Training Report

Training on
Data Management & Analysis of STD/HIV Data
for Consultant-Venereologists & Medical Officers (Batch-I)

21-23, August 2019 | Colombo, Sri Lanka

Jointly organized by

National STD/AIDS Control Programme (NSACP), 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

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Documented by	:	**Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project** **Ms T Sudha, Senior Programme Associate, VHS-CDC Project**
Designed by	:	**Ms T Sudha, Senior Programme Associate, VHS-CDC Project**
Photo Courtesy	:	**Dr Ariyaratne Manathunge, Consultant-Venereologist, NSACP** **Dr S Muraliharan, Medical Officer/Planning, NSACP**
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Training on Data Management & Analysis of STD/HIV Data for Consultant Venereologists & Medical Officers

Jointly organised by NSACP-Sri Lanka & VHS-CDC Project - India

Galle Face Hotel, Colombo 02, Sri Lanka | 21-23 August 2019

Contents

Foreword

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

I am happy to write a foreword to this training report on the *"Training on Data Management & Analysis of STD/HIV Data for Consultant-Venereologists & Medical Officers"* 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 21-23, August 2019 at Colombo/ Sri Lanka.

The goal of the training is to impart & advance the data management skills of Consultant-Venereologists & Medical Officers in order to improve the data quality, strengthen the data analysis and use of STD & HIV/AIDS programme data for an evidence-based programming under NSACP. The training was conducted with the following objectives:

- To improve the understanding of the Consultant-Venereologists & Medical Officers on the programme datasets under NSACP from an evidence-based approach;
- To introduce the basic principles and approaches of data management;
- To apprise the participants of the various methods of data quality assessment, validation & adjustments;
- To build the basic skills in programme data analysis using MS Excel; and
- To improve the presentation, dissemination and use of data for programmatic purposes.

Training and capacity building are the key elements of VHS-CDC Project in 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 was very much useful for the participants in learning the skills of Basics of Data Management & Data Quality; DQA & Data Analysis using MS Excel; SPSS and Presentation, Communication & Use of Data. This training was conducted with the methodologies such as: Active Learning through Discussions,

Review of examples & Case studies; Learning by Doing; Individual Hands-on/ Practical Exercises; Group Exercises; and Parallel work on selected data.

This training report contains the training goal, objectives, profile of participants, process adopted including day wise/ session wise proceedings, steps involved in Data Management, guidelines & suggestions, key learnings, key outcomes, feedback, pre & post assessments, post-training evaluations, 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 acknowledge and appreciate the strategic support and technical assistance being extended by Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project for coordinating with NSACP and SIMU in providing TA on SI and managing, coordinating and conducting this training program. Thanks to VHS-CDC Project technical team, admin & finance team and resource persons/ trainers for the systematic support extended in successful conduct of this training.

Thanks to VHS-CDC Project team for conducting the sessions by involving SIMU officials who has already trained by VHS-CDC Project in similar data management and analysis. This has contributed for building in-country capacities and greater engagement of in-country resources.

My gratitude should go to Dr Melissa Nyendak, Country Director, CDC/DGHT-India for the 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 technical/ financial support and guidance in these technical assistance initiatives.

Appreciate Dr Ariyaratne Manathunge, Consultant-Venereologist cum 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 the Training on Data Management & Analysis of STD/HIV Data for Consultant-Venereologists & Medical Officers.

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

Acknowledgement

Dr Joseph D Williams,
Director Projects,
The Voluntary Health Services (VHS),
Chennai/INDIA.

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

- Enhance SIM Unit capacity to utilize electronic and manual program data for decision making;
- Improve capacity of SIM Unit to carryout management, analysis, documentation, and dissemination of summary program data reports;
- Improve capacity of SIM Unit to conduct and disseminate results of operational research; and
- Consultation with stakeholders on monitoring & 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 an *"Training on Data Management & Analysis of STD/HIV Data for Consultant-Venereologists & Medical Officers"* for three days.

To support this training, the project has developed an agenda based on needs assessment, resource kit (with presentations, exercises, tools and resource materials) & resource book. VHS-CDC Project has identified and engaged international professional trainer along with VHS-CDC Project team and conducted the training program by adopting participatory approaches supported with intensive

hands-on training. 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 on Data Management & Analysis of STD/HIV Data for Consultant-Venereologists & Medical Officers".* This training 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 Data Management; (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; exercise formats; outcome of the training; and follow-up plans. This training 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 for this technical cooperation initiative.

We wish to acknowledge & thank Dr Ariyaratne Manathunge, Consultant – Venereologist cum Coordinator-SIMU, NSACP for his continuous support, strategic guidance and cooperation being extended in execution of this technical cooperation initiative. Appreciate his strenuous support in systematic planning, serving as a facilitator and contributing for successful conduct of the training. Also acknowledge the support extended by Dr S Muraliharan, Medical Officer/Planning, NSACP as a facilitator and coordination team member. Acknowledge the support extended by SIMU team, senior consultants in NSACP, SI team in peripheral STD clinics and key stakeholders.

We sincerely thank & acknowledge the technical guidance & support being extended by Dr Melissa Nyendak, Country Director, Mr Lokesh Upadhyaya, Associate Director for Management & Operations, CDC/DGHT-India and CDC team. Wish to thank Ms Srilatha Sivalenka, Public Health Specialist, CDC/DGHT-India for her continued support and guidance in this cooperation initiatives.

We would like to thank Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project for his support and contribution in developing resource materials, conducting the training along with VHS-CDC team and served as a team member in facilitating for conducting this training program.

We would like to thank Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project for his leadership initiative, systematic support, planning, ensuring communication & coordinating and conducting this training program in a successful manner. Also thank him for serving as a facilitator in conducting this training program for achieving the desired training objectives by ensuring good coordination with VHS-CDC team and SIMU team.

We thank Ms T Sudha, Senior Programme Associate, VHS-CDC Project for her support extended in preparations for conducting the training and communication, consolidation of the report and designing of this document.

We thank Mr B Kamalakar, Finance Controller and Mr S Sathyaraju, Associate Manager Finance, VHS-CDC Project and admin team for their support in logistics coordination, finance management & other arrangements.

Overall, this training program was meaningfully, successfully and effectively conducted. We greatly appreciate the fullest cooperation extended by NSACP & SIMU in this technical cooperation initiatives and in conducting this training program.

Dr Joseph D Williams,
Director Projects,
The Voluntary Health Services (VHS),
Chennai/INDIA.

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
CVs	Consultant-Venereologists
DD	Data Dictionary
DGHT	Division of Global HIV & TB
DM	Data Management
DQA	Data Quality Assurance
DSCS	District STD Clinic Staff
EPI Unit	Epidemiology Unit
FcFT	Facilitator cum Feedback Team
FGD	Focus Group Discussion
FSW	Female Sex Worker
GIGO	Garbage In Garbage Out
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
Litt.	Literature
M&E	Monitoring and Evaluation

MOs	Medical Officers
MSM	Men who have Sex with Men
NO	Nursing Officer
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
PMTCT	Prevention of Mother To Child Transmission
PrEP	Pre-Exposure Prophylaxis
PRT	Peer Review Team
RCT	Randomized Controlled Trial
REC	Research Ethics Committees
RR	Risk Ratio / Relative Risk
SPSS	Statistical Package for the Social Sciences
STD	Sexually Transmitted Diseases
SI	Strategic Information
SIMU	Strategic Information Management Unit
TA	Technical Assistance
TB	Tuberculosis
TCT	Training Coordination Team
TNA	Training Needs Assessment
VHS	Voluntary Health Services
WHO	World Health Organization

Chapter 1: Introduction

National STD/AIDS Control Programme (NSACP), Sri Lanka:

National STD/AIDS Control Programme (NSACP), Govt., 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.

Key functions of NSACP:

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.

Unique strengths of Strategic Information (SI) system:

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.

Voluntary Health Services:

The Voluntary Health Services is a Cooperative Agreement (CoAg.,) implementing partner of CDC for providing Technical Assistance on Strategic Information. 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 CDC 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:

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

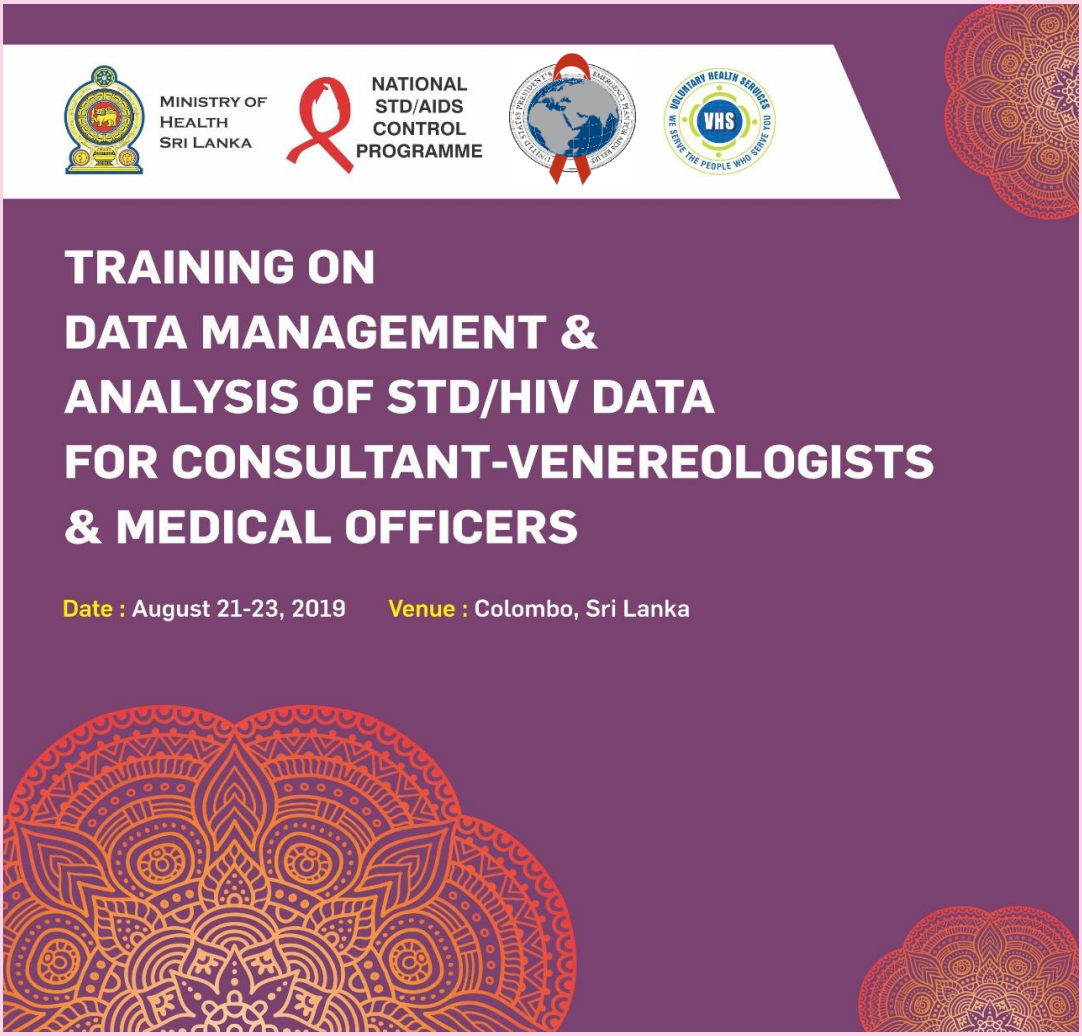
As part of this TA initiatives, VHS-CDC Project is providing capacity building initiatives, system strengthening, documentation and dissemination. In accordance with the capacity building initiatives, the project is organizing a series of training programs which includes:

- National Capacity Building Workshop on Operational Research in HIV/AIDS (qualitative & quantitative).
- National Training on Scientific Writing in HIV/AIDS.
- International Training on Data Management and Analysis of HIV/AIDS Data for SIMU and reporting units.
- International Training on DHIS 2 (District Health Information Software 2) Design and Customization Academy.
- Training on Data Management and Analysis of HIV/AIDS Data for District STD Clinic Staff (Public Health Inspectors and Nursing Officers).

VHS-CDC Project in partnership with SIMU has accomplished the major activities in accordance with Focused Outcome and Impact Table (FOIT) arrived at and agreed upon. Some of the major activities accomplished will include but not limited to: undertaking research studies; conducting training

programs for SIMU and SI team (Operational Research, Scientific Writing, Data Management, DHIS 2 and training on transition from paper-based to EIMS (for roll-out of EIMS); documentation and dissemination of best practices; sharing regional best practices on SI in the context of Sri Lanka; development of technical report on dashboard; developing plans and systems for development of dashboard; facilitating exposure visits and participation in the conferences; knowledge transfer; and other key initiatives supported with technical guidance, mentoring & follow-up. In addition, the project is also in the process of developing web-based Dashboard Indicator graphs (DBI), animated analytic graphs, infographics, etc., for incorporating to the existing NSACP website; Update M&E plan to align with 2018-2022 National Strategic Plan (including operational plan for post EIMS); Develop reports for Stakeholders: Design analytic reports based on SI relevant to stakeholders (development of fact sheets/ ready reckoner for policy makers and program managers); and Process documentation on the expériences of TA to NSACP & Dissemination with SIM Unit/ NSACP and way forward.

Considering the overall capacity plans evolved, VHS-CDC Project has organized **"Training on Data Management & Analysis of STD/HIV Data for Consultant - Venereologists & Medical Officers"** in two batches representing from all STD Clinic in the entire country.



Chapter 2: Training on Data Management & Analysis of STD/HIV Data

2.1. Overview of the training program

VHS-CDC Project with the support of CDC in partnership with SIMU-NSACP, MoH-GoSL jointly organized the "Training on Data Management & Analysis of STD/HIV Data for Consultant-Venereologists & Medical Officers" for 1st batch from 21-23, August 2019 at Galle Face Hotel, Colombo/ Sri Lanka from STD Clinics.

Goal: To impart & advance the data management skills of Consultant Venereologists & Medical Officers in order to improve the data quality, strengthen the data analysis and use of STD & HIV/AIDS programme data for an evidence-based programming under NSACP.

The **Objectives** of the program are:

- To improve the understanding of the Consultant-Venereologists & Medical Officers on the programme datasets under NSACP from an evidence-based approach.
- To introduce the basic principles and approaches of data management.
- To apprise the participants of the various methods of data quality assessment, validation & adjustments.
- To build basic skills in program data analysis using MS Excel.
- To improve the presentation, dissemination and use of data for programmatic purposes.

The **methodologies** adopted in the training program includes:

- Active Learning through Discussions; Review of examples; and Case studies
- Learning by Doing
- Individual Hands-on/ Practical Exercises
- Group Exercises
- Resource book/ resource materials
- Parallel work on selected data

This training on Data Management for the Consultant-Venereologists & Medical Officers was conducted based on the training needs supported with systematic planning by adopting participatory methodologies, supported with group exercises, hands-on training, mentoring by experts, use of clinic level data in analyzing & presenting, recap on each day learnings in an interactive way, question & answer session, etc. As a part of this training, undertaken pre & post assessment and post-training evaluation. In this training program, a Resource Book on Data Management was also brought out and provided to each participant for reference.

2.2. Participants

VHS-CDC Project has identified and selected participants for the 1st batch of the training program in consultation and coordination with the SIMU and the Training Coordinator from NSACP.

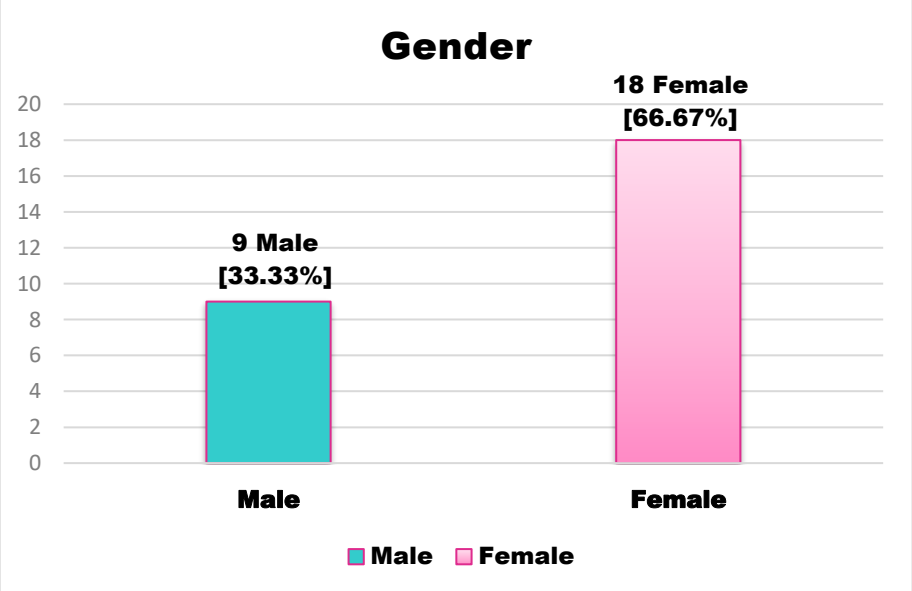
Through a process, SIMU-NSACP has identified and nominated 27 participants from District Peripheral STD Clinics. The category of participants identified for the training program will include Consultant-Venereologists and Medical Officers.

