likert Scale; and Check all that apply
  φ Unstructured: Open ended question

Advantages of a Questionnaire	Disadvantages of a Questionnaire
▪ Cost effective compared to face-to-face interviews, especially if sample size is large and study population is scattered over large geographic areas. ▪ Questionnaires are easy to analyze. Data entry and tabulation possible with many computer software packages. ▪ Questionnaires are familiar to most people. Questionnaires reduce bias. There is uniform question presentation and no interviewer's bias. There are no verbal or visual clues to influence the respondent. ▪ Questionnaires are less intrusive than telephone or face-to-face surveys. ▪ Can be completed at convenience and the respondent is not interrupted by the research instrument.	▪ One major disadvantage of written questionnaires is the possibility of low response rates. They affect statistical analysis and inference. ▪ Another disadvantage of questionnaires is the inability to probe responses. Respondents often want to qualify their answers, which is not possible in case of a questionnaire. [Researchers can allow frequent space for comments, the researcher can partially overcome this disadvantage. ▪ A questionnaire probing sensitive issues or attitudes may be severely affected. ▪ When returned questionnaires arrive in the mail, it's natural to assume that the respondent is the same person you sent the questionnaire to. It is not possible to confirm this. ▪ Finally, questionnaires are simply not suited for some people, for example, a written survey to a group of poorly educated people.

Further, he detailed on the type of questions with examples (i.e.,) Dichotomous Questions, Nominal Questions, Ordinal Questions, Interval/Ratio Questions, Rate or rank questions and Number questions. He also explained on the examples of right and wrong questions, things to be avoided while developing questions, how to conduct pre-testing of the questionnaire, etc. As a part of the questionnaire development, shared the following summary on preparing questionnaires:

- Target the vocabulary and grammar to the population be surveyed.
- Avoid ambiguity, confusion, and vagueness.
- Avoid emotional language and leading questions.
- Avoid double-barreled questions and false promises.
- Avoid asking questions beyond a respondent's capabilities.
- Avoid asking about future intentions (if you can).
- Avoid negatives and especially double negatives.

Dr Yujwal and Facilitator cum Feedback Team (FcFT) jointly provided clarifications to the participants and enabled them to have clarity on the development of the questionnaire. Overall, this session has provided an overview of how to develop a questionnaire for data collection while undertaking the operational researches.

Lunch break: 1315 - 1400 hrs

Session Title	Elements of a Research Protocol
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Niranjan Saggurti, Consultant, VHS-CDC Project
Time	1400 – 1430 hrs

Dr Niranjan made a session on "*Elements of a Research Protocol*". During the presentation, he has highlighted on: structure of a research proposal, problem identification and rationale, development of problem statement, setting objectives including goal, primary and secondary objectives, developing hypothesis, study methods, ethical considerations, organizations and partnerships, developing study plan with timelines, budget and other related details for development of research protocol. He explained each step supported with sample proposals.

This session has complemented the session held on day 1 on "Proposed Structure of Research Protocol". Participants encouraged to seek clarifications on the protocols explained in detail with examples.

The facilitator and the co-facilitators jointly provided clarifications with examples for ensuring each participant to understand the steps associated with the development of protocol and applying the same in developing protocols for the respective studies by the respective groups.

Session Title	Group work for writing the methodology & overview of tools
Session Method	Group work and discussions
Facilitators	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project Dr Niranjan Saggurti, Consultant, VHS-CDC Project Dr Madhusudana Battala, Consultant, VHS-CDC Project
Co-Facilitators	Dr Ariyaratne Manathunge, Consultant-Venereologist and Coordinator-SIMU, NSACP Dr T Ilanchezhian, Sr. Technical Advisor, VHS-CDC Project Mr Suneel Kumar Chevvu, M&E Officer, VHS-CDC Project
Time	1430 – 1730 hrs

Dr Yujwal, Dr Niranjan, Dr Madhu jointly provided introduction to group work for each group engaged in undertaking the OR:

ϕ Each group will need to discuss and develop research protocols.

ϕ Discussions may be held for about two hours.

ϕ Each group will identify a rapporteur and develop detailed research protocols in the template shared.

ϕ Laptop will need to be used for developing the protocol details for easy presentation in LCD.

ϕ Each group will be supported with mentors from the facilitators team for providing hands-on experience, providing clarity, extend support in formulating and structuring protocols, etc.

ϕ Team members are also encouraged to have cross learning with other groups to gain any additional information, share experiences, obtain clarity, etc.

Role of Mentors/ Facilitators

- Adhere to the schedule in facilitating the sessions
- Create & sustain interest of participants
- Make the sessions interactive & participatory
- Maintain a pace that is appropriate for the participants
- Provide opportunity to ask questions and seek clarifications
- Give adequate time, either in group or in person, to clarify the questions asked
- Guide the teams in group works & hands-on sessions
- Review the content developed by the groups & give feedback
- Facilitate coordination b/w different groups
- Focus on achieving productive outputs by the end of workshop

In continuation of the guidelines, the respective groups started discussing in groups and involved in developing research protocols:

Group No.	Area	Title	Group members	Mentors
Group 1	ART	Treatment adherence, factors & defaulter tracing	Dr Jayadarie Ranatunga Dr Waruni S Pannala Dr Piyumi Perera Dr Piyumika Godakandaarachchi Dr Sampath L Mahagamage	Dr Yujwal
Group 2	ART	Linkages to Treatment	Dr S Muraliharan Dr Iresh L Jayaweera Dr Nadeera H Kumarasinghe Dr Kanchana Wirasinghe Dr Udari I P Gallage	Dr Ariyaratne
Group 3	PREVENTION	Effectiveness of KP Outreach	Dr. Chathurika Wickramarathne Dr Heshani Colombage Dr M Thakshagini Dr Rachini Perera Dr Kanchana Nishamali	Dr T Ilanchezhian
Group 4	TESTING	Rapid Test at Base Hospitals	Dr Lahiru Rajakaruna Dr. Anuruddha H Karunaratne Dr W S Chamani Dileka Dr. Thanuja Peiris	Mr Suneel Kumar
Group 5	KAP	Knowledge on HIV/STI among Youth	Dr Vino S Dharmakulasinghe Dr Niroshan Jayasekara Dr H A C W Hathurusinghe Dr Damindu K J Thanthree	Dr Niranjan
	PrEP	PrEP Perception Study	Dr Priyantha Weerasinghe Dr Darshanie N Mallikarachchi Dr Prageeth S Premadasa Dr. Shanika Jayasena Dr Gayan Mahakumbura	Dr Madhusudana

During the group interactions, respective team members developed the aspects such as: title, acronyms, introduction & problem statement, objectives, specific objectives, methods, ethical considerations, operational plan, study team, milestones & timelines, budget, references, etc.

Parallely, the team internally had a review at each stage of the protocol development. Also, the team members had discussions with the respective or any of the mentors to obtain details, clarity for developing the research protocols. This process has enabled the members to develop the protocols with confidence. The team also prepared the presentations and identified the presenter for presentation in the common sessions on day 3.

The organizing committee has shared the soft copy of the day 2 presentations, additional resource materials on the sessions conducted, photographs and plans for the next day with all the participants through e-group.

Participation in sessions

3. Proceedings of Day 3 – (30th March 2019)

3.1. Sessions and group works on Day 3 (30th March 2019)

Important sessions on Day 3 (30th March 2019)

- Data Management & Analysis Plan
- Research Project Management
- Ethics in HIV/AIDS Research
- Scientific Writing
- Next Steps
- Team Presentations of OR Study Protocols

Exercises / Group Works

- Group Work 3 – Protocol Writing Part 3 - Writing the data management plan, project management plan & ethical considerations, timelines & budgets.

Dr T Ilanchezhian welcomed the participants and shared the overall plan for the day.

Recap (0830 – 0900 hrs): Dr Niranjan and Dr Yujwal jointly conducted a recap session and suggested each group to share the recap covering the group wise learnings, challenges, obstacles in protocol development, additional information needed or clarification required based on the two-day sessions, etc. Based on this, each group shared their learnings based on day 1 & day 2, additional information / clarification and challenges envisaged if any in planning and execution of the study. The Facilitator cum Feedback Team (FcFT) jointly provided clarifications to the additional information requested / clarification requested. This session has helped in regaining and reminding the two days of key learnings for commending the third day of the activities.

Session Title	Ethics in Research
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Madhusudana Battala, Consultant, VHS-CDC Project
Time	0900 - 0930 hrs

Dr Madhusudana has conducted a session on "*Ethics in research*". In this session, he has explained on the ethics and research covering the principles of ethics research, Informed Consent, Confidentiality, Responsibilities of Research Ethics Committees (REC), Sponsor and Researcher. During the session, he also explained on the fundamental principles of human research ethics as 'Respect' to our persons, 'Beneficence' and 'Justice'. Further he explained on each of the fundamental ethics in detail.

He narrated details on the international guidelines on ethical guidelines, roles and responsibilities of Ethical committees, essential elements of informed consent, responsibilities of researcher / sponsors, community participation in research, researcher's human qualities, etc. The ethical issues in clinical research on HIV/AIDS highlighted on Informed Consent – Assent, fresh or re-consent, Confidentiality, Vulnerable populations, Risk benefit ratio, Standard of Care, Ancillary care, Reimbursement / inducement?, Post-trial access and International collaboration

On completion of the presentation, the Facilitator cum Feedback Team (FcFT) jointly provided needful clarifications to the questions / clarifications raised by the participants.

Overall this session has enabled the participants to understand the need and importance of adhering ethical guidelines in conducting the research study, obtaining approval from research ethical committees and related aspects in undertaking OR.