The **criteria** adopted for selection of participants will include but not limited to:

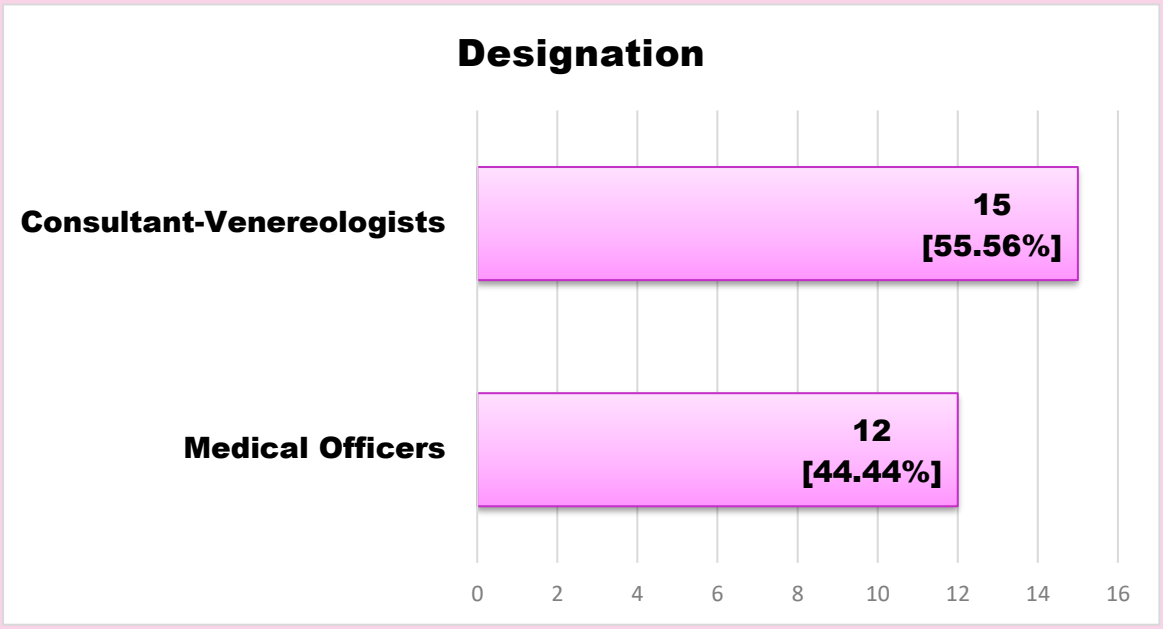
- At present, the person should directly work District Peripheral STD clinic.
- Plans to continue to work in the same position.
- Having basic skills in using computer.
- Agreeing to participate & complete follow-up actions as evolved in the training.
- Willing to learn through training and mentorship.
- Experience in handling data or associated with data management.

2.2.1. Profile of Participants

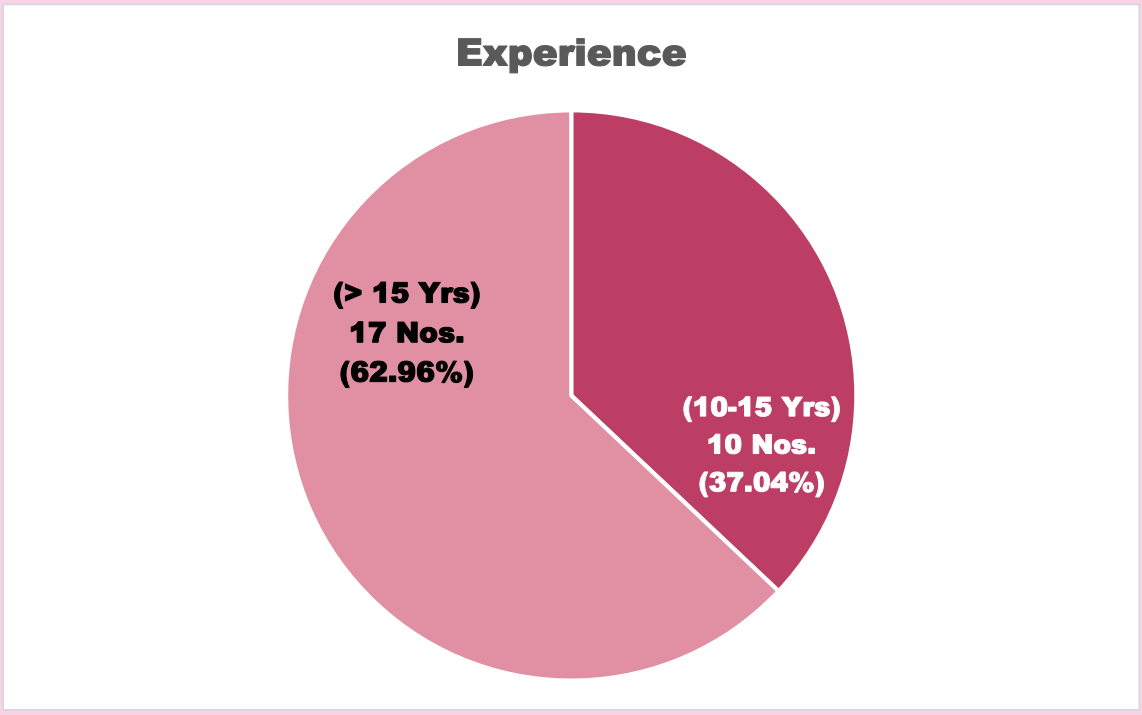
In this training program, 27 participants have undergone training which includes 9 male and 18 female participants.



Similarly, 15 Consultant-Venereologists and 12 Medical Officers represented and benefited through this training program.



In this training program, amongst the 27 participants 62.96% (17) of them had more than 15 years of experience and remaining 37.04% (10) is with 10-15 years of experience in this position.



2.2.2. List of participants capacitated

The **list of Consultant-Venereologists and Medical Officers** capacitated in the training program is given below:

S. No.	Name of the participants	Designation & Organization	Ph. No.	Email-ID
1	Dr H P Perera	Consultant Venereologist, STD clinic, NSACP.	0718021015	pererahimali.perera@gmail.com
2	Dr Thilani Ratnayake	Consultant Venereologist, Multisectoral Unit, NSACP.	0718508813	thilanirathnayaka@hotmail.com
3	Dr D O C de Alwis	Consultant Venereologist, STD clinic, Nuwaraeliya.	0715928696	Okavas66@yahoo.com
4	Dr M K D N Mallikarachchi	Consultant Venereologist, STD clinic, T. Hospital, Ratnapura.	0718672995	darshanie.mallikarachchi@gmail.com
5	Dr Priyantha Weerasinghe	Consultant Venereologist, STD clinic, General Hospital, Gampaha.	0718416464	weerasinghepriyanthak@gmail.com
6	Dr H P S P Somawardhana	Consultant Venereologist, STD clinic, Teaching Hospital, Kurunagala.	0718074015	Shyama.somawardhana@gmail.com
7	Dr Prageeth Premadasa	Consultant Venereologist, STD clinic, T. Hospital, Kuliyapitiya.	0718073467	prageethsuranga@rocketmail.com
8	Dr Lasanthi Siriwardena	Acting Consultant Venereologist, STD clinic, NSACP.	0777358466	Lasanthi_gunaratne@hotmail.com
9	Dr Malathi Pathiraja	Consultant Venereologist, STD clinic, CSTH, Kalubowila.	0779792358	malathipathiraja@gmail.com
10	Dr Dilmini Mendis	Consultant Venereologist, STD clinic, D.G.Hospital, Negombo.	0718142624	dilminim@hotmail.com

S. No.	Name of the participants	Designation & Organization	Ph. No.	Email-ID
11	Dr Umedha N Jayasinghe	Consultant Venereologist, STD clinic, Base Hospital, Chilaw.	0718462711	ujayasinghe@yahoo.com
12	Dr Vino Dharmakulasinghe	Consultant Venereologist, STD clinic, Base Hospital, Balapitiya.	0773850900	vinodharmakulasinghe@gmail.com
13	Dr Nimali Jayasuriya	Consultant Venereologist, STD clinic, G.Hospital, Matara.	0777483287	nimmidvj@yahoo.com
14	Dr Niroshan Jayesekara	Consultant Venereologist, STD clinic, G.Hospital, Badulla.	0712308239	Jayasekara.niroshan@gmail.com
15	Dr Shanika Jayasena	Consultant Venereologist, HIV clinic, NSACP.	0714477585	shanikajayasena@gmail.com
16	Dr Lareef	MOIC, STD clinic, Kandy.	0773422798	drlareef@gmail.com
17	Dr A Rohan	MOIC, STD clinic, T.Hospital, Jaffna.	0714449133	stdclinic.jaffna@gmail.com rohandevaki@gmail.com
18	Dr Lilanthi Dayananda	Medical Officer, STD clinic, Kegalle.	0717708550	Lilanthi66@gmail.com
19	Dr M D I S Peiris	MOIC, STD clinic, D.G.Hospital, Polonnaruwa.	0714421180	Stdclinicpolonnaruwa1@gmail.com
20	Dr Thilanka Dewpura	Medical Officer, STD clinic, Kilinochchi.	0705162534	thilanka21355@gmail.com
21	Dr Thanuja Peiris	Senior Registrar, NSACP.	0718126728	peiristhanuja@gmail.com
22	Dr Krishanthi Ubeyasekera	Senior Registrar, NSACP.	0777572385	krishanthiubey@yahoo.com

S. No.	Name of the participants	Designation & Organization	Ph. No.	Email-ID
23	Dr Nayani Gallage	MOIC, STD clinic, Wathupitiwala.	0718619717	stdcampaign.bswathupitiwala@yahoo.com
24	Dr Dilija Peiris	Medical Officer, NSACP.	0776181393	Dilija27@yahoo.com
25	Dr. A. Thayalaseelan	MO/IC, STD Clinic, Mullaitivu.	0775025830	thayalan76@gmail.com Stdaidscontrolprogramme.mtv@gmail.com
26	Dr. P.G.W. Hemamala	Diploma Trainee, NSACP.	0773367003	hemamalawasanthi@gmail.com
27	Dr. D.L.M. Wickramasinghe	Diploma Trainee, NSACP.	0772838656	lashimano@gmail.com

2.3. Facilitators & Coordination Team

VHS-CDC Project has formed the Facilitators team and Training Coordination Team:

Facilitators:

Criteria: The broad criteria considered and prioritized the consultants through a process and in consultation with SIMU and other stakeholders:

- Minimum 10 years of experience in designing and conducting the training program at national/ international level.
- Experienced/ capacitated on training on data management (undergone similar training.
- Directly involved or associated with SIMU and having good understanding on SI system in the country.
- Credibility of the Facilitators with acceptability among the stakeholders.
- Preference to the person who has already conducted training program on data management in accordance with the training needs identified.
- Willingness to adopt participatory and innovative methodologies including providing hands-on training.

Members:

- Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project.
- Dr Ariyaratne Manathunge, Consultant-Venereologist, NSACP.
- Dr T Ilanchezhian alias Dr IC, Senior Technical Advisor, VHS-CDC Project.
- Dr S Muraliharan, MO/Planning/SIM unit/NSACP.

VHS-CDC developed Terms of Reference (ToR), facilitated concalls and meetings. This has contributed for effective team building in planning & conducting training.

<table>
<tr>
<td> 
Dr Yujwal Raj,
Technical Advisor (SI),
VHS-CDC Project</td>
<td> 
Dr Ariyaratne Manathunge,
Consultant-Venereologist,
NSACP</td>
</tr>
<tr>
<td> 
Dr T Ilanchezhian,
Senior Technical Advisor,
VHS-CDC Project</td>
<td> 
Dr S Muraliharan,
MO/Planning,
SIM unit/NSACP</td>
</tr>
</table>

Training Coordination Team (TCT): VHS-CDC Project had a consultation with SIMU-NSACP for planning, conducting, coordinating and ensuring follow-up for the training. The project has evolved clear cut roles of each stakeholders for conducting the training. The TCT was formed with the following members:

<table>
<tr>
<td>VHS-CDC Project:
Dr Joseph D Williams, Director Projects
Dr T Ilanchezhian, Sr. Technical Advisor
Mr B Kamalakar, Finance Controller
Ms T Sudha, Sr. Programme Associate
Mr Sathyaraju, Associate Manager-Finance</td>
<td rowspan="2">The role/ purpose of TCT are:
Identifying training needs.
Confirmation and developing profile of participants.
Briefing the facilitators.
Contribute for logistics planning, development of resource and distribution.
Support in registration and ensuring time management.
Providing feedback to experts.</td>
</tr>
<tr>
<td>NSACP:
Dr Ariyaratne Manathunge, Consultant-Venereologist & Coordinator-SIMU
Dr S Muraliharan, MO/ Planning</td>
</tr>
<tr>
<td colspan="2">Periodicity:
The TCT met on the previous day evening for planning the training program.
The TCT met everyday evening for reviewing and providing feedback.
The TCT had final meeting on completion of training and provided feedback.</td>
</tr>
<tr>
<td colspan="2">Methodology: The TCT team had formal meetings during the training days and through virtual mode for systematic planning, suggestions and experiences.</td>
</tr>
</table>

Training Coordination Team (TCT) from NSACP and VHS-CDC Project

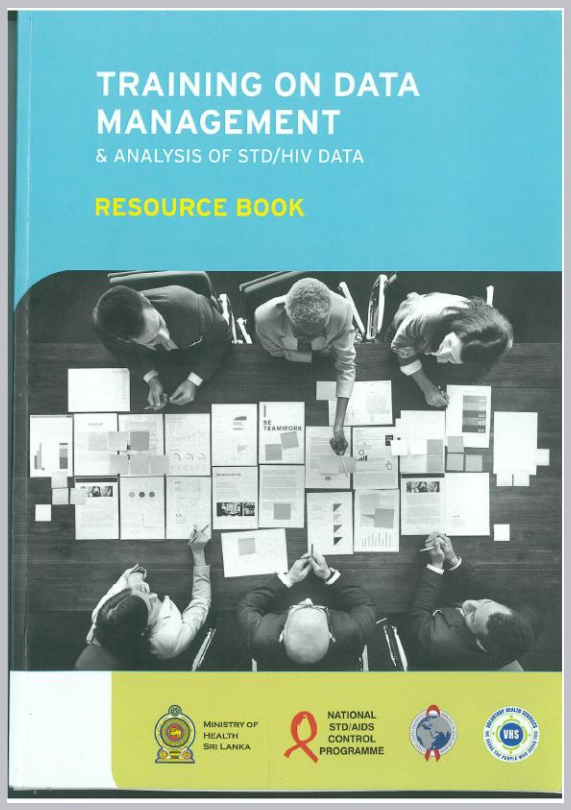
2.4. Resource Materials

Training Need Assessment and development of Agenda

Steps involved in TNA and development of agenda	• Consultation with SIMU team. • Consultation with Consultant-Venereologists and Medical Officers for identifying the training needs. • Secondary review. • Understanding roles & responsibilities of Consultant - Venereologists & Medical Officers in data management • Consultation with Training Coordinator at NSACP • Review of the previous similar programs, its contents, feedback, evaluation, etc. • Development of training needs. • Prioritization & finalization of training needs in accordance with country specific needs. • Development of draft agenda, review, feedback and finalization of the agenda. • Development of broad outline and concept note for conducting the training program.

Development of Course materials	**Contents:**
	• Day 1: Basics of Data & Data Quality
	  ○ Data sources
	  ○ Databases & structures
	  ○ Assessing datasets
	  ○ Variables & Indicators
	  ○ Data quality assessment
	  ○ Data adjustments
	• Day 2: DQA & Data Analysis using MS Excel
	  ○ Performing DQA
	  ○ Basic data analysis
	  ○ Advanced use of MS Excel
	  ○ HIV/AIDS specific data analysis
	  ○ Data Triangulation
	• Day 3: Presentation, Communication & Use of Data & SPSS
	  ○ Presentation of Data Graphically
	  ○ Data Interpretation
	  ○ Communication of analysis results
	  ○ SPSS
	  ○ Use of data for decision making
	• **Presentations:** Developed 12 PPTs supported with handouts.
	• **Exercises:** Developed 6 exercises for facilitating group exercises supported with mentorship/ hands-on training.
	• **Tools:** Developed tools such as: Pre-Assessment, Post-Assessment and Post-Training Evaluation tool.
	• **Reference and reading materials:** Collected and shared important further reading/ reference materials on data management.

Resource Book: VHS-CDC Project has brought out a **"Resource Book"** on training on data management.



Purpose:

- To provide comprehensive reference materials on data management for reading.
- To use as a ready reckoner for referring to the information on data management during the training and during the follow-up/ undertaking data management efforts.
- To use the resource book by the STD clinic team including Consultant-Venereologists, Medical Officers, Public Health Inspectors and Nursing Officers.
- To share the same with other Ministries for enhancing the systems on data management.