Session Title	Research Project Management
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Time	0930 - 1000 hrs

Dr Yujwal has led the session on *"Research Project Management"*. In the presentation, he explained about Project Management, how to plan a research study, timelines, HR management, training research team/training materials, field work management, monitoring and supervision, logistics management, information management, people management, communication, coordination and troubleshooting and other related aspects in research project management. He has highlighted the following Research Project Management cycle:

The participants were encouraged to share their experiences in planning, conducting and managing the research projects based on the previous experience or present experiences. The team members shared the experiences and need for considering the execution plan, identifying investigators, capacity building, scheduling the data collection plan, monitoring the data collection team, mobilizing resources, data consolidation, developing report, etc.

Overall this study has provided a comprehensive plan for systematic planning and managing the OR proposed by respective groups.

Session Title	Research Data Management Aspects & Practices
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Niranjan Saggurti, Consultant, VHS-CDC Project
Time	1000 – 1045 hrs

Dr Niranjan has facilitated the session on *"Research Data Management Aspects & Practices"*. During the presentation, he has explained the following:

DATA: *Facts concerning people, objects, events or other entities. Databases store data.*

INFORMATION: *Data presented in a form suitable for interpretation.* Data is converted into information by programs. Data may be stored in files or in databases. Neither one stores information.

KNOWLEDGE: *Insights into appropriate actions based on interpreted data.*

In addition, he has explained on the details on Metadata, data collection, data entry management, coding and data dictionary, illustration of Data Dictionary, data analysis, different types of statistical methods by types of data, how to present the data (in the form of text, tables, charts (Bar chart, Pie chart, Stacked bar chart, etc.). He also narrated advantages and disadvantages of different types of presenting the data.

Furthering, the participants posted the questions and clarifications on the above topic. Dr Niranjan provided clarifications and explanations to the questions raised.

This session has enabled them to understand on how to present the data in the research report based on the study proposed / conducted.

Statistical methods by types of data

Statistical methods start with	Nominal scale (or discrete data)	Ordinal Scale	Continuous / Interval Scale
Descriptive statistics	Proportions (or) percentages	Either cont. or discrete	Mean, Median, mode, s.d., range, m.d., skewness, etc.
Corresponding inferential statistics	Z-test		T-test
Bivariate statistics	Test of attributes, odds ratio, risk ratio, sensitivity, specificity, etc..		Correlation, simple regression
Corresponding inferential statistics	Chi-sq. test		ANOVA
Multivariate statistics (all regression based)	Logistic regression technique (if dep.var-Y has only two cateogries)	Reliability analysis	Multiple regression
	Multinomial Logistic regression technique (if dep.var-Y has three or more cateogries)	Factor analysis	
Corresponding inferential statistics	Chi-Sq. test, Wald's test		ANOVA

Session Title	Principles of Scientific Writing
Session Method	Power-Point Presentation and discussions
Facilitator	Dr Niranjan Saggurti, Consultant, VHS-CDC Project
Time	1030 – 1100 hrs

Dr T Ilanchezhian has informed the participants that, VHS-CDC Project and NSACP will jointly organize a separate workshop on scientific writing. However, considering the relevance associated with the dissemination of study findings of OR, a brief session on Principles of Scientific Writing is scheduled as a part of the training program.

Dr Niranjan had lead the session on "*Principles of Scientific Writing*". Duri ng the presentation, he explained on the type of scientific writing (i.e.,) report and scientific papers. He also explained on the format of a report and format of a scientific paper as given below:

Format of a Report	Format of a Scientific Paper
- Executive summary - Introduction ✓ Background, objectives - Methodology ✓ Study design, sampling, data collection, indicators - Results: ✓ Accessibility, Functioning, Quality - Summary - Implications	- Title - Abstract: structured and not structured - Introduction - Methods - Results - Discussion - References

In addition, he has explained on the type, common title faults, a formula for writing a title, the abstracts in brief, purpose of the introduction, organization of contents in the introduction section, elements of the methods section, results section and discussion sections. He also informed that, abstracts focus on three points such as: a) what was the research question? b) how did you investigate the question? and c) what did you find?

At the end of the session, Dr Ariyaratne has shared his experiences in writing abstracts, scientific papers, challenges and expectations of the reviewers. Dr Yujwal has shared on the key aspects to be considered while developing reports and scientific papers. Dr T Ilanchezhian shared on the need for highlighting the unique aspects of the study, use of strategic key words in the study titles and other related aspects.

The participants also shared their experiences in developing reports and scientific papers based on the researches undertaken as a part of the PG courses and as a part of the job responsibilities.

This session has enabled the participants to understand the importance of dissemination, method of scientific writing for effective dissemination and evolving follow-up plans on completion of the OR studies.

Session Title	Next steps and follow-up plans
Session Method	Power-Point Presentation and discussions
Facilitators	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Time	1100 - 1130 hrs

Dr. Yujwal conducted the session on *"Next steps and follow-up plans". H*e shared the following suggested outline for execution of the OR study based on the protocols developed during the training program. The same may be discussed with NSACP and plans can be emerged.

Months	Suggested plans
First month	- Identification of PI, Co-PI, Collaborators, etc. - Updating & Completing the draft protocols - Add literature review, background, etc. - Refine objectives & research questions - Do scoping based on financial assistance & feasibility - Analysis & Tabulation plan - Broad field work plan - Development of tools, consent forms, etc - Mentoring support from VHS-CDC Project - Application to Institutional Ethics Committees & Obtaining Ethics Clearance
Second month	- Obtaining formal administrative approvals - Receiving funding - Planning & Preparation
Third month	- Recruitment of staff - Training of staff
Fourth & fifth months	- Field work - Quality control - Data entry & management
Sixth month	- Data analysis & Report writing - Dissemination of results - Winding up admin formalities

These suggestive for consideration by respective team based on field situations, study plan, resources available, etc. The follow-up and support includes:

- TA to finalize the protocols, over emails & telecons, if required.
- TA by the mentors in finalizing the proposal, protocols and during the execution of the study (other than funding for the conducting the study).
- Weekly status review reporting by the study team to SIM Unit.
- Quick plan to submit formal proposal for local ethics committee & obtain admin approvals.
- Mobilizing local resources / funding opportunities for execution of the study.
- Coordination with SIM unit for operationalization of the studies planned & completion.

He has requested all the research team to undertake systematic efforts in finalizing the study plan and completion of the study in coordination with SIM Unit and by ensuring cross learning and exchange of experience between the teams.

Tea break: 1130 - 1145 hrs

Session Title	Group work for developing the operational research and presentation by each group
Session Method	Group work & Presentation
Facilitator	Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
Co-Facilitators	Dr Ariyaratne Manathunge, Consultant-Venereologist and Coordinator-SIMU, NSACP Dr T Ilanchezhian, Sr. Technical Advisor, VHS-CDC Project Mr Suneel Kumar Chevvu, M&E Officer, VHS-CDC Project Dr Niranjan Saggurti, Consultant, VHS-CDC Project Dr Madhusudana Battala, Consultant, VHS-CDC Project
Time	1130 - 1300 hrs

Dr Yujwal provided the following suggestions to the group for making the presentation on the group work with respect to study protocol:

- Each group will be provided with 10 minutes.
- The group leader can make a presentation on the study protocol developed in a comprehensive manner.
- While the group representative presenting, the group members can add value to the presentations and share additional information.
- The Facilitator cum Feedback Team (FcFT) has been formed with following members for providing needful suggestions, technical inputs and guidance in formulating the study protocols:

Core Facilitators – VHS-CDC Project Consultants	Facilitators
▪ Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project ▪ Dr Niranjan Saggurti, Consultant, VHS-CDC Project ▪ Dr Madhusudana Battala, Consultant, VHS-CDC Project	▪ Dr Ariyaratne Manathunge, Consultant-Venereologist and Coordinator -SIMU, NSACP ▪ Ms Srilatha Sivalenka, Public Health Specialist, CDC ▪ Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project ▪ Mr Suneel Kumar Chevvu, M&E Officer, VHS-CDC Project

- Further, he has also suggested as a part of the peer review process, while one group is presenting other groups can also share some of their feedback and suggestions based on their experience.

In continuation of the guidelines, the group members presented the draft research protocols outlined in the respective topics as per the details given below:

Group	Research Title	Group members & Presenter
Group 1	Factors affecting retention in care among People Living with HIV at treatment centres in Western province, Sri Lanka **Presenter:** Dr Waruni S Pannala	Dr Jayadarie Ranatunga Dr Waruni S Pannala Dr Piyumi Perera Dr Piyumika Godakandaarachchi Dr Sampath L Mahagamage
Group 2	Factors affecting timing of ART initiation among PLHIV in ART centres in Sri Lanka **Presenter:** Dr Iresh L Jayaweera	Dr S Muraliharan Dr Iresh L Jayaweera Dr Nadeera H Kumarasinghe Dr Kanchana Wirasinghe Dr Udari I P Gallage
Group 3	Perception among transwomen about outreach interventions in Colombo district; Cross sectional study **Presenter:** Dr. Chathurika Wickramarathne	Dr. Chathurika Wickramarathne Dr Heshani Colombage Dr M Thakshagini Dr Rachini Perera Dr Kanchana Nishamali
Group 4	Barriers in provision of Hospital based HIV Rapid testing in Western province, Sri Lanka **Presenter:** Dr. Anuruddha H Karunaratne	Dr Lahiru Rajakaruna Dr. Anuruddha H Karunaratne Dr W S Chamani Dileka Dr. Thanuja Peiris
Group 5	Youth vulnerability for HIV & STD, Colombo, Sri Lanka **Presenter:** Dr Damindu K J Thanthree	Dr Vino S Dharmakulasinghe Dr Niroshan Jayasekara Dr H A C W Hathurusinghe Dr Damindu K J Thanthree
Group 6	A study on knowledge and perceptions among Health Care Providers on PrEP preparedness in Sri Lanka **Presenter:** Dr Darshanie N Mallikarachchi	Dr Priyantha Weerasinghe Dr Darshanie N Mallikarachchi Dr Prageeth S Premadasa Dr. Shanika Jayasena Dr Gayan Mahakumbura

The OR Execution Plan presented by each group is given in the forthcoming chapter.