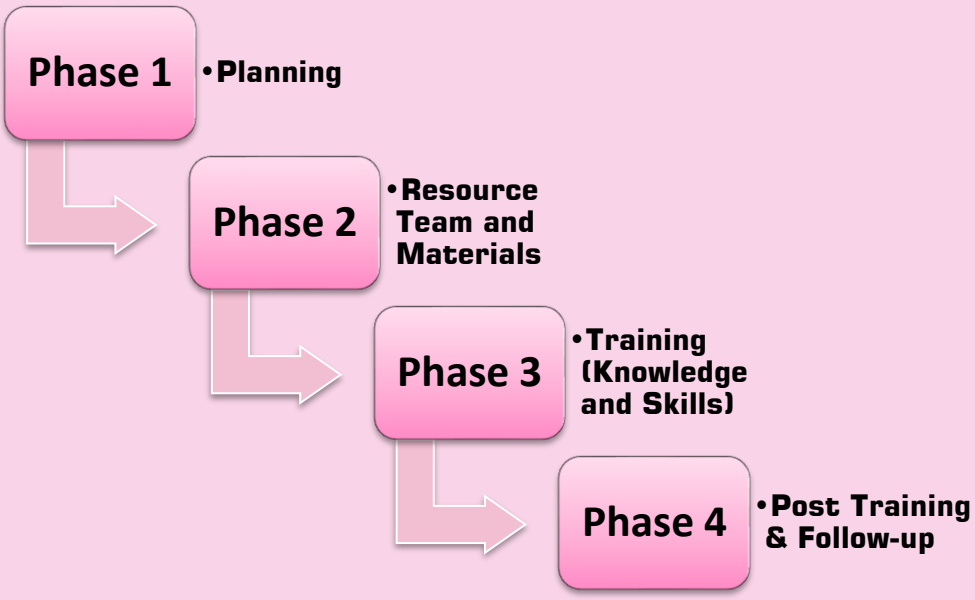
Audience:

Direct Audience	**Indirect Audience**
Officials at SIMU Consultant-Venereologists Medical Officers	District STD Clinic Staff • Public Health Inspectors • Nursing Officers • Lab Technicians • Development Officers • ICT Officers Other Ministries

Resource Book - Training on Data Management and Analysis of STD/HIV data has been compiled and brought out as a ready reckoner with comprehensive information on data management. This resource book contains presentations, exercises, reference materials, etc. This resource book is a complementary reading material for the training program planned and in accordance with the training agenda.

2.5. Planning & management of the training program

Phases in conducting the training program: VHS-CDC Project in consultation, coordination and with the engagement of SIMU-NSACP and Training Coordinator-NSACP has evolved systematic, rigorous efforts with meticulous planning and coordination for conducting the training program in a successful manner. VHS-CDC Project along with SIMU has undertaken activities in different phases and the same is depicted below:



The specific activities undertaken during every phase of the training will include:

Phase 1: Planning:

• Planning:
  ○ Planning meeting with SIMU, NSACP and Training Coordinator-NSACP.
  ○ Development of brief outline based on the needs and expectations.
  ○ Secondary review, review of previous training reports and feedbacks.
  ○ Training Need Assessment.
  ○ Reviewing the feedback on the previous training conducted on Data Management.
  ○ Understanding the roles and responsibilities of the PHIs and Nursing Officers.
• Participants:
  ○ Development of criteria for participants.
  ○ Communication to the participants and coordination with the Training Coordinator.
  ○ Finalization of participants and development of their profile.
  ○ Sending final communication on the training venue and other instructions.
• Logistics:
  ○ Development of accommodation, travel plan, ticket booking, hall arrangements and other logistics support.
  ○ Finalization of the food menu and other requirements.

- Systematic planning & efforts for arranging hall with cluster seating, sound system, communication aids, wi-fi & other infrastructure for creating enabling environment for conducting training.

- Branding:
  - Undertaken efforts for branding the display (banner, hall display, direction boards) and other related materials including certificates, presentations, resource book/ reference materials, ID cards, etc.
  - Developed a table calendar with the group photo of the participants and provided to the participants.
- Planning for stationeries:
  - The project undertaken efforts for stationery and resource materials (bag, scribbling pad, pen, folder, communication aids, design and printing of certificates, etc.).
- Budget and financial planning:
  - Based on plans evolved, technical/ financial team jointly discussed and developed budget for planning & conducting the training considering various aspects such as resource materials, consultants, hall, accommodation, stationeries, resource kit, travel and other aspects.

Phase 2: Resource Team & Resource Materials:

- Resource team:
  - The project evolved criteria, identified resource persons, prioritized and finalized the team.
  - Developed ToR and initiated contract signing for engaging the resource team in designing and conducting the training.
  - Facilitated coordination between the resource team members for understanding the training plan, ensuring coordination in conducting training, etc.
- Pre-production:
  - Finalized agenda based on the training needs and previous training experiences.
  - Development of tools, presentations, resource & reference materials, exercises, etc.
  - Internal review on the presentations and exercise sheets.
  - Suggestions and feedback on the materials developed and finalization of resource kit.
  - Evolved plans for dissemination.
- Resource Book:
  - Discussions with SIMU on the relevance of developing resource book.
  - Finalization of the core content of the resource book.
  - Development, design and production of resource book.
- Resource kit:
  - Developed resource kit with presentations, exercises, tools, reference materials, bag, etc.
  - Developed systems for sharing the soft copies of the presentations and exercises through e-group to participants for easy reference and undergoing hands-on training.
- Training Coordination Team (TCT):
  - Formed Training Coordination Team for systematic planning and coordination of the training program.

Phase 3: Training (Knowledge and Skills):

• Before Training:
  ○ Issue of welcome letter
  ○ Allocation of rooms
  ○ Registration and provided resource kit
• During Training:
  ○ Inaugural
  ○ Training Agenda & Training sessions
  ○ Training sessions by facilitators including VHS-CDC and SIMU
  ○ Group formation
  ○ Feedback sessions/ experience sharing/ peer review learning
  ○ Recap
  ○ Group work/ hands-on training with peer review
  ○ Pre & Post Evaluation; Post Training evaluation
  ○ Follow-up plans
  ○ Training Coordination Team Meeting

Phase 4: Post-Training & Follow-up:
• Joint meeting between VHS-CDC and SIMU on the overall training program • Analyzing pre & post-assessment tools • Analyzing post-evaluation • Analyze the individuals feedback provided • Preparation of training report/ documentation • Sharing soft copy of the report and other reference materials for follow-up • Emails through e-groups for updating and facilitate experience sharing • Need based mentoring and follow-up support by SIMU team. • Undertaking team efforts in improving the quality on data management by trained team available in the respective clinics with the guidance of SIMU.

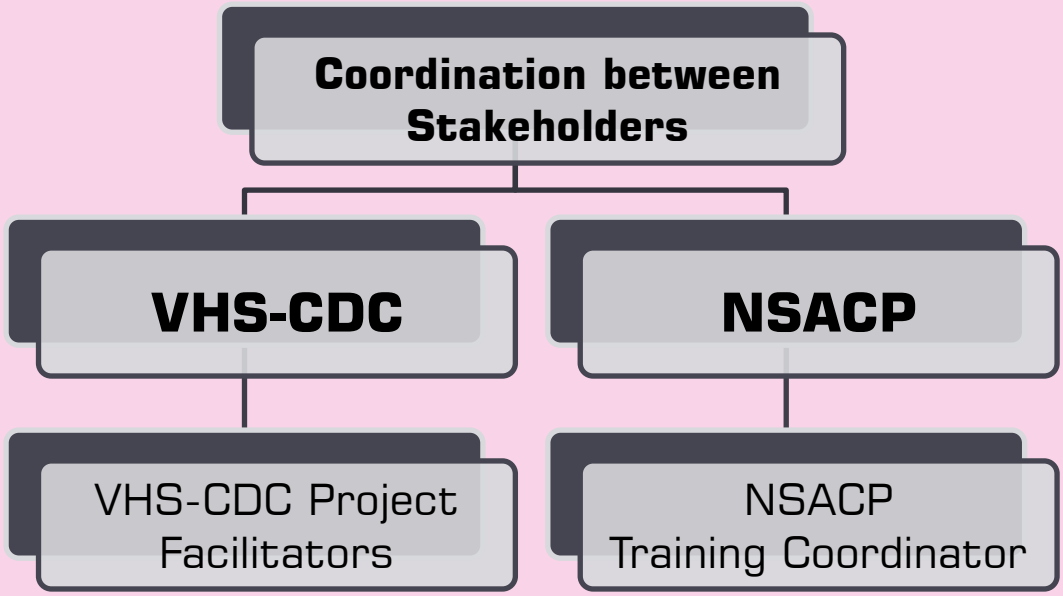
2.6. Innovative approaches

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

❖ **Criteria for selection**	❖ **Training Need Assessment**	❖ **Need based Agenda**
❖ **Pre-Assessment**	❖ **Resource Kit**	❖ **Customization of training materials**
❖ **Simulation Games**	❖ **Participatory methodology**	❖ **Intensive Hands-on experience**
❖ **Presentations**	❖ **Engagement of capacitated SIMU team**	❖ **Utilizing in-country capacities**
❖ **Translation in local languages**	❖ **Use of field level data**	❖ **Group learning**
❖ **Experience sharing**	❖ **Peer review**	❖ **E-group**
❖ **Recap**	❖ **Post-training evaluation**	❖ **Post-Assessment**
❖ **Networked National Trained Team**	❖ **Follow-up communication**	❖ **Facilitators & TCT Meetings & Feedback**

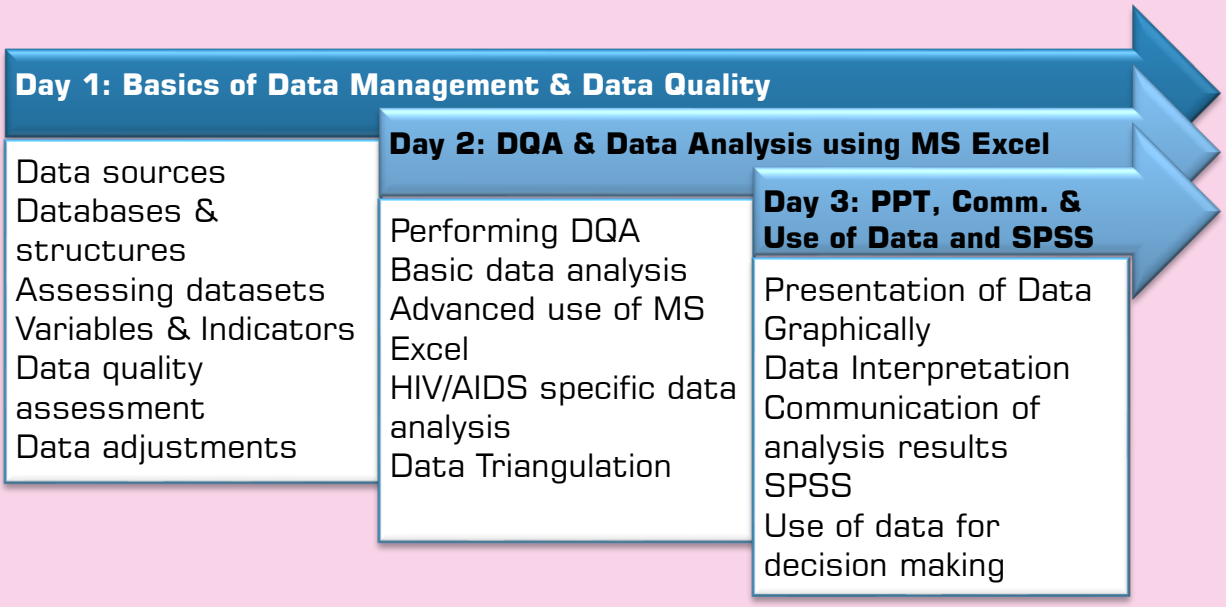
2.7. Coordination between the stakeholders

The **key stakeholders** involved in the training program will include: VHS-CDC Project/ facilitators, CDC and NSACP (including SIMU & Training Coordinator). VHS-CDC Project developed a concept note along with role of key stakeholders, presented with the key stakeholders in the planning meeting and finalized the overall training plan, execution plan and follow-up plans.



The coordination between VHS-CDC and NSACP-SIMU at every stage of the planning & execution has helped in ensuring systems in technical delivery, logistics coordination and overall achievement of the objectives of the training. This training has demonstrated the success through greater engagement of each stakeholder at every stage of the program.

2.8. Day wise sessions and content covered



2.9. Key Learnings

The training on Data Management for Consultant-Venereologits and Medical Officers has contributed for the following key learnings:

Hands-on training on:

- ≈ **Understanding datasets, components, structure & database management principles**
- ≈ **Variables & Indicators – Types and how to manage**
- ≈ **Data Quality Assessment & Adjustments using Excel**
- ≈ **Data Management using SPSS**
- ≈ **Exposure to Cohort Database using MS Access**
- ≈ **Data Triangulation**
- ≈ **Communication of Data Analysis Results**

2.10. Outcomes

The key outcomes of the Training on Data Management & Analysis of STD/HIV Data for Consultant-Venereologits and Medical Officers:

- ✓ **Identified important questions/ topics of programmatic relevance suitable for secondary data analysis.**
- ✓ **Exposed participants to basic principles and methods of data management.**
- ✓ **Made the participants appreciate the importance of data quality in program reporting.**
- ✓ **Enhanced knowledge and skills on conducting DQA & analyzing programme data under NSACP through hands-on practice on MS Excel.**
- ✓ **Improved skills on effective use of data to make evidence-based decision making under the programme.**
- ✓ **Evolved a data analysis plan as a follow-up to the workshop and identified the next steps.**

2.11. Training evaluation and effectiveness

2.11.1. Pre & Post-Training Assessment Analysis

As a part of the training, pre & post assessment was conducted with the participants (Consultant-Venereologists and Medical Officers).

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

Place of work: .....

Training on Data Management & Analysis of STD/HIV Data for Consultant-Venereologists & Medical Officers (21.08.2019)

PRE & POST-TRAINING ASSESSMENT FORM

(To be answered by the participants before the training)

1. Fields in a database refer to? ( )
(A) Rows (B) Columns (C) Cases (D) Data cells

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

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

4. Data recording, reporting & aggregation are steps in ( )
(A) Data management (B) Data analysis (C) Modeling (D) Communication

5. Which of the following is not a form of data communication? ( )
(A) Policy Brief (B) Report (C) Data Table (D) Article

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

7. A good database is one without ( )
(A) Blank cells (B) Merged cells (C) Duplicate variables (D) All the above

8. A descriptive list of names, definitions and attributes of data elements collected in an information system or database is called ( )
(A) Dataset (B) Data Manual (C) Data Dictionary (D) Variable List

9. 'Presence or absence of genital discharge' is an example of ( )
(A) Nominal variable (B) Ordinal variable (C) Interval variable (D) Ratio variable

10. Proportion of males visiting STD clinic is an example of ( )
(A) Output indicator (B) Outcome indicator (C) Process indicator (D) Input indicator

11. Precision of data refers to ( )
(A) Completeness of dataset (B) Adequate details (C) Repeatability (D) Accuracy

12. Data of an indicator over time is best represented using a ( )
(A) Bar graph (B) Line graph (C) Pie chart (D) Area plot

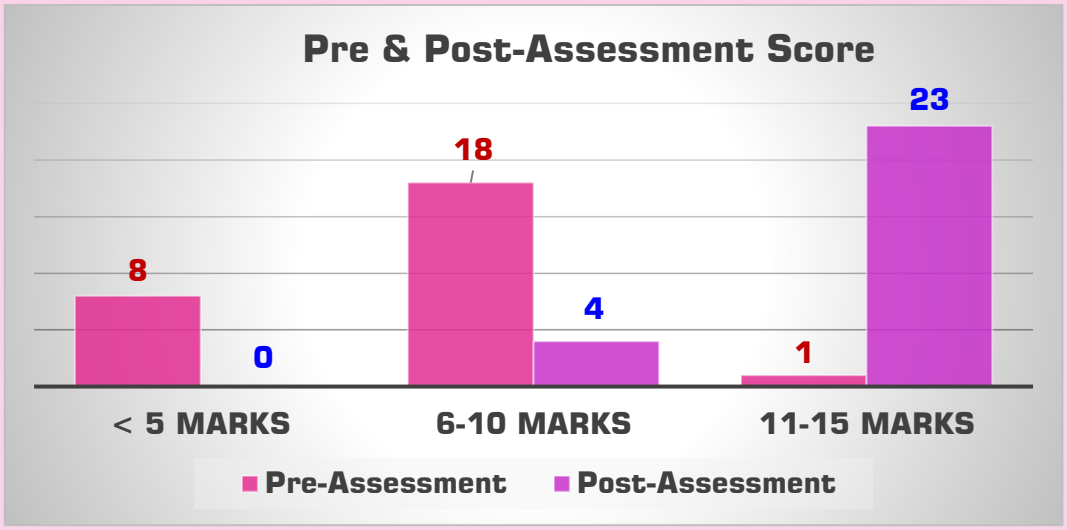
13. Function in Excel used to generate crosstabs of different variables is ( )
(A) What If analysis (B) Pivot Tables (C) Macros (D) Formulae

14. Which of the following is used in Excel to highlight cells of a particular type? ( )
(A) Filter (B) Sort (C) Conditional Formatting (D) Merge cells

15. The smallest element of data is called ( )
(A) Information (B) Indicator (C) Variable (D) Case

*** ***Thanks for Answering*** ***

Overall, 27 participants undergone the training program and all participants submitted the pre & post-training assessment forms. The overall comparison on the pre & post assessment is given below:



In the pre-assessment,

- Overall 29.63% (8) respondents have fallen in the category of scoring <5 marks.
- 66.67% (18) respondents have fallen in the category of scoring 6-10 marks.
- 3.70% (1) respondent has fallen in category of scoring between 11 and 15.

Overall, about 96.30% (26) of the respondents fallen in the category of scoring <10 marks against the overall scoring of 15 marks. In which 30.77% (8) of them has fallen in <5 marks category.

In the post-assessment,

- Overall 85.19% (23) respondents has moved to the category of scoring 11-15 marks against the overall scoring of 15 marks.
- Only 14.81% (only 4) respondents has fallen in the category of scoring between 6-10.

Overall, more than 85.19% of the respondent has scored highest marks and above. All the respondents has improved in their knowledge through the training program. This shows the training has created effectiveness in providing needful knowledge and skills among the participants with correct understanding in accordance with the training objectives and outcomes.

2.11.2. Training Evaluation – Analysis

	Exemplary	Very Good	Good	Average	No Comments	Total	Total of (4 & 5)	Overall %
	5	4	3	2	1			
Course content								
I understood the learning objectives well.	22	5				27	27	100.00
The course content met my expectations & was in line with the learning objectives.	18	7	2			27	25	92.59
I found the course material (slides, handouts, exercises, etc.) useful & easy to follow.	23	4				27	27	100.00
Training received was adequate for my position/ experience.	19	8				27	27	100.00
The course will directly or indirectly improve the performance of my duties.	22	4	1			27	26	96.30
I am clear about where to find answers to questions that I have about Data Management.	21	5	1			27	26	96.30
Structure & process of training								
The training sessions are well structured & appropriately scheduled.	19	8				27	27	100.00
Instructional methods used during training are effective.	22	5				27	27	100.00
Participation and interaction were encouraged during the sessions.	19	8				27	27	100.00
The speed/ pace at which the training was conducted was appropriate.	20	5	2			27	25	92.59
I was comfortable with the length of the sessions & length of the workshop.	18	9				27	27	100.00

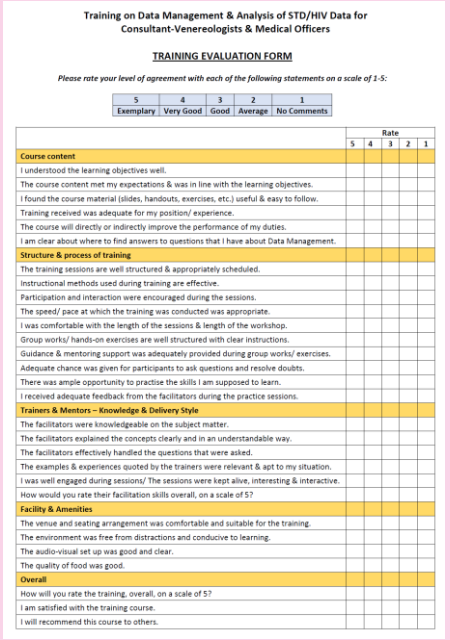
	Exemplary	Very Good	Good	Average	No Comments	Total	Total of (4 & 5)	Overall %
	5	4	3	2	1			
Group works/ hands-on exercises are well structured with clear instructions.	24	3				27	27	100.00
Guidance & mentoring support was adequately provided during group works/ exercises.	25	2				27	27	100.00
Adequate chance was given for participants to ask questions and resolve doubts.	23	4				27	27	100.00
There was ample opportunity to practice the skills I am supposed to learn.	19	8				27	27	100.00
I received adequate feedback from the facilitators during the practice sessions.	22	5				27	27	100.00
Trainers & Mentors – Knowledge & Delivery Style								
The facilitators were knowledgeable on the subject matter.	22	5				27	27	100.00
The facilitators explained the concepts clearly and in an understandable way.	21	6				27	27	100.00
The facilitators effectively handled the questions that were asked.	24	3				27	27	100.00
The examples & experiences quoted by the trainers were relevant & apt to my situation.	19	8				27	27	100.00
I was well engaged during the sessions/ The sessions were kept alive, interesting & interactive.	21	6				27	27	100.00
How would you rate their facilitation skills overall, on a scale of 5?	23	2	1	1		27	25	92.59

	Exemplary	Very Good	Good	Average	No Comments	Total	Total of (4 & 5)	Overall %
	5	4	3	2	1			
Facility & Amenities								
The venue and seating arrangement were comfortable and suitable for the training.	19	5	2	1		27	24	88.89
The environment was free from distractions and conducive to learning.	25	2				27	27	100.00
The audio-visual set up was good and clear.	20	7				27	27	100.00
The quality of food was good.	22	3	1	1		27	25	92.59
Overall								
How will you rate training, overall, on a scale of 5?	24	3				27	27	100.00
I am satisfied with the training course.	25	2				27	27	100.00
I will recommend this course to others.	22	5				27	27	100.00

Overall training evaluation has conducted in 5 areas with 29 questions by applying 5-point scale.

The above table reveals the effectiveness of the training program and evaluation of the training program in the perspectives of the participants.

Overall (81.48%) 22 questions/ evaluation criteria has scored 100% in all aspects (this shows all aspects are Exemplary and Very Good).



Training on Data Management & Analysis of STD/HIV Data for Consultant-Venereologists & Medical Officers

TRAINING EVALUATION FORM

Please rate your level of agreement with each of the following statements on a scale of 1-5:

5	4	3	2	1
Exemplary	Very Good	Good	Average	No Comments

	Rate				
	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 Data Management.					
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 & length of the workshop.					
Group works/ hands-on exercises are well structured with clear instructions.					
Guidance & mentoring support was adequately provided during group works/ exercises.					
Adequate chance was given for participants to ask questions and resolve doubts.					
There was ample opportunity to practise 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 the trainers were relevant & apt to my situation.					
I was well engaged during sessions/ The sessions were kept alive, interesting & interactive.					
How would you rate their facilitation skills overall, on a scale of 5?					
Facility & Amenities					
The venue and seating arrangement was comfortable and suitable for the 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, on a scale of 5?					
I am satisfied with the training course.					
I will recommend this course to others.					

2.11.3. Consolidated information on Post-Training Evaluation

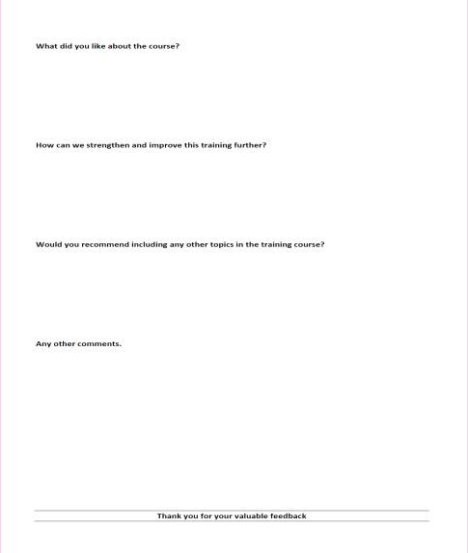
VHS-CDC Project analyzed the Post-Evaluation Tools filled by each participant and consolidated the same on the areas of:

a) What do you like about the course;

b) How can we strengthen and improve this training further;

c) Would you recommend including any other topics in the training course; and

d) Any other comments.


What did you like about the course?

How can we strengthen and improve this training further?

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

Any other comments.

Thank you for your valuable feedback

What do you like about the course?
➢ Very relevant to my day-to-day work. ➢ Clearly explained the contents in a way everyone can understand. ➢ Excellent presentations, simple explanation and hands-on training on Excel. ➢ Excellent facilitators and very well explained. ➢ Thanks for sharing soft copy of the presentations. ➢ We learnt lots of useful content on data management and which will be of more useful and relevant to my profession. ➢ The way it was conducted combining technical and hands-on exercise – is good. ➢ Recap session was very useful for re-learning and cross-learning. ➢ Very well planned, coordinated, conducted and considered every trainee need. ➢ Very compact training in three days. ➢ Very good training team support with providing clarification on any at any given point of time. ➢ Systematic planning, time management, coverage of content, explanation and hands-on training. ➢ Training venue, accommodation, food, blend with technical sessions in an enabling environment. ➢ Thanks to the organizers for providing such a good hospitality, training, course materials, mentoring and guidance, etc.
How can we strengthen and improve this training further?
➢ Opportunity was provided through hands-on training. ➢ Follow-up training will be of useful. ➢ Self-initiative is needed to learn all the functions in Excel. ➢ The participants will need to practice during late evening being residential program. ➢ Opportunity may be explored to enable the participants to undergo the reading materials and come to training program with basic understanding. This may help in saving time.

- Summary sheet with different formulae on Excel may be provided.
- Refresher training may be conducted in future by SIMU.
- More facilitators may be engaged to provide hands-on training to support those who doesn't have basic Excel knowledge.

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

- Separate training on SPSS may be conducted by SIMU-NSACP based on the needs identified among the trained personnel.
- The doctors who are not having skills in using Excel may be encouraged to undergo formal training in a nearby training centre and encouraged to continue to practice.

Any other comments.

- Overall very timely relevant and useful program.
- Training content, training, course materials, training facilities, trainers, organizers – everything is perfect and well managed program.
- Thanks for including us in this training program which will be of useful for efficient management cum data and in our life.
- With this knowledge, we will be able to guide and monitor the PHIs and Nursing Officers who has already been trained on this – who are also responsible or collecting and entering the data.
- Entire team at STD clinic involved in data management has been trained in a phased manner. This will help for uniform and coordinated effort in reporting.
- Thanks to VHS-CDC Project, CDC and SIMU for their timely effort.

2.12. Feedback of Participants

Dr Nayani Gallage, MOIC, STD clinic, Wathupitiwala.

Overall training content is sufficient to gain knowledge and skills on data management. Methodologies are also very effective and understandable. This training helps us to do a clear data analysis. Also helps to detect errors and deficiencies in our data. Thanks to the training team and organizers.

Overall training content is comprehensive, meaningful, useful and timeliness. Methodologies adopted were excellent. It was an introduction to the Excel Software. It gave me an insight to my work responsibilities and an eye-opener. I was entered all my data in the Excel sheet and analysis accordingly. I will practice and continue to practice. The Resource Book is comprehensive and ready reckoner for referring and updating.

Dr H P Perera, Consultant-Venereologist, STD clinic, NSACP.

Dr Shanika Jayasena, Consultant-Venereologist, HIV clinic, NSACP.

Content is comprehensive and very good. Methodologies are also good and participatory. We use excel for handling data at our clinic at all times. Technical content supported with hands-on experience is a very good approach, I like it and overall training content, coordination, training facilities and support extended by VHS-CDC team is highly appreciable. Thsnks to SIMU for coordinating with VHS-CDC and conducting this training.it was done good.

I participated in Operational Research, Scientific Writing and Data Management workshops. I felt that, all these workshops helped me to improve my overall and comprehensive data management skills in a more meaningful manner to the expectations of SIMU. That will definitely benefit my country & plan to utilize the available data to generate more and more findings particularly in our Peripheral Clinics. Thanks to SIMU, VHS-CDC and CDC for enhancing my knowledge and skills.

Dr Vino Dharmakulasinge, Consultant-Venereologist, STD clinic, Base Hospital, Balapitiya.

Dr Nimali Jayasuriya,
Consultant-Venereologist,
STD clinic, G.Hospital,
Matara.

It is a good training program. It is useful for doing researches and also to handle database of EMTCT and STD/HIV database in clinic settings. Good presentations, resource book, exercises, explanations, mentoring support and appropriate methodologies.

The training content was adequate. If we had time to practice pivot table, it was good. The adopted methodologies were appropriate and good. Trainer was excellent. The training was useful to improve our knowledge and skills and it is important for our day-to-day work. We can use Excel functions in preparation of our clinical data.

Dr Thanuja Peiris,
Senior Registrar,
NSACP.

Dr Lareef,
MOIC,
STD clinic, Kandy.

Overall training agenda, training plan, presentations, exercieses, methogologies amd content is very good. Methodologies adopted are good. This program is useful in enhancing knowledge and skills. As a MOIC, I am supporting and checking data. It is very useful. All facilitators are good.

It was an awesome training experience on data management. Simplicity of facilitators' explanations made me very comfortable in learning new things. Practical sessions were really interesting to gain hands-on experience. Thank VHS-CDC Project and NSACP for such a meaningful and useful training.

Dr Pragеeth Premadasa,
Consultant-Venereologist,
STD clinic, T. Hospital,
Kuliyapitiya.

Dr Thilanka Dewpura,
Medical Officer,
STD clinic, Kilinochchi.

Overall training was very useful. We have learnt a lot which is related to our profession. It had lot of exercises not only the lectures. I got the chance to help other doctors where they are struggling with study materials/ exercises. E-group formed for experience sharing, technical update and availing opportunity to clarify the doubts – very useful initiative and will use the same regularly.

Dr Malathi Pathiraja,
STD clinic, CSTH,
Kalubowila.

Very useful for our work. Very interesting way of presentation. Comprehensive training on excel supported with introduction to SPSS is really very much useful and need of the hour. I like to get involved with the work and when having questions, we will contact VHS-CDC Proejct facilitators to get expert opinion.

It is a well-organized compact knowledge delivery by the absolute "Master Trainers" for needy in Sri Lankan Medical field including Consultants and Medical Officers. Great appreciation to the facilitators, organizers and coordinators for engaging us meaningfully, conducting the training successfully and achieving the training objectives.

Dr Dilija Peiris,
Medical Officer,
NSACP.

Dr M K D N Mallikarachchi,
Consultant-Venereologist,
STD clinic, T. Hospital,
Ratnapura.

Very useful training program. The knowledge that we gain through this training will help us to produce good data from our clinics to the program. And also this knowledge will be very useful in our future research activities. Good training at a right time by adopting right approaches and engaging each participant in an active and learning mode.

The overall training content was satisfactory. For the duration, methodologies were excellent. It is very useful skill that we gained, which could be practiced during our job responsibilities. Very professional training, opportunity to gain knowledge and skills, gained motivation and will continue to practice and use as a part of my job responsibilities.

Dr Krisanthi Ubeyasekera,
Senior Registrar,
NSACP

Dr. A. Thayalaseelan,
MO/IC, STD Clinic,
Mullaitivu.

Good training content. Adopted in my job responsibilities. This training is very useful for me to do my job successfully as per needs. I will practice excel and contribute for quality reporting and timely reporting to the expectations of SIMU.

As a Programme Manager, I am involved in lots of data management and supervision of data management. Therefore, this was a very useful program. The content was adequate for day-tot-day work. I am involved in. The venue and the environment were excellent for learning. I will use this knowledge and skills gained in this training and mentor my clinic level team who has also been trained on this.

Dr H P S P Somawardana,
Consultant-Venereologist,
STD clinic,
Teaching Hospital,
Kurunagala.

Dr D D C de Alwis,
Consultant-Venereologist,
STD clinic, Nuwaraeliya.

Training on Excel, SPSS and Data Management analysis is a timely and much needed activity for participants. Lectures, handouts (soft copies) and hands-on sessions were conducted in an effective way. Clinic level data management will be improved with the training received. Our clinic level team trained on data management will work together towards achieving the data quality, data reporting, analyzing the report, submitting reports, etc.

The program was useful. Need more time to learn since we are not very experience with data analysis. Anyways, what we have learnt is very useful with our job responsibilities. Thanks to VHS-CDC Project and NSACP.

Dr Dilmini Mendis,
Consultant-Venereologist,
STD clinic, D.G.Hospital,
Negombo.

2.13. Follow-up, suggestions and recommendations

During the training, during feedback sessions and Training Coordination Team meetings, some of the follow-up plans, suggestions and recommendations emerged are:

- **Each trained person needs to continue to practice in Excel.**
- **The person in need of more understanding on Excel may need to undergo training at local level.**
- **SIMU will provide needed guidance/ clarifications.**
- **E-group can be used for exchange of experiences and clarifying doubts.**
- **Doctors trained can efficiently guide and monitor the PHIs, Nursing Officers in data management.**
- **Introduce the effective data management system immediately at STD clinic level and contribute for quality and timely reporting.**

Chapter 3: Training proceedings

3.1. Day 1 (21st August 2019)

3.1.1. Registration

Registration of Participants: The registration process held between 0900-0915 hrs at the venue and the same was facilitated by Ms T Sudha, Senior Programme Associate, VHS-CDC Project. The participants and facilitators have also registered.

Participants were provided with **resource kit** including bag, pad, pen, agenda, etc. In addition to the registration and resource kit, each participant was provided with Welcome Note along with a brief on the logistic support as a part of the training program. Overall, 27 participants were registered and 7 members (facilitators, documenters, organizers/ coordination team) were registered.

3.1.2. Brief Inaugural Function

Introduction of the program and welcome address: VHS-CDC Project and NSACP has jointly organized a brief inaugural function between 0915-1000 hrs. Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project has provided welcome address and brief introduction of the program. In his speech:

Dr T Ilanchezhian
Senior Technical Advisor
VHS-CDC Project

- **Briefly introduced about VHS, Project Management Unit of VHS and VHS-CDC Projects initiatives.**
- **Briefly narrated the process adopted for evolution of this technical cooperation initiative and focus areas of VHS-CDC Project in providing TA on SI.**
- **Highlighted the key activities and TA extended by VHS-CDC Project on SI.**
- **Highlighted the training approaches being adopted by VHS-CDC in capacity building of the SIMU and SI team in the country.**
- **Briefly narrated the process adopted for planning & conducting this training program.**
- **Thanked Director-NSACP; Dr Ariyaratne Manathunge, Consultant - Venereologist cum Coordinator - SIMU, NSACP and SIMU team.**

In continuation of this brief introduction, he welcomed the chief guests and participants for this training program.

Lighting of the Lamp: As a symbol of inaugurating the training program, lighting of lamp was held by the following officials/ chief guests:

- Dr Ariyaratne Manathunge, Consultant-Venereologist SIMU, NSACP
- Mr B Kamalakar, Finance Controller, VHS-CDC Project
- Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project
- Dr S Muraliharan, MO/Planning/SIM unit/NSACP
- Dr Himali Perera, Training Coordinator, NSACP
- Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
- Dr Vino Dharmakulasinghe, Consultant Venereologist, STD clinic, Balapitiya.
- Dr D O C de Alwis, Consultant Venereologist, STD clinic, Nuwaraeliya.
- Dr A Rohan, MOIC, STD clinic, T.Hospital, Jaffna.
- Dr. A. Thayalaseelan, MO/IC, STD Clinic, Mullaitivu.