3.2. Operational Research Execution Plan (presentation by Groups)

The draft Operational Research execution plan developed and presented by the respective groups after incorporating the suggestions provided by the team are provided below:

Operational Research 1

Title of the Study: Factors affecting retention in care among people living with HIV at treatment centres in Western province, Sri Lanka
Contents:
Acronyms: PLHIV   People Living with HIV ART   Anti-Retroviral Therapy
Abstract/ Executive Summary:

Introduction & Problem Statement:
 	
Background & Context: A defaulter for ART is defined as a person who has not attended the clinic for 3 months from the given date. Defaulting ART services is a major factor affecting the country objectives for HIV care. As Sri Lanka is aiming for end AIDS by 2025, these reasons should be studied in detail as it is necessary to take timely corrective steps. The UN 90:90:90 targets also include retain in care as a major factor, the reasons for defaulting carries a significant weight. The recent evidence showing undetected = untransmissible is very important for control of the epidemic and to reach county targets due to defaulting none of these will be reached and HIV morbidity and mortality will rise.
 	
Research Problem: Why PLHIV default for ART? (In Ragama clinic 200 PLHIV are registered and at present 35 are defaulted.)
 	
Present knowledge and relevant bibliography: Observation by day-to-day practice and need to do literature survey.
 	
Rationale/ Justification & Application of the research outcomes to the on-going program: As Sri Lanka is aiming for end AIDS by 2025, one of the main areas to address is the continuous retention in care as this will help people to be adherent on ART and will reduce the number of cases of AIDS. However, when a PLHIV default, his disease will progress as he will not be on treatment ending up in AIDS stage and death. Furthermore, this will lead to increased transmission which will have an impact on the HIV prevalence.
 	
Objectives:
  ▪ To understand the factors associated with retention in care of PLHIV in ART centres – Ragama and Colombo
  ▪ To study the reasons for defaulting for ART services and re-entering to care
 	
Research Questions/ Hypotheses: Why PLHIV default for ART?
 	
Definitions for key technical terms used in the protocol:
  ▪ Defaulter – a person who has not attended the clinic for 3 months from the given date
  ▪ A person retained in care – a person who has been followed in HIV services regularly

- Re-entering to services–Retuning to HIV service following more than 3 months of defaulting.

Methods:

Study design: Mixed methodology: descriptive cross sectional and qualitative method.

Study sites & study population
- STD clinics – Ragama, Colombo
- All registered PLHIV excluding those who are less than 18 years

Sample size & sampling design:
- All registered PLHIV (200)
- Census method – STD clinic Ragama is one of the high-volume ART centres in SL, which is situated in Western province, where the highest HIV prevalence recorded

Data collection methods:
- Cross sectional arm – secondary data using HIV clinic records
- Qualitative arm –
  - Face to face In-depth interviews will be conducted for defaulted PLHIV who re-entered in to care.
  - IDI will be conducted for defaulters who has not re-entered using telephone interviews and home visits depending on operational feasibility.

Overview of tools:
- Data collection sheet to collect data from records
- IDI guide (voice recording, note taking)

Data collection sheet:
- Socio demographic data: Age/ sex/ educational level/ marital status/ distance to ART centre/ occupation/ income/ number of children/ belongs to KP/ belongs to vulnerable population/ substance abuse/ imprisonment/ linkage to PLHIV NGOs.
- Clinical data: WHO stage at diagnosis/ performance scale at diagnosis/ ART state at the time of defaulting/ co-morbidities/ ever disclosed to someone? / Presence of treatment supporter/ seeking alternative treatment/ if on ART – ART regimen/ side effects recorded/ attempts for defaulter tracing.

IDI guide – semi structured for re-entered PLHIV:
- Socio demographic data
- Reasons for defaulting
- Reasons for re entering
- Perceptions on defaulter tracing interventions by STD clinic
- Perceptions on period of defaulting (what do you feel)
- Perceptions following re-entering (what do you feel)

IDI guide – semi structured for defaulters
- Socio demographic data
- Reasons for defaulting
- Perceptions on defaulter tracing interventions by STD clinic
- Perceptions on period of defaulting (what do you feel)
- Any idea of re-entering to services

Broad domains of study/ measures:
- Dependent variable – Defaulted or not
- Independent variables – socio demographic and clinical characteristics

Data analysis plan – indicators, statistical methods, tabulation plan:
- Quantitative arm – percentages, proportions, Z test – difference between 2 proportions. chi square when necessary
- Qualitative arm – coding, identifying themes

	Defaulted	Not defaulted
Male		
Female		

	Defaulted	Not defaulted
Single		
Married/living together		
Divorced		

	Defaulted	Not defaulted
Presence of comorbidities – yes		
Presence of comorbidities - No		

Ethical considerations: Home visits are already in place for defaulter tracing in the program. These will be conducted by the investigators themselves for the study sample. ??anticipate problems)

Operational plan:
- Human resources – recruitment & training – doctors will be collecting data. All are experienced in this set up
- Logistics – clinic vehicle, clinic telephones, photocopying
- Field work plan – daily data collection from clinic records, 2 days per week for telephoning and home visits if necessary
- Data management plan -
- Quality control – pretesting the data extraction form and the IDI. trained doctors will be collecting data. IDI will be recorded. Data will be handled only by investigators, they will be kept under lock and key till data is entered, once entered will be discarded.
- Dissemination plan – to publish in the Sri Lanka college of Sexual health and HIV medicine
- Stakeholder coordination – meetings with GF/ GOSL/VHS-CDC Project India

Study team:
- Investigators – Principal; Co-investigators
- Collaborations & partnerships

Dr Jayadarie Ranatunga
Dr Waruni S Pannala (Presenter)
Dr Piyumi Perera
Dr Piyumika Godakandaarachchi
Dr Sampath L Mahagamage

Milestones & Timelines:

	March	April	May	June	July	Aug	Sept	Oct
Proposal writing	X							
Developing the questionnaire	X							
Ethical apply		X						
Data collection			X	X	X			
Data analysis						X		
Report writing						X	X	
Publish								X

Budget: – Staff, Trainings, Travel, Field operations, Logistics, Printing & stationary, Contingencies, Management charges, Overhead charges.

References:

Title of the Study: Factors affecting timing of ART initiation among PLHIV in ART centres in Sri Lanka

Contents:
Acronyms:
Abstract/ Executive Summary:

Introduction & Problem Statement: Early initiation of Anti-Retroviral treatment to HIV has several benefits including increased survival. National STD AIDS control program adopted test and treat policy irrespective of their immune status allowing universal access to treatment from 2016.

Sri Lanka is heading towards Ending AIDS by 2025 thus early treatment is important for achieving 90-90-90 targets as well.

It is essential to identify the time gap between diagnosis and ART initiation and to ascertain the probable factors associated with it.

Factors can be broadly categorized in to patient factors, provider factors and institutional factors.

Patient factors include socio demographic factors, awareness about ART and myths, Co-morbities including Non-communicable diseases, Opportunistic and Co-Infections, drug Abuse etc. Institutional factors include clinic factors, laboratory factors, and factors related to ART. To identify whether a delay in ART initiation lead to defaulting of patients.

General objective: To describe Factors affecting timing of ART initiation among PLHIV in ART centres in Sri Lanka Specific objectives.

Specific objective: To identify patient, provider and institutional factors contributing to a delay in ART initiation.

Methods:

Study sites & study population
- Analysis of secondary data followed by a qualitative component- In depth interview with PLHIV and other stake holders.

  Inclusion Criteria: All newly registered PLHIV to ART centres in western province during 2017-2019.

  Exclusion Criteria: Study sites- Central ART centre, NSACP.

Sample size & sampling design:
- This is an operational type of a research design. From the secondary data it is evident that only 172 PLHIV were registered in the above clinics during 2017-2018. For practical reasons of collecting data it was decided to take the sample as 100 with consensus from the research group.

- When considering the proportionate distribution of PLHIV it was decided to recruit 77 from Colombo ART Centre, 13 from ART centre (CNTH) and 10 from ART centre (CSTH).

Interventions & Controls, if applicable: Not applicable.

Data collection methods:
- Trained care providing doctors attached to the respective ART centres will collect data when the patients present for follow up visits after obtaining informed consent.
- Interviewer administered questionnaire will be used for data collection which will be filled by doctor using information obtained from face to face interview with the patient and using secondary data collected from the patient record.

Overview of tools:
- Interviewer administered questionnaire
- 3 parts
- Socio demographic factors
- Patient factors
- Institutional factors

Broad domains of study/measures:
- Patient factors
- Institutional factors

Data analysis plan – indicators, statistical methods, tabulation plan:
- Data collected will be analyzed using SPSS 16.
- Associations between factors and Delay in ART initiation will be analyzed using Chi square test.
- Indicators, statistical methods, tabulation plan

Ethical considerations: Data collection will be carried out after obtaining informed consent from the study subjects. The data obtained will be used only in scientific publications. Autonomy of the participant will be accepted. No personal details will be recorded and data collection be done by using a coding system and a serial number.

Ethical clearance for the study will be obtained from the Ethical Review Committee of the Faculty of Medicine, University of Colombo, prior to data collection. Collected data will be kept with the principal investigator for two years in a password protected.

Operational plan:
- **Study protocol will be developed.**
- **Human resources – recruitment & training:** Doctors who are providing care at the selected clinics will be recruited for the data collection. An overview about the questionnaire will be given. Data entry operator will be needed for the entry of data.
- **Logistics:** Printing and transport of questionnaires to central and peripheral clinics.
- **Field work plan:** Not applicable
- **Data management plan**
- **Quality control:** Data will be verified for completeness.
- **Dissemination plan:** Findings will be published in a peer reviewed journal
- **Stakeholder coordination** - Meetings

Study team:
- **Investigators – Co-investigators:**
    - Dr. Iresh L Jayaweera (Presenter)
    - Dr. N.H Kumarasinghe
    - Dr. S Muraliharan
    - Dr. U.I.P Gallage
    - Dr. K Wirasinghe

- **Collaborations & partnerships:**
    - NSACP
    - VHS-CDC Project

Milestones & Timelines:

Budget: – Staff, Trainings, Travel, Field operations, Logistics, Printing & stationary, Contingencies, Management charges, Overhead charges

References:

Title of the Study: Perception among transwomen about outreach interventions in Colombo district; Cross sectional study.

| Contents: |
| Acronyms: |
| Abstract/ Executive Summary: |

Introduction & Problem Statement:

Transwomen are identified as a key population in Sri Lanka according to the National Strategic Plan (NSP). Transwomen also has an impact on HIV epidemic in Sri Lanka. According to the National size estimation 2018 reveals 2200 transwomen (TG) people at national level. Out of them there are 531 TG people living in Colombo district. Sri Lanka has low prevalence among key populations, but there is minimum data regarding TG people.

Knowing the importance of screening key populations, National STD/AIDS Control Programme (NSACP) initiated outreach interventions of HIV and Syphilis since 2012. Providing outreach services has been a long-standing approach of the NSACP and new services have been added to the service package offered to recipients. HIV testing services are increasingly becoming a component of the package offered through the outreach services.

Transwomen population outreach program was started in 2018 mainly targeting Colombo district. In coordination with government and NGO's, NSACP carries out outreach intervention in view of reaching the 90-90-90 targets. It is essential to assess perception among transgender about outreach program in order to sustain the program in right direction to be effective.

Research questions: What is the perception among transwomen about outreach interventions in Colombo district?

Objectives:
- Assess the perception among transwomen about HIV testing, Health education and counselling and condom promotion and provision in outreach interventions in Colombo district.
- To assess the behavior and knowledge about HIV among transwomen
- Assess the prevalence of HIV among transwomen population.

Methods:

Study design: Cross sectional study.

Study sites and study populations: All the hotspots mapped in Colombo district will be taken as the study sites.

Study population: All transwomen accessing hotspots in Colombo district during the study period.

Case Definition – A person who was assigned to be a male at birth but who self identifies as transwomen and has had penetrative sex with men in past 12 months.

Sample size and sampling design:
- Sample size will be calculated as for finite population using the two formulas.
- Sampling frame will be the list of mapped hotspots in Colombo district. From that few hotspots will be selected using stratified random sampling.
- Probability proportionate sampling will be used to select the transgender to meet the sample size in the selected hotspots during the study period.

Data collection method: Data collection will be done using Audio computer assisted self-interviews.

Data collection tool- semi-structured questionnaire will be used.
- **PART A:** Perception among transgender about HIV testing
  Variables- Consent, Confidentiality, Correct report
- **PART B:** Perception among transgender about counselling
  Variables- Knowledge on STDs, Modes of transmission, Availability of services, Availability of treatment
- **PART C:** Perception among transgender about condom promo
  Variables- Technique, Availability, Accessibility
- **PART D:** HIV testing will be done using rapid test kits
- **PART E:** Behavior risk assessment using IBBS behavior component
- **PART F:** Assessment of knowledge

Data analysis plan: Answers to questions in all three parts will be collected using a 5-point Likert scale and analyzed using SPSS Software. We will calculate the point prevalence and level of perception.

Ethical considerations:
- Information will be given in an audio clip and consent form will be given.
- Informed written consent will be taken.
- All the data will be kept anonymous and confidentiality will be ensured.
- This data will be used only to improve the program efficacy.
- Voluntary participation and autonomy – ensure to maintain their autonomy and withdrawal from the study at any given time.
- Ethical clearance will be obtained from the Postgraduate institute of medicine.
- Benefit of participation – counselling, testing and condom promotion will be done.

Operational plan:
- Human resources: medical officers will be trained for data recruitment.
- Technical support will be obtained from experts.
- Logistics
- Field work plan- trained medical officers will visit the hot spots selected by sampling. TG's will be recruited until the desired sample size is met by probability proportionate to sample size.
- Data management plan – semi-structured questionnaire will be assessed using SPSS.
- Quality control – Training will be provided regarding ACASI and will be assessed during the course of data collection.
- Dissemination plan – The results will be used for the improvement of the program
- Stakeholder coordination – Before planning the study and during the study meetings will be conducted with collaboration with Transgender association Sri Lanka.

Study team:
- Dr Chathurika Wickramaratne (Presenter)
- Dr Rachini Perera
- Dr Heshani Colambage
- Dr M Thakshagini
- Dr Kanchana Wijewickrama

Milestones & Timelines:

Budget: – Staff, Trainings, Travel, Field operations, Logistics, Printing & stationary, Contingencies, Management charges, Overhead charges

References:
- National Strategic Plan 2018- 2022
- National Size Estimation 2018

Title of the Study: Barriers in provision of Hospital based HIV Rapid testing in Western province, Sri Lanka.

Contents:
Acronyms: HIV - Human Immunodeficiency Virus

Abstract/ Executive Summary:

Introduction & Problem Statement:

HIV infection - HIV infection has a prolonged asymptomatic period which result in difficulty of identifying patients with HIV. Early diagnosis and treatment is mandatory which will improve quality of life as well as prognosis of HIV (1). However in 2017, 25% patients were diagnosed in late stage of the disease (1).

HIV epidemic in SL - Sri lanka having a low level HIV epidemic however, there is a potential to proceed into a concentrated epidemic.

Cumulative number of HIV cases 3200 by end of 2018, while Colombo contributed for 992. New HIV cases reported in the country are on the rise with 350 new HIV cases detected in 2018, Colombo contributing to 23.4% (n=82) (2).

Ending AIDS in Sri Lanka - Sri Lanka has taken a proactive stance to end aids epidemic in 2025, five years ahead of global target.

In line with UNAIDS 90-90-90, ninety percent of all HIV patients should know their sero status. (3) However, **in SL only 68% of PLHIV know their status** resulting in a gap of 23%. To reduce the gap, its required to scale up of HIV testing among the public while concentrating on KP.

As a major step to overcome this issue, **HIV rapid testing was rolled out to outpatient departments of government hospitals** (Type B base hospitals and above) in 2018 March to reach the unreached population as well as people who are unaware of their HIV sero-status. In Colombo district, HIV testing was rolled out to NHSL, LRH, Mulleriyawa and homagama.

HIV testing in srilanka - In 2017, most number of tests have been carried out among prisoners as outreach. Except drug users, all other categories shows an improvement in testing numbers during past three years. A total of 1,171,596 HIV tests had been done in 2017.

Most number of new HIV diagnosis in country was seen in the Colombo district for the last few years. However, **none of the new HIV diagnoses in Colombo district was made through hospital-based testing** in the background of Ten new HIV patients were diagnosed island wide by OPD based rapid HIV testing.

Research problem:
- The number of hospital-based rapid HIV tests carried out in western province is very low resulting in an unmet need (eg – None of the rapid tests has been performed Out of Rapid test kits distributed to National hospital of Sri Lanka, Base hospital Homagama has carried out only 38 out of 100 rapid test kits distributed in 2018).
- It is possible that there can be barriers to carry out rapid testing at the said hospitals.

- **These barriers for provision of HIV rapid testing in the out-patient departments of the hospitals in western province remain unknown**. (may be the knowledge gaps or attitude issues in the health care workers, the institution-based issues and patients' factors.

Literature review: In a systematic review carried out in Europe, it was found that the barriers in HIV testing are legal administrative and financial factors, attitudes and practices of health care providers and perceptions of patients were found as barriers to HIV testing. (4)

General objective: To assess the barriers for provision of Hospital based HIV rapid testing in Colombo district.

Specific Objectives:
- To identify the individual, provider related, service related, structure related constrains hindering the provision of HIV testing.
- Awareness and perceptions of patients attending OPDs on Rapid HIV testing.

Research question: What are barriers for provision of HIV rapid testing in the out-patient departments of the hospitals in western province, Sri Lanka?

Definitions: Rapid testing in Sri Lankan setting is defined as testing HIV at the out-patient setting by using a rapid test kit provided by NSACP, with blood obtained by a single prick

Methods:

Study Design:
- Descriptive Cross-sectional study. (with a semi structured questionnaire)
- We are planning to identify the **currently prevailing barriers** for rapid HIV testing at the OPD setting.
- Since it deals with assessing barriers at a **point of time**, a cross- sectional study will be carried out

Setting: Out-patient departments of Government hospitals in western province where HIV rapid testing is being carried out.

Study population: All OPD doctors and MLTs who are responsible for Rapid HIV testing in target hospitals and the patients attending OPDs of hospitals in the Western province.

Inclusion criteria: Medical officers who are currently attached to out-patient departments of selected government hospital and Medical laboratory technicians who are responsible for HIV rapid testing. Patients who are attending the OPD services.

Exclusion criteria: MLTs who does not involve in HIV testing (Biochemical / hematology labs), Patients who are attending to services other than OPD services.

Expected Sample size:
- 60 medical officers + 20 MLTs = 80
- Patient number – 50

Sampling method: Simple random sampling for selection of Doctors, MLTs and OPD patients.

Data Collection methods: Data collectors will visit all the selected hospitals and invite selected OPD doctors and MLTs who are responsible for Rapid HIV testing and the patients attending OPD services.

Study instrument: An interviewer administered, semi structured questionnaire will be administered upon taking consent. we plan to administer a semi structured questionnaire which includes open ended questions to explore health care workers perceptions, current practice, and their perceived barriers. (Separate questionnaires will be developed to Doctors and MLTs and patients according to relevance).