In lighting of lamp, Ms T Sudha, Senior Programme Associate and Mr S Sathyaraju, Associate Manager-Finance, VHS-CDC Project has also joined in this occasion.

Introduction of Facilitators: VHS-CDC Project team has introduced the facilitators of the training program:

 **Dr T Ilanchezhian,** **Senior Technical Advisor,** **VHS-CDC Project**	**INTRODUCED**	 **Dr Ariyaratne Manathunge,** **Consultant-Venereologist,** **NSACP**
 **Ms T Sudha,** **Senior Programme Associate,** **VHS-CDC Project**	**INTRODUCED**	 **Dr Yujwal Raj,** **Technical Advisor (SI),** **VHS-CDC Project**
 **Mr S Sathyaraju,** **Associate Manager - Finance,** **VHS-CDC Project**	**INTRODUCED**	 **Dr S Muraliharan,** **MO/Planning,** **SIM unit/NSACP**

This session has helped the participants to understand the profile of the trainers and get acquainted with.

Introduction of Participants: Dr T Ilanchezhian requested each participant to share their name, designation, years of experience, place of work, experience in managing data, etc. Requested participants to mention during the introduction – whether undergone training on Operational Research or Scientific Writing. Each participant introduced themselves and this helped to enable the facilitators to understand about each of the participant for facilitating interactive sessions.

Introductory note: Dr Ariyaratne, Consultant-Venereologist, SIMU has delivered an introductory note. He highlighted on VHS-CDC Project's technical cooperation with SIMU-NSACP with the support of CDC in roll-out of technical cooperation and TA initiatives over a period. During the introductory note, he stated that:

Dr KAM Ariyaratne,
Consultant-Venereologist & Coordinator-SIMU, NSACP.

VHS-CDC Project with the support of CDC is providing TA on SI and working closely with SIMU-NSACP & contributing for system strengthening, capacity building, etc. As a part of it, efforts have been made for conducting Training Need Assessment, developing training plan, conducting training on data management, DHIS2, scientific writing, operational research, exposure visits, etc. These initiatives were very much useful.

Request all the participant to extend the fullest cooperation by actively participating and benefiting through this training program. This training program is primarily designed for Doctors, PHIs, Nursing Officers and Development Officers. VHS-CDC has already conducted similar training for PHIs and Nursing Officers. During this training, we have invited Consultant-Venereologists and Medical Officers for this training on Data Management. We are planning to conduct same training for Doctors coming month.

I am sure, all the doctors are having rich experience in managing data by using Excel as a part of the existing data registration, collection, consolidation, reporting, etc. This training will help in enhancing your knowledge & skills and contribute for further strengthening quality reporting and efficient data management.

Thanks to VHS-CDC Project and CDC for the support being extended to SIMU in a systematic way with good collaboration. He also thanked the support extended by Dr Joseph D Williams, Director-Projects, VHS, Dr T Ilanchezhian, Mr B Kamalakar, Ms T Sudha and Mr S Sathyaraju.

He requested the participants to benefit through this training program and feel free to clarify and gain knowledge and skills on data management"

Pre-Assessment: Dr Ilanchezhian and Ms Sudha administered the pre-assessment by distributing forms to each of the participant. This Pre-Assessment form had 15 questions with four options for each question. The team has also facilitated in translation of select questions based on the needs and requirements. Each participant filled in the pre-assessment tool and submitted.

This has helped the trainers to understand what they already know, what the participants are in need of and planning for the training sessions to enable everyone to come to the uniform level of understanding on the training subject.

Objectives & Expected Outcomes of the training program: Dr Yujwal Raj facilitated interactions to understand on the needs and expectations from the participants in this training on data management.

- In response to this, each participant shared their expectations in the training program for the benefit of enhancing their knowledge and skills, improving their job responsibilities, enhancing the efficient data management, etc.

- In continuation of this, Dr Yujwal Raj made a presentation on objectives & expected outcomes of the training in an interactive way.

During this session, he mentioned that, overall **goal** is to impart & advance the data management skills of Consultant Venereologists & Medical Officers in order to improve the data quality, strengthen the data analysis and use of STD & HIV/AIDS programme data for an evidence-based programming under NSACP.

In this session, he also shared about the objectives, training outcomes, facilitators, sessions/ session plans, materials, common guiding principles, day wise course content, training methodologies, etc.

He informed that, this training will be organized by adopting methodologies such as:

- Active Learning through Discussions; Review of examples; and Case studies
- Learning by Doing
- Individual Hands-on/ Practical Exercises
- Group Exercises
- Parallel work on selected data

This training will primarily emphasize more on hands-on training considering the importance of acquiring more skills on data management by using excel.

As a part of the presentation cum discussion, through a participatory process, formulated the basic guiding principles which need to be adopted during the training program.

Some of the **guiding principles** emerged and finalized through consensus will include:

- Please attend ALL sessions
- Keep to time schedule
- Put mobile phones on VIBRATE or turn OFF
- Move to a location where you can see the screen
- Participate actively
- Feel free to seek clarifications
- Avoid arguments & side talks
- Respect others' point of views
- Assist your neighbours, when necessary

In this session, Dr Yujwal Raj also informed the participants that,

- Requires familiarity with HIV/AIDS programme data; Microsoft Excel; and Basic understanding of data.

- Involved in data collection, reporting, analysis and presentation of HIV/AIDS data.

- Should have laptop/ computer to do practical exercises.

- Should have a sample, preferably real, dataset to work on a relevant analysis.

In continuation of the presentations, Dr Yujwal Raj encouraged **question and answer session** on understanding the overview of the program.

Dr Yujwal Raj informed that, the training needs has been integrated in the agenda and scheduled the sessions in a systematic manner considering the needs and expectations of the participants in this training program.

Further, he encouraged the participants to clarify the doubts as an when required both during the session and at the end of the session. He also stressed that, lot of practical exercises will be undertaken as a part of this training methodology.

Special address: Dr T Ilanchezhian briefly introduced Mr B Kamalakar, Finance Controller, VHS-CDC Project. In his introduction, he mentioned that, he has more than 30 years of experience.

He is working with VHS for more than 15 years. He is well experienced in managing finance and very supportive to the technical team in program planning and implementation.

He is heading the admin and finance division as Finance Controller of this VHS-CDC Project. He invited the Finance Controller to deliver the Special Address on behalf of VHS-CDC Project and Dr Joseph D Williams, Director Projects, VHS.

Mr B Kamalakar, Finance Controller, VHS-CDC Project delivered the special address and, in his speech, he highlighted:

Mr B Kamalakar
Finance Controller
VHS-CDC Project

We thank Dr Ariyaratne for extending support in conducting this training program. We also thank SIMU team and NSACP for the support being extended over a period.

VHS is one of the leading multi-specialty hospital, located in Chennai with more than 400 beds with various departments and rendering committed services for more than 60 years. VHS is equipped with Project Management Unit (PMU) which is headed by Dr Williams. This PMU has more than 25 years of rich experience in managing various projects including on HIV/AIDS. VHS Projects has a tremendous experience in implementation, providing TA and facilitating knowledge transfer.

VHS has taken utmost care, identified well-known reputed trainers, developed resource materials, evolved strategic participatory training methodologies, etc. We are sure, this training will be of very much useful to each one of you. I request everyone to actively participate, get trained, and plan for strengthening data management system in the country.

Once again, I wish to appreciate and thank Dr Ariyaratne and NSACP team.

Vote of thanks: On behalf of NSACP and VHS-CDC Project, Dr S Muraliharan, MO/Planning/SIM unit/NSACP has delivered vote of thanks in the inaugural function.

The **Master of Ceremony** of the inaugural function was coordinated by Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project.

At the end of the inaugural session, Dr T Ilanchezhian informed that: all PPTs and exercise formats will be shared through e-group formed and introduced Ms Sudha, Senior Programme Associate and Mr Sathyaraju, Associate Manager-Finance who can be contacted for any immediate help during the training program.

3.1.3. Sessions and Exercises

Presentations and Exercises			
Day 1	21st Aug'19	Wednesday	1015-1800 hrs

Session 1: Identifying & mapping data sources for HIV/AIDS analysis

Exercise 1: Identifying Programmatic Questions & Mapping Data Sources:

- **Part-A: List all the Known HIV/AIDS Data Sources & Identify the Key Information Areas**
- **Part-B: Mapping Data Sources/ Datasets with Programmatic Questions**

Time: 1 hour
(1015-1115 hrs)

Materials / Methodology:

- Power-Point Presentation
- Interactive Session
- Discussion
- Exercise Formats
- Hands-on Exercise

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

- Planning Program Data Analysis
- Program areas (current state of epidemic, drivers of epidemic, program response & gaps and information gaps)
- Programmatic questions (epidemic questions, progress & priority questions, performance questions, questions on evidence and information gaps)
- Discussion on the programmatic questions/ issues for decision making
- Reviewing the questions for primary and secondary data analysis
- Rich evidence bases of NSACP
- Listing out the data sources
- Mapping the program questions with datasets

Key highlights: The team seated in the respective tables formed as groups and provided with exercise formats and participants completed the following exercises:

Exercise 1: Identifying Programmatic Questions & Mapping Data Sources:

- Part-A: List all the Known HIV/AIDS Data Sources & Identify the Key Information Areas
- Part-B: Mapping Data Sources/ Datasets with Programmatic Questions

[1] Presenter **[2] Co-Presenter**

During the process of the discussions, the participants shared the following programmatic questions:

- **What are all the reasons for poor uptake of clinic services by KPs?**
- **What are all the difficulties Medical Officers face/ reluctance?**
- **How to improve health seeking behaviour?**

- **How to make people come early for medical check-up/ treatment to HIV clinic?**
- **How to make aware of their status at the early stage (1st 90s)?**
- **Which type of profile of people are mostly on loss to follow-up?**
- **What made the male with STDs are delaying in bringing the partners for testing?**
- **Introduced HIV rapid test but uptake is poor. Why they are not doing/ taking up?**
- **Compare the IBBS over two years and analyze the – decline, why, analyze and take actions?**
- **How to forecasting ART drug requirements for the next six months?**
- **Where are the issues in ensuring, providing optimum health services?**
- **How to improve the counselling to overcome self-stigma among PLHIV?**
- **How to address factors? Why it is not influencing the youth in adhering behaviour/ practices or how to reshape your communication strategy based on evidences?**

In continuation of the discussions on the programmatic questions, emphasize was made on use questions, analyze data and understand. The data analysis can happen based on the training imparted during these three days.

EXERCISE 1: IDENTIFYING PROGRAMMATIC QUESTIONS & MAPPING DATA SOURCES

Part-A: List all the Known HIV/AIDS Data Sources & Identify the Key Information Areas

S. No.	Known HIV/AIDS Data Sources/ Datasets	Key information areas/ Broad themes

Part-B: Mapping Data Sources/ Datasets with Programmatic Questions

S. No.	Programmatic Question/ Issue for Decision Making	Probable Data Sources/ Datasets for Analysis *(Mention S.Nos. from Part A Table)*

Session 2: Principles of database management

Exercise 2:

2.1. Exercise Dataset 2
2.2. Reviewing the Database
2.3. Data Management Systems – Assessment Tool
2.4. Data Management Checklist

Time: 45 mins
(1130–1215 hrs)

Materials / Methodology:

- Power-Point Presentation
- Interactive Session
- Exercise Formats
- Hands-on Exercise

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

- Importance and definition of DATA, INFORMATION and KNOWLEDGE.
- Explained in detail on DATA, INFORMATION and KNOWLEDGE.
- Principles of good data management plan.
- Purposes of Data Management Systems.
- What does good data management means?
- What are all good things in data management system?
- Data lifecycle with six steps covering creating data; processing data; analyzing data; preserving data; giving access to data; and re-using data - explained each step with examples.
- Details on MetaData, coding and data dictionary, efficient timely data flow, data storage and retrieval, data protection and sharing, maximizing data usefulness, data preparation, data analysis, long-term planning, etc.
- Details on database, database management system, creating database structure, key principles, compiled datasets, etc.
- Presentation followed with question and answer session and follow-up.

Key highlights: The team was divided into groups and provided with exercise formats and participants completed the following exercises:

Exercise 2:

2.1. Exercise Dataset 2
2.2. Reviewing the Database
2.3. Data Management Systems – Assessment Tool
2.4. Data Management Checklist

During the exercise, the facilitators provided needed guidance to the team and mentorship to gain needed practical experiences.

[1] Presenter **[2] Co-Presenter**

2.1. Exercise Dataset 2 (Hands-on working sheet)

				2003		2004		2005		2006		2007		2008	
State	**District_name**	**Site_name**	**Site_ Type**	**NT**	**NP**	**NT**	**NP**	**NT**	**NP**	**NT**	**NP**	**NT**	**NP**	**NT**	**NP**
Andhra Pradesh	Visakhapatnam	Priyadarshini Service Organization, Vishakhapatnam	FSW	250	32	250	35	250	39	250	27	250	22	248	12
Andhra Pradesh	East Godavari	East Godawari	FSW	250	113	250	102	250	67	250	23	250	39	244	45
Andhra Pradesh	Prakasam	Lakshmi Development Society, Ongle, Prakasam	FSW	250	61	250	27	250	18	250	11	250	18	235	16
Andhra Pradesh	Hyderabad	Hyderabad	FSW	250	40	250	25	250	30	250	24	249	18	250	37
Andhra Pradesh	Kurnool	Parameswari, Kurnool	FSW	250	22	250	25	250	8	249	6	249	9	249	12
Andhra Pradesh	Warangal	Warangal	FSW	250	32	250	47	250	32	249	22				
Andhra Pradesh	Guntur	Needs Society, Chilakaluripet, Guntur	FSW			250	36	250	33	250	15	250	32	213	19
Andhra Pradesh	West Godavari	Action for Development, Bhimavaram (New 07)	FSW									249	41	247	35
Andhra Pradesh	Khammam	JAGRUTI (New 07)	FSW									250	39	247	66
Andhra Pradesh	Adilabad	AIRTDS,Mancherial (New 07)	FSW									217	10	249	38
Andhra Pradesh	Nalgonda	ANKITA (New 07)	FSW									250	25	227	21
Andhra Pradesh	Srikakulam	Swageti Project,Youth Club of Bejjipuram (New 07)	FSW									250	15	243	10
Andhra Pradesh	Warangal	MARI, Hnamkonda (New 07)	FSW									120	8	248	12
Andhra Pradesh	Khammam	JAGRUTI (New 07)	FSW			248	12								
Andhra Pradesh	Nalgonda	ANKITA (New 07)	FSW					250	11						
FSW: Female Sex Workers; NT: Number Tested; NP: Number Positive															

2.2. Reviewing the Database

Review the 'Exercise 2 Dataset' given to you and fill the following table.

S. No.	Observe/ Identify	Observations/ Details
1	Is it a single dataset or compiled dataset? Why do you say so?	
2	What is a case in this database?	
3	No. of cases	
4	No. of fields and their names	
5	Primary key	
6	Metadata is adequate and clear	
7	**Any of the key principles violated in the dataset?**	
A	One row for one case	
B	No duplicate variables/ column heads	
C	No duplicate primary key	
D	No sub-totals in rows; sub-totals/ totals in columns are OK	
E	No merged cells; No merged headings	
F	No blank cells (Fill blank cells with some code or Impute)	
G	No two data types in one column (Text/Num/Code)	
H	Short & crisp variable names; Not too long	

2.3. Data Management Systems – Assessment Tool

Data Management Systems - Assessment Tool	National	State	District	Action to be taken
Standard operating procedures have been written that define roles and responsibilities for data compilation, reporting, data analysis, dissemination and use.				
There is a comprehensive, singular, master list of health facilities, with unique facility identifier and service domain, that includes the private sector and special facilities (military, etc.).				
There is a formal mechanism to update and keep current the master facility list (e.g., a census of all facilities is conducted every 5 years).				
Data collection systems for client data (e.g. clinical episodes) are standardized across all implementing partners and donors.				
Personnel (clinicians and other staff) have been trained in the collection of the client data, and for the input of the data into the computer database (where applicable).				
Printed guidelines are available at all health facilities (and in applicable community-based programs) to assist with client-level data collection.				
Health data (paper or electronic) are stored appropriately and according to national policies.				
There is a schedule/plan for update, reproduction, and distribution of data collection tools.				
The data flow pattern (i.e., data flow from client encounter forms -> summary tools [e.g., a register or tally sheet] -> periodic aggregate reporting form) is clearly defined and understood by staff.				
There are printed guidelines available at all health facilities (and in applicable community-based programs) to assist with data compilation and reporting.				
Relevant staff at health facilities (and in applicable community-based programs) have received training on data compilation and reporting.				
Data disaggregations by key stratifiers (age, sex, geography) are maintained during compilation and transfer in order to permit equity analysis.				
Data transfer to the next level occurs in a timely way, making use of innovation and IT where appropriate and available.				