Data Analysis plan: The quantitative data will be analyzed in terms of measures of central tendency and dispersion. And nominal data with regard to proportions and associations will be studied where necessary. Qualitative data will be analyzed with the use of thematic analysis

Ethical considerations:
- Voluntary participation – Informed written consent. Anyone can opt out of the study at any point of time.
- Anonymity maintained (No personal data will be collected)
- Data security – the data will be kept wit 'PI under lock and key
- Ethical approval will be taken by a ethical review committee of a recognized university in Colombo. Administrative clearance will be obtained by the heads of the relevant health institutions.

Operational plan:
- The study protocol will be developed.
- The study instruments will be developed in English language with the support of an expert panel.
- The ethical approval will be obtained by a recognized ERC in Colombo along with the administrative clearance by the heads of relevant health institutions. Information sheets and consent forms will be developed.
- The study instruments will be pre-tested with the support of group of doctors and MLTs and patients from a base hospital in Gampaha district.

Human resource management: The data collectors (Pre-intern doctors) will be recruited by putting an advertisement. They will be trained in the data collection by the investigators.

Logistics: The study instruments will be printed and distributed among the data collectors. Basic stationeries and a payment will be provided to the data collectors.

Field work plan: The data collectors will be allocated to selected hospitals for the data collection. And will be asked to visit the hospitals on appointments. The completed questionnaires will be collected by the investigators on daily basis.

Data management plan: Collected data will be entered in electronic format with the help of a data entry operator. The data base will be maintained in the personal computer of PI. Backups will be stored in secured cloud location.

Quality control: Quality of the completed questionnaire will be assessed in terms of completeness and inconsistencies. The entered data will be crosschecked randomly to eliminate errors in data entry.

Dissemination plan: The data will be analyzed, and a study report will be prepared. The study findings will be disseminated to the relevant authorities and to the scientific community by presenting in scientific forums and publishing in peer reviewed journals.

Stakeholder coordination: The investigators will meet the heads of relevant authorities and the medical officers in-charge of the out-patient departments of the said hospitals prior to data collection.

Study team:
- Dr Lahiru Rajakaruna
- Dr. Anuruddha H Karunaratne (Presenter)
- Dr W S Chamani Dileka
- Dr. Thanuja Peiris

Milestones & Timelines:

Activity	2019											2020		
	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Proposal writing	▓													
Ethical clearance		▓	▓	▓										
Pre-testing of the questionnaire				▓										
Purchasing of Laboratory items				▓	▓	▓								
Data collection, Sample collection								▓	▓	▓	▓	▓	▓	▓

Activity													
and Sample processing								▓	▓	▓	▓	▓	▓	
Data entry										▓	▓	▓	▓	
Data analysis													▓	▓
Report Writing and Dissemination of findings														▓

Budget:

Heading	Amount
Staff payment	
Training	
Travel	
Field operations	
Logistics	
Printing and stationary	
Contingencies	
Management charges	
Overhead charges	

References:
- Australasia guidelines on clinical management of HIV, 2009
- National STD AIDS Control programme – Annual report 2017
- UNAIDS prevention gap report
- Deblonde J et al European journal of public health 2010

Title of the Study: Youth vulnerability for HIV & STD, Colombo, Sri Lanka.

| Contents: |
| Acronyms: |
| Abstract/ Executive Summary: |

Introduction & Problem Statement:

World health organization defined age of 15 to 24 years old as youth and world population on 42% are youth. South Asia and sub-Saharan Africa people age 12 to 24 years has steadily raised to 525 million in 2015 and they are almost half of the global of youth population. It is estimated that youth population in Sri Lanka is about 4.4 million or 23% of total population based on 2012 statistics.

In Sri Lanka, around 15-20% of PLHIV are young adults who are in 15-24 age groups. According to the Family Health Bureau, 5.3 % of all registered pregnancies are teenage pregnancies.

Biological, socioeconomic, literacy level, cultural and religious factors are among the important determinants of vulnerability of youth to STI/ HIV infection. Urbanization, increased mobility, decline in family bonds, poverty, peer pressures are responsible for shaping young peoples' life styles. Youth from poor social back grounds, school drop- outs, those without parental or family support, ones who have been sexually abused or exploited are at a higher risk of engaging in risky sexual practices and substance abuse which make them susceptible to STI/ HIV infection.

Research Problem: In term acquisition and transmission of STI and HIV among youth in Sri Lanka is high?

Objectives:
- To assess the knowledge and attitude towards HIV& STI among youth in Colombo district
- To determine high risk behavior in relation to HIV& STI among youth in Colombo district
- To assess the preferences, accessibility and acceptability towards prevention services on HIV & STI among youth in Colombo district
- To identify factors associated with vulnerability of HIV & STI among youth in Colombo.

Methods:

Study population- Sri Lankan youth (definition- Sri Lankan citizen who are between to 15 to 24 age group.) Youth can access from institutions or home.

Study sample- Youth living in Colombo (definition Sri Lankan citizen who are belong to 15 to 24 ages living in Colombo for at least 3 months.)

Justification- The most populated district in Sri Lanka is Colombo which is account for 2,309,809 people and it is growing at a rate of 0.913% annually it contains people with many different ethnicities and religions. HIV case detection is higher in Colombo district and 55%

of People living with HIV living in Colombo. There for we selected youth in Colombo as sample of this study.

Study design- Youth in Colombo will be based on institution or home. But considering accessibility factor, we decided to take youth who currently in an institution base (Schools, university, training colleges)

Sampling design- We used Stratified Cluster Sampling methods. Initially we categorize youth in to youth attending School, University and technical Colleges. School going youth are dividing into government school, private school and international school. From each category study subjects are selected uniformly with multi stage sampling methods.

Institute youth in Colombo:
- Government School (School having advance level facilities)- 156
- Private schools- 33
- International Schools- 23
- Government Universities- 9
- Private Higher Educational Institutes- 14
- Technical colleges- 3
- Suggested change after panel discussion
- *Consider out of school youth, so plan to collect data from university and technical colleges as a strata.*
- We will take required study subject from above mention categories with uniform representation.

Inclusion criteria: All consented Sri Lankan citizen who are belong to 15 to 24 age living in Colombo for at least 3 months.

Exclusion criteria: Youth who are not willing to participates for study.

Data collection methods:
- Structured questionnaire containing open and close questions.
- Self-administered questionnaire. (Sri Lanka literacy rate in Sri Lanka 92% and to ensure the privacy and the reliability).

Over view of the tool:
- Knowledge and attitude towards HIV& STI
- Risky behavior-substance & alcohol abuse, unprotected sexual exposures, preferences, accessibility & acceptability towards prevention services on HIV & STI
- Key gaps in efforts to provide HIV &STI services

Data analysis plan: SPSS is used as data analysis.

Ethical considerations:
- Administrative clearance will be taken from respective institution.
- All precaution to ensure voluntary participation, informed consent and assure confidentiality is taken. The proposal will be submitted for the approval of ethical review committee. After informing the basic objective research it is expected obtain written informed consent of participant for the study prior to data collection. Need to take accentuate consents for youth age 15-18 years old.
- Privacy –Privacy will be assured during the interview and examination

Operational plan:

- Human resources- Data collectors are recruitment and trained for data collection.
- Logistics- Stationaries are obtained and paper base questionnaires.
- Field work plan- Data collectors are visited to the institutions and collect data.
- Data management plan- all the responses of the questionnaires will be entered to the SPSS software.
- Quality control- pre-test outside the study sample. Investigators will be present at the time of the data collection and supervise the data collection process.
- Dissemination plan-
- Stakeholder coordination – Meetings.

Study team:

- Dr H A C W Hathurusinghe
- Dr Niroshan Jayasekara
- Dr Vino S Dharmakulasinghe
- Dr Damindu K J Thanthree (Presenter)

Collaborations & partnerships- National STD/AIDS Control Programme & the Voluntary Health Services (VHS), India and the Centers for Disease Control and Prevention (CDC/DGHT-India) (VHS-CDC Project).

Milestones & Timelines:

Items	4	5	6	7	8	9	10
Literature survey	*						
Writing the detailed proposal	*						
Submission of detailed proposal	*						
Obtaining Ethical clearance		*					
Pretesting of questionnaires			*				
Data collection			*	*	*		
Data analysis						*	
Writing the dissertation							*
Submission of dissertation							*

Budget:

Expense category	Unit price (LKR)	Number of units	Total (LKR)
Ethical review committee approval		1	
Stationery (for participants)			
Management Charges			
Tamil Translation Fees (For Questionnaire, Consent form and Information sheet)			
Management Charges			
Payments of data collector			
Refreshment for participants			
Transport			
Miscellaneous			
Final report			
Total amount for whole study (LKR)			

Staff, Trainings, Travel, Field operations, Logistics, Printing & stationary, Contingencies, Management charges, Overhead charges.

References:

Title of the Study: A study on knowledge and perceptions among Health Care Providers on PrEP preparedness in Sri Lanka.

Contents:
Acronyms:
Abstract/ Executive Summary:

Introduction & Problem Statement:
- Despite of preventive efforts for the last three decades, the number of new HIV cases are rising in Sri Lanka. The vast number of new HIV cases have been reported among Key populations specifically among MSM in Sri Lanka.
- Bio medically oriented HIV prevention is a novel trend worldwide.
- Even though the efficacy of PrEP has proven scientifically, it has still not been implemented in Sri Lanka due to various reasons.
- PrEP has its own advantages and disadvantages and successful implementation requires positive perceptions from care providers.
- According to the KP population size estimation, majority of at-risk population is residing in Western province, therefore western province would be the preferred area for initialization of PrEP.
- Therefore, this study intends to identify the knowledge and different perceptions among health care workers in implementing PrEP in Sri Lanka.

General objectives: To study the knowledge and perceptions among Health Care Providers in implementation of PrEP in Sri Lanka.

Specific objectives:
- To describe the existing knowledge among HCP on PrEP.
- To describe the perceptions of HCP on, at risk population, PrEP and service delivery in implementing PrEP.

Research Questions: How feasible is it to implement PrEP in Sri Lanka?

Methods: - Study sites- All STD clinics in Sri Lanka.

Study population- All Health care Providers who would involve in provision of PrEP in STD clinics in Sri Lanka. Doctors, nurses, Public Health Inspectors, Public Health Nursing Sisters and pharmacists would be included as HCP in this study.

Sample size- All eligible HCP in STD clinics in Sri Lanka.

Sampling design- Census study.

Study design- Descriptive cross-sectional census study will be conducted to identify knowledge and perceptions on implementing PrEP in Sri Lanka.

Data collection methods:
- Data collection will be done by trained interviewers. Before data collection interviewers will discuss each question in the questionnaire among themselves to get all the uncertain issues clarified.
- A name list of above-mentioned eligible HCP will be collected from each STD clinic in Sri Lanka. As this study will be conducted among individuals with good literacy, a mail with introduction and objectives of the study will be sent to each clinic and

support of the local medical officer will be taken to get the support of the eligible participants.
- Pre-tested self-administered semi structured questionnaire will be administered to the consented participants.

Overview of tools: In-depth literature review of existing studies will be carried out to identify knowledge and perceptions among healthcare providers. Based on the knowledge gathered in literature review, a semi-structured questionnaire will be developed. The questionnaire will consist 2 main parts to assess knowledge and perceptions.

Key variables:

Knowledge of participants:
- Heard about PrEP
- Usage of PrEP – (eligible groups, treatment regimen, and follow up, etc)
- Efficacy of PrEP
- Adverse effects of PrEP
- Knowledge on advantages and disadvantages of PrEP

Perceptions:
- Perceptions towards eligible groups – (stigma & discrimination)
- Perceptions towards PrEP- efficacy in preventing HIV; possibility of developing resistance
- Perceptions towards service delivery - Comfortability in prescribing PrEP; Readiness in providing PrEP; Facilities available at health care sector for providing PrEP

Data analysis plan – SPSS version 21 will be used for statistical analysis. Measures of central tendency, measures of dispersion, confidential intervals and p value are calculated when needed.

Ethical considerations:
- The ethical approval will be gained from Ethical review committee of PGIM.
- All the participants will be explained clearly about the objectives and procedures of this study before obtaining informed consent.
- Confidentiality of collected information will be maintained
- Anonymity will be maintained during data collection.
- Participants can decline/opt-out at any stage of the study.

Operational plan:
- Human resources – All interviewers will be given a proper training prior to the study.
- Logistics- funds need for stationaries, printing, mailing, transport etc.
- Data management plan- monitoring and supervision will be done by the PI at each stage of the study and the data will be analysed and disseminated among program managers for actions
- During the processes investigators and interviewers will conduct meetings to address ongoing issues which can arise at different stages.

Study team:
- Dr Priyantha Weerasinghe
- Dr Darshanie N Mallikarachchi (Presenter)
- Dr Prageeth S Premadasa
- Dr. Shanika Jayasena
- Dr Gayan Mahakumbura

Milestones & Timelines:
Budget: Staff, Trainings, Travel, Field operations, Logistics, Printing & stationary, Contingencies, Management charges, Overhead charges.
References:

During each presentation, the FcFT and other group members shared their suggestions to fine-tune the title, objectives, methodologies, research questions, designs, tools, execution plan and other related aspects. This has helped the participants to understand the different study protocols based on the presentation by different groups and finalizing the study plan based on the suggestions emerged.

Overall, through a process of presentation, discussions and suggestions, the respective team members developed the draft research protocols and submitted the research protocols to NSACP.
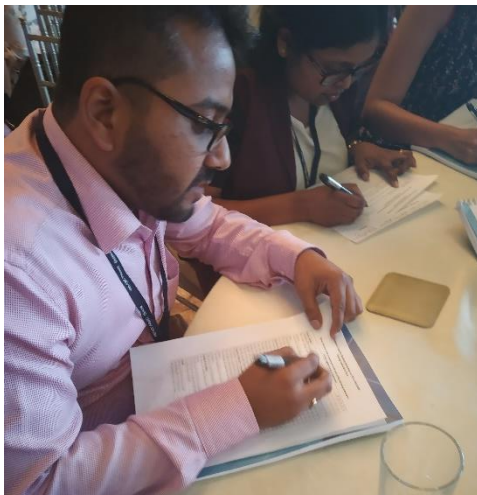
Post-Training Assessment: Dr T Ilanchezhian requested all the participants to fill in the post-training assessment form. The same was filled by each participant and collected for scoring and developing the baseline.

Post-Training Evaluation: Dr T Ilanchezhian briefly introduced the post-training evaluation form and the importance of the evaluation. During the briefing, he has suggested that, this evaluation is primarily meant for assessing the overall evaluation of the training to understand the effectiveness of the training. This evaluation will not focus on the individual aspects and the confidentiality of the information furnished will also be ensured. Then distributed the form to the participants. The same was filled by each participant and collected for consolidation and analysing. During the process of post-assessment and post-training evaluation, VHS-CDC Project team Mr Suneel, Ms Sudha and Mr Sathyaraju has extended support in distribution, collection and consolidation.

3.3. Valedictory function

On behalf of Dr Joseph D Williams, Director Project-VHS, VHS-CDC Project team and NSACP, Dr T Ilanchezhian welcomed the chief guest, facilitators, organizers and participants. During the welcome note, he has mentioned that, VHS-CDC Project with the support of CDC in collaboration with NSACP jointly organized the "National Capacity Building Workshop on Operational Research in HIV/AIDS" for three days with the objective to enhance the capacity of the NSACP SI teams in Operational Research methods to support and strengthen programmatic decision making.

He thanked the Director-NSACP, Dr Ariyaratne and SIMU team for their support in developing this technical cooperation partnerships, TA in execution of various activities including Situational Assessment, technical report on development of dashboard, Training Need Assessment report and documenting best practices. He also thanked Dr Ariyaratne and SIMU team for their support in conducting this training program, contributing as Facilitator and effectively utilize the TA support from VHS-CDC Project.

He also welcomed Dr Lilani Rajapakse, Acting Director & Consultant-Venereologist, NSACP for consented to participate in the Valedictory address, release of reference book and distribution of certificates. Also welcomed the facilitators, organizing team and participants for their support and participation.

He thanked Dr Joseph D Williams, Director-VHS-CDC Project for his mentorship, strategic guidance, systematic support extended for successful conduct of the training program, thanked Mr Suneel and Mr S Sathya for their extensive support extended in organizing this conference including identification of the venue, travel arrangements, logistic coordination and in all aspects. Wish to acknowledge and thank, the support extended by Ms T Sudha in entire communication pertaining to conduct of the training program in a very meaningfully capturing the proceeding of the workshop and developing document on the program. In addition, we also

acknowledge the support extended by VHS-CDC Project team who has not presented in this occasion and contributed for the success of the training program.

Dr Yujwal Raj made a brief presentation on the overview of the training program and highlighted the approaches adopted will include: three days of active learning, learning by doing approach, presentations, discussions, interactive sessions, group works & presentations by the participants, identification of priority topics relevant to the current HIV/AIDS program in Sri Lanka, real time development of research protocols on identified topics, during the workshop, experienced Facilitators to guide and hand hold the participants and residential program, to ensure complete focus.

He also shared the key outcomes of the training as:

- Built the knowledge & skills of the NSACP program managers in designing, planning & execution of Operational Research in identified priority area
- Identified the Operational Research titles for undertaking research studies for strengthening programmatic decisions
- Developed draft research protocols on the identified priority areas for Operational Research
- Evolved research plan for follow up and implementation of OR studies, after the workshop (supported with mentorship plan)
- Established network of trained personnel on Operational Research for exchanging experiences

In continuation of this, participants undergone in this training program shared their feedback:

"Thank you for organizing the workshop. Thanks VHS for the hospitality. About the resource persons, Dr. Yujwal, Dr. Niranjan and Dr. Madhu... they are wonderful... personality and smile while taking sessions and cleared doubts and also how influencing in the teaching process and how fast the way they back to the sessions and made the sessions in a more faster way. Thank you CDC and VHS team."

– Dr I L Jayaweera, Consultant-Venereologist

"Thank you everyone. My sincere thanks to the wonderful hospitality arrangements for VHS and CDC team and NSACP team. It is a very good learning, we will take this as a big subject and implement in a good manner. Thank you so much for VHS and CDC team."

– Dr H A C W Hathurusinghe, Consultant-Venereologist

VHS-CDC Project and NSACP jointly brought a reference book on national capacity building workshop on Operational Research in HIV/AIDS. This book was released by Dr Lilani Rajapakse, Acting Director-NSACP in the presence of Dr Ariyaratne and received by Dr M K D N Mallikarachchi, Consultant-Venereologist. The reference book developed was also provided to each participant as ready reference for planning and execution of the operational research.

Dr Lilani Rajapakse, Acting Director-NSACP delivered a valedictory address and during her speech, she mentioned that, a Letter of Intent (LOI) was signed between CDC and Ministry of Health, Nutrition & Indigenous Medicine, Sri Lanka, Govt. of Sri Lanka. VHS is the implementing partner. VHS-CDC Project is providing Technical Assistance on SIMU in NSACP. This workshop on Operational Research enhanced the capacity of medical professionals in NSACP and motivated them to engage in research. Thanked CDC/PEPFAR and VHS team for the supported extended in organizing the workshop.

Dr Lilani Rajapakse, Acting Director-NSACP and Dr Ariyaratne jointly distributed the certificates to the participants undergone the training program.

Ms Srilatha Sivalenka, Public Health Specialist, CDC delivered a felicitation. During the felicitation address, she spoke as.....