Data Management Systems - Assessment Tool	National	State	District	Action to be taken
There is a data quality assurance plan that is shared with health programs, other government ministries, donors and other stakeholders to guide activities aimed at improving data quality.				
Routine health data quality assurance standards are defined and enforced, including completeness, timeliness, accuracy, integrity, and consistency over time.				
Roles and responsibilities for data quality are assigned at each level, including verification of data, summarizing data quality issues, and developing and implementing improvements strategies.				
Training and capacity development for data quality assurance are provided at facility, district, and national levels using standard methods.				
Systematic and comprehensive assessments of facility data quality are conducted regularly in advance of health sector planning, including analysis of completeness, timeliness, accuracy, and consistency over time (e.g., data quality review) and which result in published reports describing data quality issues and plans to address them.				
Data management staff conducts regular checks of accuracy and completeness of data prior to submitting reports to the next level (using automated electronic checks where appropriate).				
Data quality assurance is linked to the health sector planning cycle in the country so that information on data quality is available prior to the use of data for planning.				
There is collaboration between the MOH, government agencies (e.g., national statistics office) and other national stakeholders (e.g., donors, universities, etc.) on data quality assurance so that assessments are conducted with an element of independence (i.e., no conflict of interest).				

2.4. Data Management Checklist

Databases	1	2	3	4
Name of database				
1. Type of data				
What kinds of data - survey, interview, observation, machine or instrument collected, physical samples, models, etc. - are you collecting?				
What formats - paper, digital, image, audio, other - will the data be in?				
Will it be reproducible? What would happen if it got lost or became unusable later?				
2. Data formats and standards				
Do you have data dictionaries, code books or other documentation to explain terms, variable names, codes and abbreviations used?				
Have you provided documentation describing how the data were collected or created?				
Have you used standard collection methods, standard data formats, and standard file format choices (if these exist for your research field)?				
3. Data access policies				
Have you removed personal or sensitive information from your data to ensure privacy protection?				
Have you established who owns the copyright of your data?				
Do you have documentation on how institutional and personal credit should be acknowledged for your data?				
Are your data, records, and files labeled and logically organized?				
Have you used consistent and easy to understand file names?				
4. Data use and distribution				
How will your data be made available?				
Do you plan to limit re-use or re-distribution of your data? If so, why and for how long?				
5. Data preservation and archiving				
Have you made arrangements for the long-term storage and preservation of your data (both physical and digital collection items)?				
Do you have data security plans in place to ensure that copies of your data are stored and backed up on a regular basis?				
Are you using data formats and software that enable sharing and ensure long-term validity of data, such as non-proprietary software and software based on open standards?				
When converting from one format to another, have you checked that no data are lost or changed in the process?				

Session 3: Understanding datasets under NSACP – Issues with Program Data

Exercise 3: Assessment of NSACP datasets

Time: 1 hour 15 mins (1215-1330 hrs)

Materials / Methodology:

- Power-Point Presentation
- Question & answer session
- Exercise Format
- Practical Exercise

Facilitators:

Dr Ariyaratne Manathunge[1]
Dr S Muraliharan[2]
Dr Yujwal Raj [2]
Dr T Ilanchezhian[2]

Core Content Covered:

- Introduction on NSACP
- Main data systems at NSACP
- Data utilization
- Data management from STD and HIV clinics
- HIV case reporting system
- Probable mode of transmission
- Monitoring and evaluation of STD clinics
- Sources of STD data
- Registers maintained at STD clinics
- Quarterly STD return
- Monitoring and evaluation of ART centers
- Database of HIV clinics
- Summary of databases (HIV case report database; STD clinic database; ART Cross sectional database; and ART cohort database)

Key highlights: The presentation was followed with question & answer session. This has helped the facilitators and participants to understand the datasets under NSACP. Followed with the discussions, exercises on the following:

- **Exercise 3: Assessment of NSACP datasets**

Also informed that, all STD forms will be converted into electronic and reporting will be undertaken through EIMS.

[1] Presenter **[2] Co-Presenter**

EXERCISE 3: ASSESSMENT OF NSACP DATASETS

Review the NSACP Dataset brought by you in your group and fill the following table:

S. No.	Attributes of Dataset	Observations/ Details	
1	Name of the dataset		
2	Reference Period of dataset		
3	Geographic Scope	National/ Provincial/ District/ Clinic Details:	
4	**Data Lifecycle**	**Who performs this function?**	**When/ At what frequency?**
A	Collecting data		
B	Creating dataset		
C	Processing data		
D	Analysing data		
E	Preserving data		
F	Have access to data		
G	Publish results		
H	Using & reusing data		
5	**Assessment of Utility & Usability**	**Score the following on a scale of 3, where 3 is good, 2 is moderate, 1 is low**	
A	Explains epidemic		
B	Reflects programme performance		
C	Availability of data at the desired level		
D	Feasibility of extraction & use		
6	**Probable issues with the dataset at various steps**	**Discuss & write the key issues affecting the dataset at each step below.**	
A	Collecting data		
B	Documenting in Registers		
C	Counting & Aggregation		
D	Data entry		
E	Reporting		
F	Compilation & Analysis		

Lunch break: 1330 – 1430

Session 4: Mapping Variables & Indicators – From Registers to Reports

Exercise 4: Variables and Indicators (Part A and B)

Time: 1 hour
(1430–1530 hrs)

Materials / Methodology:

- Power-Point Presentation
- Interactive Session
- Exercise Formats
- Group Work

Facilitators:

Dr Yujwal Raj [1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

- Definition of variable
- Different view points on variables
- Importance of focus on key variables
- Levels of measurement (nominal & ordinal)
- Levels of Measurement – Metric Scale (Interval & Ratio)
- Qualitative vs. Quantitative
- Types of variable values (Text Variables, Numeric Variables and Alphanumeric Codes)
- Other issues on variables
- Indicators – types of indicators, computing indicators, examples of indicators, etc.

Key highlights: In continuation of the presentation, posted some of the statements and requested participants to identify whether it is variable or indicator. This exercise has enabled the participants to understand importance and differences on variables and indicators. Followed with the team has undergone the exercise on the following exercises with the support of facilitators, mentorship, hands-on training, etc.:

Exercise 4: Variables and Indicators:

PART A: Review the NSACP datasets. List out at least 10 variables from the dataset. Write the variable values & the type (Text/ Number). Mention the source register & dis-aggregations available for the variable.

PART B: Write 5 indicators that you report regularly in the quarterly return. Classify them and indicate their num, den, units & importance.

[1] **Presenter** [2] **Co-Presenter**

EXERCISE 4: VARIABLES & INDICATORS

PART A: Review the NSACP datasets that you have brought. List out at least 20 variables from the dataset. Write the variable values. Classify them based on the level of measurement. Mention the source register & dis-aggregations available for the variable.

S. No	Variable	Variable Values	Level of Measurement	Source Register	Disaggregations Available

PART B: Evolve 12 indicators – 2 of each type – based on the variables listed above. Classify them and indicate their num, den, units & importance

Indicator 1	
Type	
Num	
Den	
Units	
Importance	
Indicator 2	
Type	
Num	
Den	
Units	
Importance	
Indicator 3	
Type	
Num	
Den	
Units	
Importance	
Indicator 4	
Type	
Num	
Den	
Units	
Importance	
Indicator 5	
Type	
Num	
Den	
Units	
Importance	
Indicator 6	
Type	
Num	
Den	
Units	
Importance	

Indicator 7	
Type	
Num	
Den	
Units	
Importance	
Indicator 8	
Type	
Num	
Den	
Units	
Importance	
Indicator 9	
Type	
Num	
Den	
Units	
Importance	
Indicator 10	
Type	
Num	
Den	
Units	
Importance	
Indicator 11	
Type	
Num	
Den	
Units	
Importance	
Indicator 12	
Type	
Num	
Den	
Units	
Importance	

Session 5: Data Quality Assessment

Time: 1 hour
(1530–1630 hrs)

Materials / Methodology:

- Power-Point Presentation
- Interactive Session
- Demonstration
- Question & Answer Session

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

- Data quality (Real World Information system)
- Importance of data quality assessment
- GIGO
- Reasons for poor data quality, common errors during data collection/ data entry/ data validation
- Data quality at every step
- Conclusions from DQA
- Impute missing data
- Key attributes of data quality
- Use of granular data in DQA
- Availability of relevant indicators in reporting format, summarize and how to assess and conclude.
- Completeness, correctness, accuracy, consistency-internal, outliers, over time, external validity, etc.
- Good data is valid, reliable and complete.
- Precision, timeliness, integrity, confidentiality, etc., with examples for each one.

Key highlights: This presentation was conducted in an interactive way. Opportunity was provided to the participants for clarifying the doubts at every stage of the session. Each aspect was supported with exercises/ graphs/ examples to enable everyone to understand.

The session also was concluded with summing up of data quality attributes, indicators to assess and key things to look for.

The facilitators also provided opportunity for clarifying the doubts of the participants with examples.

[1] **Presenter** [2] **Co-Presenter**

Session 6: DQA Adjustments and Validation

Exercise 5: DQA & Adjustments in the Dataset

Time: 1 hour
(1630–1730 hrs)

Materials / Methodology:

- Power-Point Presentation
- Interactive Session
- Demonstration
- Hands-on Exercise

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

- Key steps to improve data quality
- Adjustments and validation
- Summing up DQA
- Conclusions from DQA
- Actions to fix quality issues
- Adjustments
- Analysis of missing patterns
- Impute missing data
- Methods of imputations
- Other data adjustments
- Validation of Quality Control data
- Useful excel functions

Key highlights:

Exercise 5: DQA and Adjustments in the Dataset: The participants were provided with the following instructions:

- Answer the questions in the format based on your work experience at STD/HIV Clinic.
- Document the issues and challenges faced at various steps of the data management.

Based on the instructions, the respective group undertaken DQA and Adjustments in the datasheet shared. This exercise has contributed for learnings such as: understanding data management system at their clinics and, the roles of different staff and the issues and ways to improve the data management and data quality at their clinic.

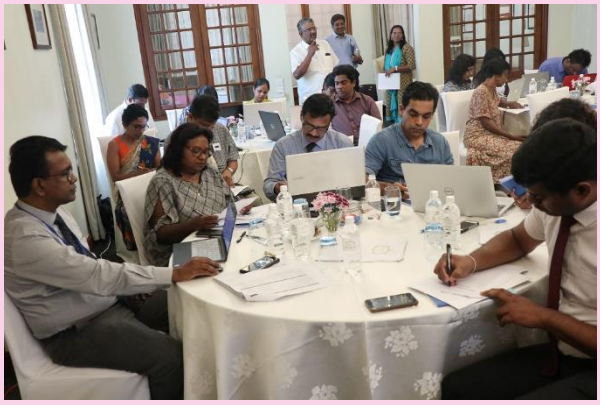
[1] **Presenter** [2] **Co-Presenter**

Exercise 5: DQA & Adjustments in the Dataset (Example only)

Sno	Province	District	Month	Name of the Facility	Total tested during the month	Total clients received post-test and results	Total ANC positives during the month	Total ANC Positives linked to ART during the month	Total Non ANC positives during the month	Total Non ANC clients linked to ART during the month
1	WP	Dist1	JAN 18	ICTC AMALAPURAM	702		0	0	14	12
2	WP	Dist1	JAN 18	ICTC RAMACHANDRAPURM	483		1	1	12	11
3	WP	Dist1	JAN 18	ICTC TUNI	652		0	0	10	9
4	WP	Dist1	JAN 18	ICTC PEDDAPURAM	437		2	2	16	22
5	WP	Dist1	JAN 18	ICTC DH – RAJAMEHINDRAVARAM	742		0	0	76	69
6	WP	Dist1	JAN 18	ICTC RMC KAKINADA	722		0	0	46	44
7	WP	Dist1	JAN 18	ICTC TBIDH GGH KAKINADA	583		0		23	18
8	WP	Dist3	JAN 18	SA AH - BAPATLA (P&V)	815		0		154	15
9	WP	Dist3	JAN 18	SA AH - NARSARAOPET (P&V)	1243		2		34	32
10	WP	Dist3	JAN 18	SA CHC - CHILAKALURIPETA (V)	590		2	2	7	7
11	WP	Dist3	JAN 18	SA CHC - MACHERLA (V)	350			0	5	7
12	WP	Dist3	JAN 18	SA CHC - VINUKONDA (I)	315		1	1	9	8
13	WP	Dist3	JAN 18	SA DH - TENALI (V)	673			0	39	35

At the end of the day, team of facilitators (Dr Ariyaratne, Dr IC and Dr Yujwal) conducted a panel discussion and provided opportunity for the participants to seek clarifications on the aspects covered. Participants clarified their doubts and facilitators provided needed explanation with examples.

Photo Glimpse of Day 1 Sessions



3.2. Day 2 (22nd August 2019)

3.2.1. Sessions and Exercises

Presentations and Exercises			
Day 2	22nd Aug'19	Thursday	0830-1800 hrs

Dr T Ilanchezhian welcomed the participants and briefly shared the overall training plan of the day. Also made logistics announcements.

Recap: 0830-0900 hrs: Dr T Ilanchezhian and Dr Yujwal Raj jointly facilitated and conducted recap session on the learnings from day 1. Invited each participant to share the learnings by adopting unique innovative approach and encouraged everyone to contribute. Some of the key learnings expressed during the recap session by the participants:

- Precision means more details, having more and more details, having disaggregated data.
- Alpha-Numeric code.
- Indicators: calculated data from two or more variables.
- Indicates the process, outcomes in the program. That is why it is called as indicators. Outcome of the indicators: % of positive pregnant women receiving PMTCT services.
- Indicators are essential for the program to decide on the success or failure of the program.
- Forms of indicators – it can be in four forms: Indicator can be Number; Percentage; Rate; and Ratio.
- Type of indicators: Based on the type of indicators, there are 5/6 type of indicators:
    - Indicators of need/ Epidemic indicators - Size of KP, HIV prevalence, what program we need to do?
    - Input Indicators – three main inputs are very important: Finance, HR, Commodities (e.g., drugs/ condom)
    - Process Indicators - No. of outreach camps; No. of trainings; Counselling duration; Waiting time at ART clinic, what are we doing?
    - Output Indicators - No. of facilities opened; No. of tests done; No. of KP reached; Cascade indicators, output is immediate results…. but outcome is long-term results.
    - Outcome Indicators - Condom uptake; No. of sexual partners; Health seeking behaviour (long-term results).
    - Outcome are intermediate, impact may take more long-term (4 to 5 years).
    - Impact Indicators - New HIV infections/ Incidence; AIDS deaths/ Mortality; Survival (even long-term).
- Data gets into information, information is a processed data.
- Ratio level of measurement – there is an absolute zero, zero has meaning, zero is a numerical value.
- Output – immediate results
- Impact – longer, larger, community level/ population.
- Fields in database – it is a variable/ column / field, it is part of database, headings are called as variable names.
- Principles of data management (no blank cells, cases should not be repeated, one row for one case, variable name should not be repeated, primary key, no sub-totals).
- Type of variables:
    - Categorical – other names are also called us discrete variable or quantitative variables. Under categorical: nominal (grading cannot be

done – e.g., whether pregnant or not), ordinal – grading or ranking or ordering can be done – e.g., third pregnancy – ordinal.
    - Continuous – other names for continuous: numeric & quantitative variables
    - Examples of other ordinal – education (illiterate, primary, secondary, age group) but age is a continuous numerical variable.
    - Interval scale: temperature, Body Mass Index – where absolute ratio is not possible
    - Ration variable: Ex., age, weight, height, number of people tested, number of people visited STD clinic (zero is not possible)
    - There are four types of variables.
    - Impact is a large area, place, long-term / big program. Impact cannot be for small program. Ex., Impact of sex workers program in the country.
- Data dictionary: All the definition of variables and indicators are called data dictionary. Ex., definition of Loss-to-follow-up – standard definition for uniformity.
- Secondary data – data collected for other purposes.
- Primary data – data freshly collected for a research/ study.
- Meta data – data about the data, description of data.
- Ordinal variables – E.g., stage of disease
- Reliability – is repeatability, applying use of various methods, answers will be the same. Internal consistency (e.g.,) age and marriage.
- Out layer
- Bias – Unscientific influence, unduly influencing over results.
- Internal variable, qualitative measurement, not absolute, arbitrary zero (e.g.,) temperature.
- Knowledge – deeper insights into data
- Process indicator – it reflects the activities and actions taken (e.g.,) distribution of condom.
- Confidentiality – no person identifier – anonymity
- Three types of consistency – consistency over time, internal consistency and external consistency (the first two consistencies are more important).
- There are six types of indicators.
- There are eight aspects of data quality.
- Data source is the first step in data lifecyle.
- Data analysis is a part of data lifecyle. It is part of 3rd step.
- Dataset is nothing but set of data – it can be single dataset and combined data. Database is generally large (including aggregation and segregation of data).
- Database structure (rows are also called as records/ cases and columns are also called as fields/ variables).
- Primary key – it is part of the database structure.
- Primary key is unique identifier – unique ID or case ID.
- Primary key is a variable which is unique ID.
- Data label – part of database structure. Data label is nothing but explanation of variable name (LCU – Last time Condom Usage) – it is part of meta data. Expanding the variable name. Value label is coding.
- Six steps in data lifecyle: Creating data; processing data; analyzing data; preserving data; giving access to data; and re-using data.

- Percentage always calculated on 100. Rate can have any denominator – some indicators we call them in % or in rate.
- Difference between new case and new infection.
    - New case it is deducted
    - New infection is acquired this year
    - Prevalence is all infection – all new and old (it is entire population).

In the recap session, participants recalled the learnings of the day 1 – it is not on session wise/ topic wise. The facilitators also provided needful clarifications at every stage. This process has enabled the participants to regain the learnings, overcome the doubts and clarifications and develop everyone on the same page with a common understanding on the learnings.