"This is the first workshop for us and two more workshops will be organized. As Dr. Niranjan mentioned, abstract writing is not learned just in one class, will have a complete training, certain aspects like to know and certain aspects which we need to focus and have a detailed session.......We have great facilitators and very good in conducting the program..... This is like a high-level program and great opportunity.... we want all of you to publish ateast by the end of June. At the end of May, we may have one session on data management.... can do a data collection progress, data analysis, subsequently that will have a workshop on scientific writing and you all will be trained to write a scientific paper.....

Special thanks to Dr. Ariyaratne.. for conducting the training as a successful one. he is quite instrumental to get all his officers to publish research papers ...he said that it is a greater opportunity to publish to go with career wise also. So, it is very important and please use this opportunity.

My special thanks to Dr Joseph D Williams, our prime partner..... he is not here but, he is the one who is quite supportive in all aspects..... My sincere thanks to Dr T Ilanchezhian, Mr Suneel, Ms. Sudha and Mr Sathyaraju for their contribution and support in conducting this training program on behalf of VHS-CDC Project. My special thanks to CDC Director Mr Timothy Holtz.

Thank you so much for all your precious team.... just want to communicate to all that you are fantastic.....All the best for you all.... thanks to all the facilitators. Please utilize this opportunity at the maximum and keep in touch with emails and clarify". (Ms Srilatha delivered a speech during morning session).

VHS-CDC Project honored the chief guests, facilitators and NSACP. Mementos were provided as per the details given below:

Dr Lilani Rajapakse Acting Director & Consultant-Venereologist NSACP	Dr T Ilanchezhian Senior Technical Advisor VHS-CDC Project
Dr Ariyaratne Manathunge Consultant-Venereologist NSACP	Mr. Suneel Kumar Chevvu M&E Officer VHS-CDC Project
Dr Yujwal Raj, Technical Advisor (SI) Dr Niranjan Saggurti, Consultant Dr Madhusudana Battala, Consultant	Dr Ariyaratne Manathunge Consultant-Venereologist NSACP
Dr Joseph D Williams Director Projects, VHS (represented by VHS-CDC team)	Dr Lilani Rajapakse Acting Director & Consultant-Venereologist NSACP

In continuation of this, NSACP, SIMU team and participants jointly honored the VHS-CDC project, organizing team members and facilitators.

On behalf of the participants and NSACP, provided a memento to VHS-CDC Project and appreciated the support extended in successful conduct of the training program with great coordination on both technical and logistics aspects.

Master of Ceremony in the valedictory function was undertaken by Dr Piyumi Perera.

Dr Ariyaratne delivered vote of thanks. During his speech, he highlighted the following:

ф   Letter of Intent was signed between CDC and MoH during last year February.
ф   VHS-CDC Project is continued to provide TA to NSACP on SI.
ф   As a part of TA, the training on Operational Research has been conducted based on the training needs identified through a study conducted on Training Need Assessment.
ф   Thanked PEPFAR-CDC for their support and thanked Ms. Srilatha for her participation in the three-day program and contribution.

Thanked VHS for their systematic planning and implementation of this training workshop. Acknowledged and thanked the support extended by Dr Joseph D Williams, Director Projects-VHS and to Dr T Ilanchezhian, for their support in establishing this partnership, coordinating with NSACP and facilitating in conducting this training program.

Further, acknowledged the support extended by staff from VHS Mr Suneel Kumar, Ms Sudha, Mr Sathyaraju for supporting this workshop.

He thanked the core facilitators Dr Yujwal, Dr Niranjan and Dr Madhu for their excellent facilitation, technical inputs and guidance in conducing the training program.

Extended his special thanks to Dr Rasanjalee Hettiarachchi Director/NSACP and to Dr Lilani Rajapakse, Acting Director & Consultant-Venereologist, NSACP for guiding SIMU and VHS-CDC Project for participation in this closing ceremony, distribution of certificates and release of book.

He thanked Dr Himali, Dr Muraliharan Dr Piyumi and Dr Lahiru for their support extended in finalising the participants, conducting this training program and ensuring coordination with VHS-CDC Project and participants.

During his speech, he also appreciated the logistics planning including accommodation, hall and other aspects. Thanked Pledge Scape hotel for providing conducive environment for conducting this workshop.

Further thanked all the participants who followed all the instructions given by facilitators and being very good learners and for active participation in the training program.

Group photo session: VHS-CDC Project and NSACP has facilitated group photo session of all the participants and group photo of each research group.

Financial management and logistics: VHS-CDC Project in consultation with NSACP evolved guidelines for TA/DA settlement. Based on the guidelines, Mr S Sathyaraju has developed systems and dispersed the amounts to the respective participants. Also, managed the logistics coordination, coordination with hotels, room arrangements, hall arrangements and other needful support for the successful conduct of the program.

Photo documentation: Dr Ariyaratne, Consultant-Venereologist & Coordinator-SIMU, NSACP and Dr S Muraliharan, MO/Planning, NSACP has extended extensive support in photo documentation of the entire training program.

The organizing committee has shared the soft copy of the day 3 presentations, additional resource materials on the sessions conducted, photographs, follow-up plans and next steps with all the participants through e-group.

Photo Collage - Courtesy to Dr. Ariyaratne

ANNEXURES

IV. Annexures

a. Agenda / Training Curriculum

OBJECTIVES: To enhance the capacity of the NSACP SI teams in Operational Research methods to support and strengthen programmatic decision making.

OUTCOMES:
1. Built the knowledge & skills of NSACP program managers in designing, planning & execution of Operational Research in identified priority area.
2. Identified the Operational Research titles for undertaking research studies for strengthening programmatic decisions.
3. Developed draft research protocols on the identified priority areas for Operational Research.
4. Evolved research plan for follow up and implementation of OR studies, after the workshop (supported with mentorship plan).
5. Established network of trained personnel on Operational Research for exchanging experiences.

FACILITATORS:

Core Facilitators – VHS-CDC Project Consultants	Facilitators
• Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project • Dr Niranjan Saggurti, Consultant, VHS-CDC Project • Dr Madhusudana Battala, Consultant, VHS-CDC Project	• Dr Ariyaratne Manathunge, Consultant-Venereologist and Coordinator -SIMU, NSACP • Ms Srilatha Sivalenka, Public Health Specialist, CDC • Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project • Mr Suneel Kumar Chevvu, M&E Officer, VHS-CDC Project

SCHEDULE

Time	Session	Session Type	Details	Facilitator
	DAY 1 – 28/03/2019 (Thursday)			
0830 – 0915	Registration			
0915 – 1000	Inauguration		Welcome address Inaugural address Introduction of participants Objectives of the workshop Methodologies Expected outcomes Activities during and post workshop	Dr Ariyaratne Manathunge Ms. Srilatha Sivalenka Dr T Ilanchezhian Dr Yujwal Raj
1000 – 1045	Setting the Ground	Presentation Interaction	• Need and importance of Operational Research • Need for OR in NSACP - Summary of feedback from previous reviews & prog feedback • Expectations of participants, finalization of the agenda and developing ground rules for conducting the workshop • Using the workshop learnings for programmatic purposes	Dr Yujwal Raj Dr Ariyaratne Manathunge Dr T Ilanchezhian Participants
1045 – 1130	Understanding the research problem	Facilitated Discussion	A brief unstructured talk by the teams on the identified programmatic issues	Team Leaders/Participants
1130 – 1145	Break			
1145 – 1300	Framing the research questions & objectives	Presentation Exercise	Exercise on writing research questions	Dr Yujwal Raj
1300 – 1400	Lunch			

Time	Session	Session Type	Details	Facilitator
1400 – 1500	Types of Research - Identifying appropriate approach to answer the research questions	Presentation Facilitated Discussion	Introduction to various types of research; Primary vs Secondary; Quantitative & Qualitative; Epidemiological, Behavioural & Operational research, etc. and their application; Steps involved in undertaking research;	Dr Yujwal Raj
1500 – 1530	Elements of Research Protocol	Presentation & Discussion	Structure of Research Protocol	Dr Madhusudana Battala
1530 – 1730	Group Work 1 – Protocol Writing Part1	Group Work	Writing background, research problem, questions & objectives	All Facilitators
DAY 2 – 29/03/2019 (Friday)				
0900–0930	Recap of Day 1			Dr Ariyaratne Manathunge Dr T Ilanchezhian Dr Yujwal Raj
0930 – 1000	What is Operational Research?	Presentation	Overview & Approaches	Dr Yujwal Raj
1000 – 1130	Quantitative Research Methods & Sampling Designs	Presentation & Interaction	Study designs, data collection methods, sample size & sampling plan	Dr Niranjan Saggurti
1130 – 1145	Break			
1145 – 1315	Qualitative Research Methods & Sampling Designs	Presentation & Interaction	Study designs, data collection methods, sample size & sampling plan	Dr Madhusudana Battala
1315 – 1415	Lunch			
1415 – 1530	Study Tools – Principles of design	Review of tools	Types of tools, design considerations	Dr Yujwal Raj Mr Suneel Kumar
1530 – 1630	Group Work 2 – Protocol Writing Part2	Group Work	Writing the methodology & overview of tools	All Facilitators
1630 – 1730	Data Management & Analysis Plan	Presentation	Indicators & Tabulation plan, Data recording, entry, cleaning, adjustments, analysis, weights, presentation	Dr Niranjan Saggurti

Time	Session	Session Type	Details	Facilitator
1730 – 1800	Ethics in HIV/AIDS Research	Presentation	Principles of Ethics, Vulnerable Groups, Informed Consent, Data Confidentiality, Respondent protection, reporting	Dr Madhusudana Battala
DAY 3 – 30/03/2019 (Saturday)				
0830–0900	Recap of Day 2			Dr Ariyaratne Manathunge Dr T Ilanchezhian Dr Yujwal Raj
0900 – 1000	Research Project Management	Presentation & Interaction	Field planning, HR planning, Logistics, Monitoring & Supervision, Timelines, Budget planning	Dr Yujwal Raj
1000 – 1030	Scientific Writing	Review of various formats	Preparation of Study reports, scientific papers, abstracts & publications	Dr Niranjan Saggurti Dr Yujwal Raj
1030 – 1130	Group Work 3 – Protocol Writing Part3	Group Work	Writing the data management plan, PM plan & ethical considerations	All Facilitators
1130 – 1145	Break			
1145 – 1215	Team Presentations of OR Study Protocol			
1215 – 1245	Next Steps		Role of various stakeholders; Mentors & Mentoring Plan; Timelines; Abstract development;	Dr Yujwal Raj
1245 – 1300	Post-assessment and post-training evaluation			Dr T Ilanchezhian Dr Yujwal Raj
1300 – 1400	Valedictory Function		Certificate Distribution; Post-training Assessment	Dr Lilani Rajapakse, Acting Director, NSACP Dr Ariyaratne Manathunge Ms. Srilatha Sivalenka Dr Joseph D Williams Dr Niranjan Saggurti Dr T Ilanchezhian and team
1400 – 1445	Lunch			

b.   Training Need Assessment Form

Name: .... Qualification: ....Designation: ....