Session 7: Basic Programmatic Analysis – Measures & Methods

Exercise 6: NSACP Datasets (HIV Data) format

Time: 1 hour
(0900–1000 hrs)

Materials / Methodology:

- Power-Point Presentation
- Interactive Session
- Exercise Formats
- Practical Exercise

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

- Basic measures (Sum/Total; Sub-totals; Percentage; Distribution; Min-Max; Cut-off based; Top & bottom; Quartiles; Average/ Mean; and Median).
- Computing new variables (Recoding text to numeric variables; Converting continuous to categorical variables; and Computing new variables – age groups, percentages).
- Indicator estimation (Number; Percentage; Rate; and Ratio).
- Levels of Measurement
- Nominal Variable (Categorical/ Discrete data; Distinct groups; No ordering/ Order is not meaningful; and Gender, Occupation, Marital status, Colour, Yes/No).
- Ordinal Variable (Categorical/ Discrete data; Distinct groups; Ordering meaningful; Distance/gap between two level in the order is not meaningful; and Stages of disease, Severity of disease, Mild-Moderate-Severe, Low-Medium-High, Education, Ranks).
- Interval Variable (Numeric/ Continuous data; Distance/gap between two levels can be measured & is meaningful; Subtraction is possible between values; No absolute zero/ No Common Reference Point; Zero is not meaningful; and Temperature, Age groups, Distance b/w two points).
- Ratio Variable (Numeric/ Continuous data; Absolute zero is meaningful; Levels can be expressed as ratio or number of times of one another; and Height, Weight, Prevalence rate).
- Useful excel functions (Sort & Filter; Replace; Go to; Pivot tables; V-look Up; Conditional Formatting; Remove Duplicates; and Sum, Average, Median, Quartiles).

Key highlights:

Exercise 6: The participants were asked to estimate the basic measures from the NSACP dataset which the team have cleaned in DQA exercise.

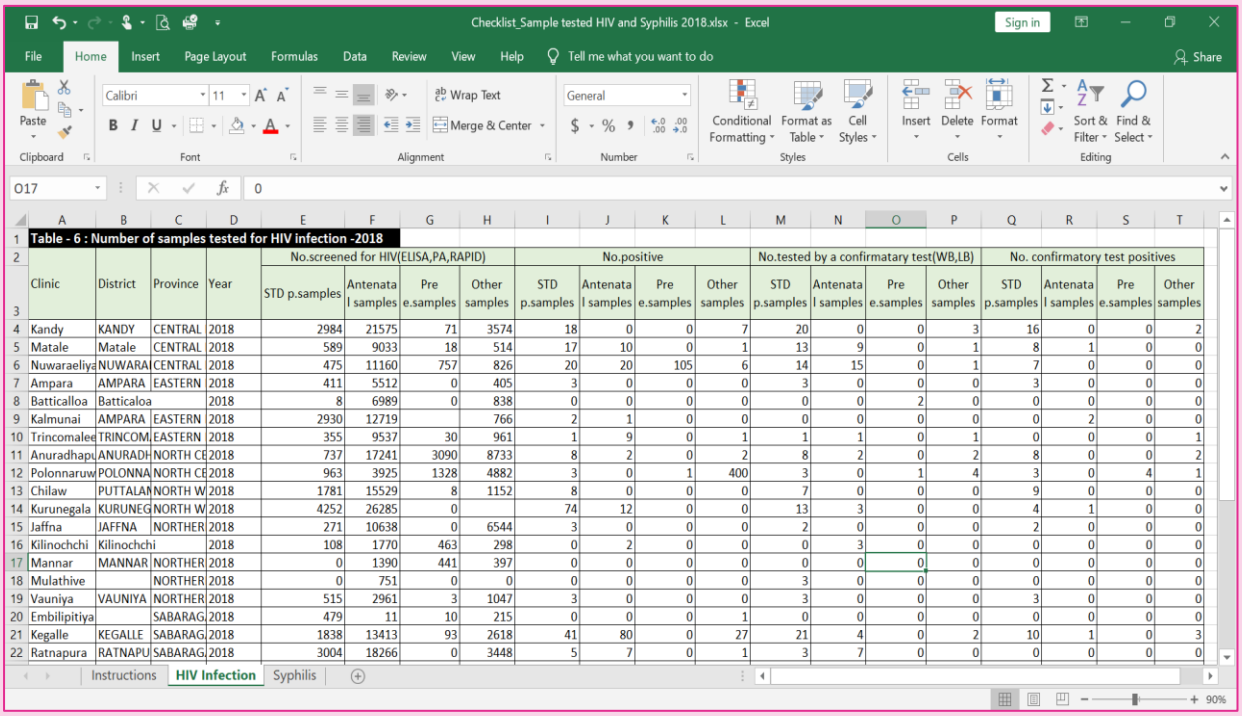
Also requested the team to work on the following:

- Convert continuous to categorical variable
- Estimate four indicators

Each team has undertaken exercise in a team with the guidance and support of the facilitators and gained experiences.

[1] Presenter **[2] Co-Presenter**

Exercise 6: NSACP Datasets (HIV Data) format



Checklist_Sample tested HIV and Syphilis 2018.xlsx - Excel

Table - 6 : Number of samples tested for HIV infection -2018

Clinic	District	Province	Year	No.screened for HIV(ELISA,PA,RAPID)				No.positive				No.tested by a confirmatary test(WB,LB)				No. confirmatory test positives			
				STD p.samples	Antenatal samples	Pre e.samples	Other samples	STD p.samples	Antenatal samples	Pre e.samples	Other samples	STD p.samples	Antenatal samples	Pre e.samples	Other samples	STD p.samples	Antenatal samples	Pre e.samples	Other samples
Kandy	KANDY	CENTRAL	2018	2984	21575	71	3574	18	0	0	7	20	0	0	3	16	0	0	2
Matale	Matale	CENTRAL	2018	589	9033	18	514	17	10	0	1	13	9	0	1	8	1	0	0
Nuwaraeliya	NUWARA	CENTRAL	2018	475	11160	757	826	20	20	105	6	14	15	0	1	7	0	0	0
Ampara	AMPARA	EASTERN	2018	411	5512	0	405	3	0	0	0	3	0	0	0	3	0	0	0
Batticalloa	Batticaloa		2018	8	6989	0	838	0	0	0	0	0	0	2	0	0	0	0	0
Kalmunai	AMPARA	EASTERN	2018	2930	12719		766	2	1	0	0	0	0	0	0	0	2	0	0
Trincomalee	TRINCOM	EASTERN	2018	355	9537	30	961	1	9	0	1	1	1	0	1	0	0	0	1
Anuradhapu	ANURADH	NORTH CE	2018	737	17241	3090	8733	8	2	0	2	8	2	0	2	8	0	0	2
Polonnaruw	POLONNA	NORTH CE	2018	963	3925	1328	4882	3	0	1	400	3	0	1	4	3	0	4	1
Chilaw	PUTTALAM	NORTH W	2018	1781	15529	8	1152	8	0	0	0	7	0	0	0	9	0	0	0
Kurunegala	KURUNEG	NORTH W	2018	4252	26285	0		74	12	0	0	13	3	0	0	4	1	0	0
Jaffna	JAFFNA	NORTHER	2018	271	10638	0	6544	3	0	0	0	2	0	0	0	2	0	0	0
Kilinochchi	Kilinochchi		2018	108	1770	463	298	0	2	0	0	0	3	0	0	0	0	0	0
Mannar	MANNAR	NORTHER	2018	0	1390	441	397	0	0	0	0	0	0	0	0	0	0	0	0
Mulathive		NORTHER	2018	0	751	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Vauniya	VAUNIYA	NORTHER	2018	515	2961	3	1047	3	0	0	0	3	0	0	0	3	0	0	0
Embilipitiya		SABARAG	2018	479	11	10	215	0	0	0	1	0	0	0	0	0	0	0	0
Kegalle	KEGALLE	SABARAG	2018	1838	13413	93	2618	41	80	0	27	21	4	0	2	10	1	0	3
Ratnapura	RATNAPU	SABARAG	2018	3004	18266	0	3448	5	7	0	1	3	7	0	0	0	0	0	0

Instructions | HIV Infection | Syphilis

Session 8: Basic & Advanced Functions in MS Excel

Time: 45 mins
(1000–1045 hrs)

Materials / Methodology:

- Power-Point Presentation
- Interactive Session

Facilitators:

Dr Yujwal Raj[1]

Core Content Covered:

Basic & Advanced Functions in MS Excel:

- Understanding Excel Layout
- Sheet Visualisation Functions
- Dealing with Rows & Columns
- Cell Formatting
- Cell Navigation
- Paste Special
- Dataset Functions
- Analytic Functions
- Basic Formulae
- Advanced Formulae
- Advanced Operations

Description of the Data entry using MS Excel:

- **Objectives:**
  - To make participants
  - Learn the basic features of MS Excel
  - Learn to enter formulae in Excel
  - Familiar with the advanced options for analysis in Excel
- **Instructions:**
  - Perform the basic functions in Excel to better visualise the data.
  - Conduct data quality assessment on the data using basic excel formulae.
  - Perform data analysis to calculate the totals, positivity rates and quartiles.
- **Key Learnings:**
  - Participants develop skills to perform basic operations in Excel.
  - Participants develop skills to write formulae and perform analysis using Excel.

Key highlights: Facilitator explained in detail on basic and advanced function in MS-Excel. This session provided opportunities to understand the basic and advanced functions in MS-Excel. In addition, this session also has helped in understanding on commonly used formulae in MS-Excel and the methods and procedures in developing formulae in excel.

[1] Presenter **[2] Co-Presenter**

Session 9: Commonly Used Formulae in MS Excel

Time: 45 mins
(1045–1130 hrs)

Materials / Methodology:

- Power-Point Presentation
- Interactive Session

Facilitator:

Dr Yujwal Raj[1]

Core Content Covered:

Commonly Used Formulae in MS Excel:

- General Rules
- Number Functions
  - Count
  - Sum
  - Min-Max
  - Quartiles
  - Mean/Average
  - Median
- Text Functions
  - Join
  - Left, Right & Mid
- Logical Functions
  - And
  - Or
- Special Functions
  - If
  - Vlookup

Key highlights: Facilitator explained in detail on basic and advanced function in MS-Excel. This session provided opportunities to understand the basic and advanced functions in MS-Excel. In addition, this session also has helped in understanding on commonly used formulae in MS-Excel and the methods and procedures in developing formulae in excel.

[1] Presenter **[2] Co-Presenter**

Practical Exercise 8: Basic data analysis using basic functions in Excel and Introduction to advanced use of MS Excel and Formulae

Time: 1 hour 45 mins & 1 hours 45 mins (1130–1315 & 1415–1600 hrs)

Materials / Methodology:

- Demonstration
- Practical Exercise

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

Objectives:

- To make participants
- Learn the basic and advanced features of MS Excel
- Perform data preparation functions on any dataset
- Learn to enter formulae in Excel
- Perform data quality checks and data analysis on datasets in database format
- Learn to generate pivot tables in Excel

Instructions and Key Learnings:

- Insert a completeness check for each of the first 7 tables in the STD quarterly return.
- Select blank cells and replace it with a suitable code for 'Not Applicable' wherever appropriate.
- Insert at least one logical error check for each of the first 7 tables in the STD quarterly return.
- Convert table 6 of four quarters into a database format.
- Create a DQA sheet for the STD quarterly return, for at-a-glance quality assessment.

Instructions and Key Learnings:

	Instructions for Hands-on Practice of MS Excel	Develop skills in performing/ using functions in Excel
	Checking for principles of Database Mgt.	
1	Check for the principles of database management. If they are violated, correct them.	Adding Header, Deleting Rows, Cell navigation using Ctrl, Shift & Arrow keys, Adjusting Column Widths
2	Introduce a primary key to the data and give code.	Inserting Rows & Columns, Fill series, Left Function, Join Function
3	Change the variable names to simple, short, uniform names.	Find & Replace, Fill Cell Colour
4	Add metadata if required.	Insert New Sheet, Rename, Paste Special, Transpose
	Data Quality Assessment	
1	Check for availability/ reporting status of the facilities. Use count function. Express it as %.	Count Function, Inserting Formula
2	Check for completeness of the data for each indicator. Use countif function & express as %. Highlight the blank cells using conditional formatting.	Countblank Function, Locking formula, Conditional Formatting

3	Check for correctness of data wherever possible. Use if function & identify incorrect data. Highlight incorrect data using conditional formatting.	If function, Conditional Formatting
4	Calculate HIV positivity % for screening & confirmation test, for each group.	Inserting Formulae, Sum function
5	Identify if there is any outlier in the HIV positivity rates among the clinics.	Inserting Formulae, Setting Cut-offs
6	After reviewing the completeness, correctness & consistency (outliers), calculate mean/average of remain data & impute missing/incorrect data/outlier.	Average function
7	Fill missing data with correct data under names of districts & provinces.	Go To function
	Data Analysis	
1	Recode province name from text to no.	If function
2	Calculate median HIV positivity rate.	Median function
3	Use the median as cut-off & label them as high positivity & low positivity.	If function
4	Identify the minimum and maximum work load centres, based on total no. of samples tested for HIV.	Min & Max functions
5	Identify the high and low patient load centres, using quartiles based on total no. of samples tested for HIV.	Quartile function
6	Convert numeric variable of patient load to categorical variable using quartiles based on # of samples tested for HIV	If function
7	Calculate proportional distribution of the samples tested by type of sample.	Inserting Formula
8	Calculate the province-wise count of facilities, total tested, total positive, % positivity, using pivot tables.	Pivot Table
9	Bring the data of Syphilis positivity from the other sheet to the sheet of HIV infection, using Vlookup function.	Vlookup Function
	Indicator Estimation	
1	Estimate four or five indicators - a number, a percentage, a rate, a ratio - from the given data.	Inserting formula
2	Estimate them separately for different provinces.	Pivot Table, Sumif, Countif functions
	Preparing Graphs	
1	Prepare a bar/ line graph/ pie chart & a combined graph based on above data.	Inserting graphs & setting options
2	Present province wise data using graph.	Inserting graphs & setting options
	Data Interpretation	
1	Draw conclusions & inferences on indicators estimated, for the country & for each province.	

[1] Presenter **[2] Co-Presenter**

Session 10: HIV/AIDS Specific Analysis from Programme Data

Time: 1 hour
(1600-1700 hrs)

Materials / Methodology:

- Power-Point Presentation
- Interactive Session

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

Epidemic Analysis:

- HIV & STD Positivity rates (Levels; Trends; and Differentials by demographic & risk characters)
- Size of beneficiaries
- Profile of beneficiaries (STD Clinic attendees; and PLHIV)
- Vulnerabilities/ Risk Behaviours among KP - Typology, Partner volume, condom use, STI uptake

Progress Analysis:

- Progress against targets (Levels; Trends; Differentials by province/ district; and Differentials by other characteristics).
- Gaps in Achievement
- Different Denominators

Performance Analysis:

- Performance Indicators (Levels; Trends; Differentials by province/ district; and Differentials by other characteristics)
- Best & worst performing units
- Performance Quartiles
- Performance Quadrants

Cascade & Cohort Analysis:

- Testing and treatment cascade
- Prevention cascade
- PLHIV cohort analysis
  - Incidence of Opportunistic infections
  - Mortality rates
  - Survival analysis
- Positive Pregnant Women & Exposed Baby cohort analysis

Key highlights: Facilitators explained in detail on HIV/AIDS Specific Analysis from Programme Data covering: Epidemic Analysis, Progress Analysis, Performance Analysis and Cascade & Cohort Analysis. This session provided opportunities to understand different analysis in analyzing the program data.

This session is followed with the question and answer session and facilitators provided with clarifications.

[1] Presenter **[2] Co-Presenter**

Session 11: Data Triangulation

Time: 1 hour
(1500–1600 hrs)

Materials / Methodology:

- Power-Point Presentation
- Interactive Session

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

Data Triangulation

- Concept & Principles
- Basic principles of data triangulation
- What does triangulation do?
- When to use triangulation approaches?
- Research and triangulation
- Meta-analysis and triangulation
- Advantages
- Questions for Data Triangulation
- Steps in Data Triangulation
- Data Sources
- Data Quality Assessments
- Methods of analysis
- Hypothesis-building/Epidemiological Framework
- Illustrative examples

Key highlights: Facilitators explained meticulously by adopting interactive methods on data triangulation. In addition to providing concepts, advantages, sources of data, methods of analysis and other details, the facilitator also explained with examples/ graphs/ pictures on different types of data triangulation and how it was useful.

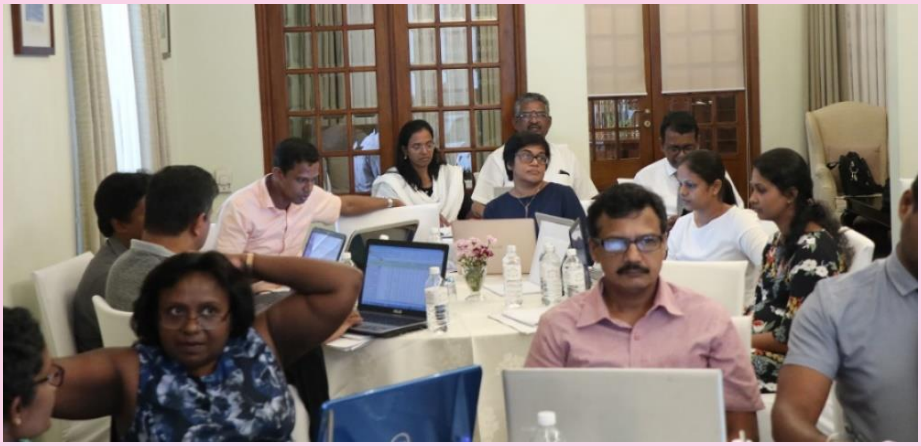
This session provided opportunities to have a better understanding on data triangulation.