Place of work: ....

NEEDS ASSESSMENT FORMAT

(To be circulated to and responses obtained from all participants over email.)

1. Mention your key responsibilities working under NSACP.

    ....

    ....

    ....

2. What are the programmatic areas that you think need some improvement or modification?

    ....

    ....

    ....

3. Do you collect, record, submit, review or analyse program data as a part of your job? Yes or No? If yes, mention the most common actions you take with data.

    ....

    ....

    ....

4. Were you involved in any research work earlier? If yes, give title of the study & your role.

Title	Role

5. Mention a few analytic and research skills which you are good at based on your opinion / experience / qualification.

    ....

    ....

    ....

6. Mention the analytic and research skills that you are not good at & want to learn.

………..…..

……

……

7. How do you think research and analytic skills will help you in performing your duties / program responsibilities in a better way?

……

……

……

8. What are your expectations from the upcoming Capacity Building Workshop on Operational Research in HIV/AIDS? Mention specific areas of research that you want to learn and improve upon (eg. Research methods, sampling design, epi research, operational research, protocol development, designing tools, quantitative methods, qualitative methods, data management, analysis, publications, etc.)

……

……

……

*****

c.   Pre & Post Assessment Forms

Name: .... Qualification: .... Designation: ....

Place of work: ....

PRE AND POST-TRAINING ASSESSMENT FORMS

(Appropriate answer to be specified in the bracket by the participants before & after the training.)

1. **Mean, Median and Mode are**   (   )
    (A) Measures of deviation
    (B) Ways of sampling
    (C) Measures of central tendency
    (D) None of the above

2. **Research is**   (   )
    (A) Searching again and again
    (B) Finding solution to any problem
    (C) Working in a scientific way to search for truth of any problem
    (D) None of the above

3. **Which of the following is the first step in starting the research process?** (   )
    (A) Searching sources of information to locate problem
    (B) Survey of related literature
    (C) Identification of problem
    (D) Searching for solutions to the problem

4. **Action or Operational research means**   (   )
    (A) A longitudinal research
    (B) An applied research
    (C) A research initiated to solve an immediate problem
    (D) A research with socioeconomic objective

5. **A reasoning where we start with certain particular statements and conclude with a universal statement is called**   (   )
    (A) Deductive Reasoning
    (B) Inductive Reasoning
    (C) Abnormal Reasoning
    (D) Transcendental Reasoning

6. **Which of the following variables cannot be expressed in quantitative terms?** (   )
    (A) Socio-economic Status
    (B) Marital Status
    (C) Numerical Aptitude
    (D) Professional Attitude

7. **The essential qualities of a researcher are**   (   )
   (A) Spirit of free enquiry
   (B) Reliance on observation and evidence
   (C) Systematization or theorizing of knowledge
   (D) All the above

8. **In the process of conducting research 'Formulation of Hypothesis" is followed by**
                                                                      (   )
   (A) Statement of Objectives
   (B) Analysis of Data
   (C) Selection of Research Tools
   (D) Collection of Data

9. **A research paper is a brief report of research work based on**   (   )
   (A) Primary Data only
   (B) Secondary Data only
   (C) Both Primary and Secondary Data
   (D) None of the above

10. **Questionnaire is a**   (   )
    (A) Research method
    (B) Measurement technique
    (C) Tool for data collection
    (D) Data analysis technique

11. **"Control Group" is a term used in..............**   (   )
    (A) Survey research
    (B) Historical research
    (C) Experimental research
    (D) Descriptive research

12. **Information is.....**   (   )
    (A) Raw Data
    (B) Processed Data
    (C) Input data
    (D) Organized data

13. **Inductive logic proceeds from**   (   )
    (A) General to General
    (B) Particular to General
    (C) General to Particular
    (D) Particular to Particular

14. **Which of the following is not a "Graphic representation"?**   (   )
    (A) Pie Chart
    (B) Bar Chart
    (C) Table
    (D) Histogram

15. **Which of the following is not a quantitative research method?** (   )
    (A) Case Control Study
    (B) Cross Sectional Study
    (C) Focus Group Discussion
    (D) RCT

16. **Which of the following is TRUE?** (   )
    (A) Descriptive studies generate hypothesis
    (B) Analytical studies are used to test hypothesis
    (C) Only A
    (D) Both A & B

17. **Which of following is not a characteristic of a well drafted research objective?** (   )
    (A) Broad
    (B) Crisp
    (C) Measurable
    (D) Relevant

18. **Which of the following sampling designs will give you a generalizable estimate?** (   )
    (A) Snow ball sampling
    (B) Systematic Random Sampling
    (C) Quota sampling
    (D) Convenience sampling

19. **Open-ended questions are more useful for** (   )
    (A) Case control studies
    (B) Clinical trials
    (C) Focus Group Discussion
    (D) Cohort study

20. **Giving autonomy to the respondent to decide about participation in the survey comes under which principle of research ethics?** (   )
    (A) Respect
    (B) Beneficence
    (C) Justice
    (D) First Do No Harm

21. **Which of the following is not related to research ethics?** (   )
    (A) Helsinki Declaration
    (B) Doha Declaration
    (C) Nuremberg Code
    (D) Belmont Report

22. **What is metadata?** (   )
    (A) Data with data
    (B) Data in data
    (C) Data about data
    (D) Data for data

23. **Which of the following are the aspects of data quality?** (   )
    (A) Accuracy
    (B) Completeness
    (C) Consistency
    (D) All the above

24. **Diagnostic studies, evaluations & intervention research can be grouped under** (   )
    (A) Basic Research
    (B) Epidemiological Studies
    (C) Clinical Research
    (D) Operational Research

25. **Which of the following mean differently from the rest?** (   )
    (A) Program Science
    (B) Applied Research
    (C) Behavioural Research
    (D) Interventional Studies

*****

d. Training Evaluation Form

Please rate your level of agreement with each of the following statements.

5 is the highest level of agreement.

	5	4	3	2	1
Course content					
I understood the learning objectives well.					
The course content met my expectations & was in line with the learning objectives.					
I found the course material (slides, handouts, exercises, etc.) useful & easy to follow.					
Training received was adequate for my position/ experience.					
The course will directly or indirectly improve the performance of my duties.					
I am clear about where to find answers to questions that I have about research.					
Structure & process of training					
The training sessions are well structured & appropriately scheduled.					
Instructional methods used during training are effective.					
Participation and interaction were encouraged during the sessions.					
The speed/ pace at which the training was conducted was appropriate.					
I was comfortable with the length of the sessions.					
Group works/ hands-on exercises are well structured with clear instructions.					
Guidance & mentoring support was adequately provided during group works.					
Adequate chance was given for participants to ask questions and resolve doubts.					
There was ample opportunity to practice the skills I am supposed to learn.					
I received adequate feedback from the facilitators during the practice sessions.					
Trainers & Mentors – Knowledge & Delivery Style					
The facilitators were knowledgeable on the subject matter.					
The facilitators explained the concepts clearly and in an understandable way.					
The facilitators effectively handled the questions that were asked.					
The examples & experiences quoted by trainers were relevant & apt to my situation.					
I was well engaged during the sessions/ The sessions were kept alive, interesting & interactive.					
How would you rate their facilitation skills overall?					
Facility & Amenities					
The venue & seating arrangement were comfortable & suitable for training					
The environment was free from distractions and conducive to learning.					
The audio-visual set up was good and clear.					
The quality of food was good.					
Overall					
How will you rate the training, overall?					
I am satisfied with the training course.					
I will recommend this course to others.					

What did you like about the course?

List the three most important things you learnt from this training.

How can we strengthen and improve this training further?

Would you recommend including any other topics in the training course?

Any other comments.

*****

e.   Certificate

MINISTRY OF HEALTH SRI LANKA

NATIONAL STD/AIDS CONTROL PROGRAMME

VHS — VOLUNTARY HEALTH SERVICES — WE SERVE THE PEOPLE WHO SERVE YOU

Certificate of Participation

This is to certify that Dr/Mr/Ms..

from.. has successfully participated in the

"National Capacity Building Workshop on Operational Research in HIV/AIDS"

held from 28-30, March 2019 at Negombo, Sri Lanka.

Dr. Joseph D Williams
Director – Projects
VHS, Chennai

Dr. Ariyaratne Manathunge
Consultant – Venereologist
NSACP, Sri Lanka

Dr. Rasanjalee Hettiarachchi
Director
NSACP, Sri Lanka

National capacity building workshop on Operational Research in HIV/AIDS
Jointly organised by NSACP-Sri Lanka & VHS-CDC Project-India
Pledge Scape Hotel, Negombo, Sri Lanka | 28-30 March 2019