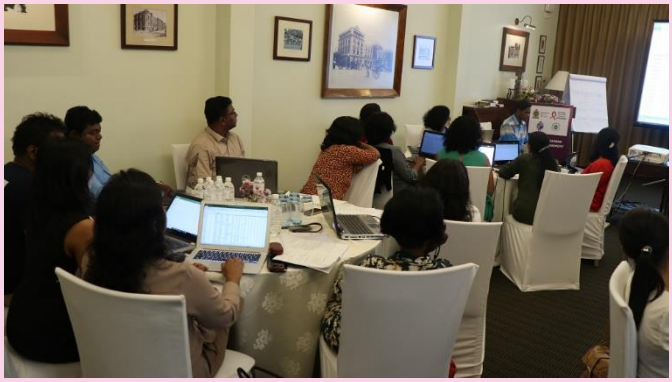
This session is followed with the question and answer session and facilitators provided with clarifications.

[1] **Presenter** [2] **Co-Presenter**

In continuation of this, team of facilitators (Dr Ariyaratne, Dr IC and Dr Yujwal) conducted a panel discussion and provided opportunity for the participants to seek clarifications on the aspects covered. Participants clarified their doubts and facilitators provided needed explanation with examples.

Photo Glimpse of Day 2 Sessions





3.3. Day 3 (23rd August 2019)

3.3.1. Sessions and Exercises

Presentations and Exercises			
Day 3	23rd Aug'19	Friday	0830-1600 hrs

Dr T Ilanchezhian welcomed the participants and on behalf of VHS-CDC Project, announced the information on logistics considering the last day of the training program.

Recap: 0830-0900 hrs: Dr Yujwal Raj and Dr T Ilanchezhian jointly facilitated the recap session and requested the participants to share what they have learned on the second day of the training program. The participants were asked to share on individual wise. Some of the learnings expressed by the participants are:

- GIGO – Garbage In Garbage Out
- Tracing sheet (not scrolling down)
- Good Quality Data are:
    - Eight attributes for data quality
    - A PIT with four Corners (APITCCCC)
        - Availability/ Reporting Status
        - Completeness
        - Correctness/ Accuracy/ Validity
        - Consistency (Consistency over time; Consistency – Internal/ Reliability; and Consistency – External/ Validity/ Representativeness)
        - Precision/Adequate Disaggregations
        - Others (Timeliness; Integrity; and Confidentiality)
- Attempting data quality assessment & validation may not always ensure quality, but, at least makes one aware of poor quality, if any, while drawing inference & gives an opportunity to improve it !!!
- Quality data is needed at program level for decision making, for undertaking operational research, etc.
- Some of the reasons for poor quality data will be: biases, data entry errors, compilation errors, fraudulent practices, etc.
- Collecting information from incorrect or unauthentic document may lead to error in data collection.
- Identify specific quality issues on DQA and address the same.
  DQA should be performed on the most granular data; not on aggregated data – Facility-wise, month/quarter-wise data; Individual-level data; Not on annual, province level data.
  Recommended to do DQA for programme data at facility or district level; NOT ABOVE
  Granular data allows to localise the error/ drill down to the exact issue. Granular data allows to fix the exact issue, without altering the other data which is good
- Completeness of data means that all variables for all reporting units are being collected and reported, reporting formats are completely filled without any blanks.
- Basic measures are Mean, Median and Mode:
    - Mean is an average value
    - Median is a middle value – when the data is clean without out-layers and when there are out-layers use media.
    - Mode – Most frequent observation
- Moving average – it is the method to correcting / smoothing the out-layers
- Mean imputation

- Five types of COUNT functions:
  - SUM function
  - SIMPLE COUNT – it will count numbers
  - COUNT A – counting number + text
  - COUNT BLANK – counting blank cells
  - COUNT IFs & Its – will be introduced on the third day of the training.
  - Create a separate sheet for Metadata
  - Changed variable name for crisp and easy analysis
  - How to write a formula
  - Conditional formatting which is useful tool in excel
  - Various views in Excel
  - How to increase/ decrease the decimal value
- Introduction to advanced use of MS Excel and Formulae
  - Adjust with column
  - Entry header
  - Insert new column
  - Insert new sheet
  - Rename the sheet
  - Paste special [transpose, ascending and descending order, pasting value]
  - Find & replace
  - Wrap text
  - Learn to provide variable names
  - Selection of columns and rows
  - Delete columns and rows
  - Filling colors, etc
- Three types of layout:
  - Normal
  - Page break preview
  - Page layout
- Learnt overall on all aspects of Data Quality Assessment
- Comprehensive understanding on basic data analysis using basic functions in Excel

The team members shared the recap covering each session/ topic and core content covered on the day 2. The facilitators also provided needful clarifications at every stage. This process has enabled the participants to regain the learnings, overcome the doubts and clarifications and develop everyone on the same page with a common understanding on the learnings. This has also helped in preparing the participants for the learnings on the third day.

Practical Exercise 9: Data Interpretation – continuation of use excel with new functions

Time: 2 hours (0900–1100 hrs)	**Description of the exercise:**
Materials / Methodology: • Demonstration • Practical Exercise	The facilitators requested the participants to continue the practical exercise by using the Clinic wise datasets and encouraged the respective groups to carryout the learnings.

Facilitators:
 	
Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]
	The participants continued the exercises and learnt on the following:
	• Sorting the data
	• Selection of entire data:
	  ○ Ctrl + Shift + Right Arrow
	  ○ Ctrl + Shift + Down Arrow
	• Sort and filter
	• Custom sort
	• Formulae:
	  ○ IF
	  ○ Conditional Formatting (COUNT – IF – Conditional)
	  ○ BETWEEN
	• Meta Data
	• Mean
	• Standard Deviation
	• Lower cut-off
	• Upper cut-off
	• Quartile
	• Array
	• Minimum and Maximum value
	• And others
	
	Dr Yujwal, Dr T Ilanchezhian, Dr Ariyaratne, Dr Murali and Ms Sudha provided guidance to the team to enable them to understand, practice and acquire needed skills.

[1] Presenter	**[2] Co-Presenter**

Session 12: Presenting Data Graphically – Tables, Graphs, Charts

Time: 45 mins
(1100-1145 hrs)

Materials / Methodology:

- Power-Point Presentation
- Discussion
- Interactive Session
- Question & Answer Session

Facilitators:

Dr Ariyaratne Manathunge[1]
Dr S Muraliharan[2]

Core Content Covered:

Dr Ariyaratne made a presentation on "Presentation of DATA and INFORMATION". In this presentation, he has explained on the following with examples and samples:

- Ways to present the data – Text, Tables, Figures and Illustrative Graphs.
- Types of Charts / Graphs – Bar Charts, Pie Charts and Line Charts.
- Presentation through Geographical Information System.
- And other relevant details.

During the presentation, Dr Ariyaratne shared the examples on each type of presentation using the NSACP specific data. This has enabled the participants to understand on the methods of presenting the data for review, analysis and dissemination.

[1] **Presenter** [2] **Co-Presenter**

Session 13: Communication of analysis results – Abstracts, Policy Briefs, Folders, Handouts, Posters, Papers

Time: 45 mins
(1145-1230 hrs)

Materials / Methodology:

- Power-Point Presentation
- Discussion
- Interactive Session
- Question & Answer Session

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

In this session, presentation highlighted and explained on the different methods used for communication of data analysis results covering:

- Scientific Abstracts
- Scientific Papers/ Articles
- Policy Briefs
- Handouts
- Posters
- Reports
- Presentation

The facilitator has explained each method of communication with examples and needful guidelines on the same.

[1] Presenter [2] Co-Presenter

Session 14: Use of Data for Programmatic Decision Making

Time: 45 mins
(1230–1315 hrs)

Materials / Methodology:

- Power-Point Presentation
- Discussion
- Interactive Session
- Question & Answer Session

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

The facilitator conducted this session in an interactive way by engaging the participants and covered the following:

- Data use – an approach
- Evidence led approach
  - Evidence driven recasting of Migrant strategy
  - Roll-out of OST program
  - Setting up of Link ART Centers
  - District prioritization through data triangulation
  - Refining focus based on evidence
  - Lessons from evaluation study
- Knowledge management
  - Two main forms of knowledge management
  - Components of knowledge management
  - Knowledge creation
  - Knowledge collection and archiving
  - Knowledge sharing and dissemination
  - Knowledge translation
  - Translating knowledge into practice
- Way forward
  - Moving to structural to functional approach
  - New evidence
  - Knowledge management

[1] **Presenter** [2] **Co-Presenter**

Lunch break: 1315 – 1415

Session 15: Statistical Package for the Social Sciences (SPSS)

Time: 45 mins
(1415–1500 hrs)

Materials / Methodology:

- Power-Point Presentation
- Discussion
- Interactive Session
- Question & Answer Session

Facilitators:

Dr Yujwal Raj[1]
Dr Ariyaratne Manathunge[2]
Dr T Ilanchezhian[2]
Dr S Muraliharan[2]

Core Content Covered:

- Introduction – why use of SPSS?
- Syntax
- Choosing appropriate scales and measures
- Reliability and validity
- Scales of measurement
- Preparing a code book
- Rules for naming of variables
- Opening an existing data file
- Creating a data file and entering data
- Variable names
- Defining variables and value labels
- Missing data
- Changing the SPSS options
- Data entry using excel
- Screening and cleaning the data

Key highlights: During the feedback session, the participants expressed their interest to have a basic understanding on advanced statistical analysis tool and emphasized on the need to have broad understanding on SPSS. Considering this, a special session was accommodated and training on SPSS was conducted with the objective of providing basic understanding and overview of SPSS.

The project and facilitators facilitated to download the free software package on SPSS for trial and learning. VHS-CDC team extended support to the participants in sharing the links, facilitate in downloading and guiding them in gothrough the SPSS. The training program was supported with demonstration and participants also practically accessed the information in their respective laptops.

This session has provided an eye-opener for all participants to understand the need and relevance of SPSS in analyzing the data for research and programmatic purposes.

This session is followed with the question and answer session and facilitators provided with clarifications.

[1] **Presenter** [2] **Co-Presenter**

Final summing up and question & answer session: Panel discussion was held by involving Dr Ilanchezhian, Dr Yujwal, Dr Ariyaratne & Dr Murali and facilitated:

- Question & answer session
- Encouraged each participant to clarify the doubts
- Also requested to share any of the additional information to the team and to the facilitators, etc.

The panel team provided explanations on the questions, doubts and clarifications raised by the participants. In continuation of the final round of question and answer session, the panel team has also recapped the take home messages to the participants.

Post-Assessment: VHS-CDC Project administered pre-assessment on the first day before commencing the training proceedings. In continuation of this, Dr Ilanchezhian and Ms Sudha administered post-assessment by providing a standardized tool with each participant.

- Each participant has filled in and submitted the post-assessment form.
- The project team has analysed the pre & post-assessment (the analysis provided in Chapter 2: Training on Data Management & Analysis of STD/HIV Data – 2.11. Training evaluation and effectiveness – sub-section 2.11.1. Pre & Post-Training Assessment Analysis).
- This analysis has helped to understand the effectiveness of the training program and enabled the facilitators to introduce appropriate methodologies in the forthcoming training programs.

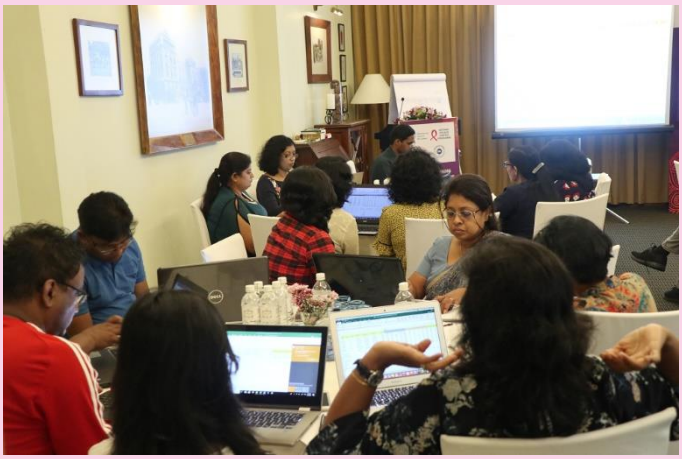
Post-Training Evaluation: VHS-CDC Project has developed a pre-tested post-training evaluation tool. This tool was administered by Dr Ilanchezhian and Ms Sudha. This post-training evaluation tool is with 5 point-scale covering the aspects such as:

- Course content
- Structure and process of training
- Trainers & mentors – knowledge and delivery style
- Facilities and amenities
- Overall feedback

Overall, the evaluation tool has five sections with 29 questions. Each participant was encouraged to fill in unanimously to understand the overall feedback on the training program.

The same has been analysed and presented in Chapter 2: Training on Data Management & Analysis of STD/HIV Data – 2.11. Training evaluation and effectiveness – sub-section 2.11.2. Training Evaluation – Analysis). VHS-CDC Project has analyzed the post-training evaluation and considered the suggestions for planning and conducting other similar training programs.

Photo Glimpse of Day 3 Sessions



3.3.2. Valedictory Function

Valedictory function was held between 1500-1600 as a part of conclusion of the training on Training on Data Management and Analysis of HIV/AIDS Data for Consultant-Venereologists and Medical Officers conducted from 21-23, August 2019. This valedictory function was jointly organized by VHS-CDC Project and NSACP with the support of CDC/DGHT-India.

Welcome Note: On behalf of VHS-CDC Project, on behalf of Dr Joseph D Williams, Director Projects and on behalf of NSACP, Dr T Ilanchezhian has delivered welcome note. In this welcome note, he briefed on:

- The objectives of the technical cooperation, key focus areas, approaches and other details.
- Also explained that, VHS-CDC Project has organized the training programs on Operational Research, Scientific Writing, Data Management for SI team, DHIS2 training for SIMU, exposure visits and other initiatives.
- Process adopted in planning and conducting the training program.

He welcomed the following chief guests:

- Dr Rasanjalee Hettiarachchi, Director, NSACP
- Dr Ariyaratne Manathunge, Consultant-Venereologist & Coordinator, SIMU
- Mr B Kamalakar, Finance Controller, VHS-CDC Project
- Dr Muraliharan, Medical Officer/Planning, SIMU
- Dr Himali Perera, Training Coordinator, NSACP
- Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project
- And SIMU team

He welcomed the VHS-CDC team members: Ms T Sudha, Senior Programme Associate and Mr S Sathyaraju, Associate Manager – Finance.

During his welcome note, he recalled and thanked VHS-CDC team for the support in registration, logistics coordination, ensuring communication, documentation and all other supports for successful conduct of this training program.

He welcomed all the medical professionals who has undergone this training program and benefited through this training program. Also, appealed the participants to utilize the knowledge and skills learnt through this training program.

Presentation of Boquete and honoring the guests: On behalf of VHS-CDC Project, the chief guests were provided with Boquete and honored by VHS team.

- Dr Rasanjalee Hettiarachchi, Director, NSACP was honoured by Mr B Kamalakar
- Dr Ariyaratne Manathunge, NSACP was honoured by Dr T Ilanchezhian
- Dr S Muraliharan, NSACP was honoured by Mr Sathyaraju
- Dr Yujwal Raj was honoured by Ms T Sudha

Similarly, NSACP and SIMU, in appreciation; recognition; contribution and for successful conduct of the training, Dr Rasanjalee Hettiarachchi, Director-NSACP, Dr Ariyaratne Manathunge, Consultant-Venereologist, NSACP jointly recognized the following VHS-CDC Project team:

- Mr B Kamalakar, Finance Controller
- Dr T Ilanchezhian, Senior Technical Advisor
- Ms T Sudha, Senior Programme Associate
- Mr S Sathyaraju, Associate Manager - Finance

Feedback by participants: Dr T Ilanchezhian invited the participants to share the experiences and feedback on the training program undergone:

Dr M K D N Mallikarachchi, Consultant Venereologist, STD clinic, T. Hospital, Ratnapura:
I am very much happy by undergoing this training program. This three-day training program has been designed considering our roles and responsibilities, needs, emerging needs and considering the importance of strengthening the data management for dissemination of data at national and international level. This training program is well-structured, course materials are very good, technical sessions and presentations are really informative and enhanced our knowledge. I wish to emphasize and reiterate that the technical sessions blend with hands-on training/ practical training was very much useful and contributed for development of knowledge and skills. The training on SPSS gave me an eye-opener.

I wish to thank VHS-CDC Project for their systematic capacity building initiatives and conducting this training program in a timely manner and successful manner. Our thanks to training facilitators: Dr Ariyaratne, Dr Yujwal, Dr IC and Dr Murali. The trainers are always very helpful in providing needed clarity, imparting skills and guiding the team.

Dr Himali Perera, Consultant-Venereologist cum Training Coordinator, STD clinic, NSACP:
As a Training Coordinator, I really thank VHS-CDC Project for undertaking capacity building initiatives with the support of CDC for the benefit of SI team in the country. The project has earlier organized training on Operational Research, Scientific Writing, DHIS2, Data Management, etc.

This training on data management was very useful as an individual and as a person working with NSACP. I am sure that, the knowledge and skills gained will be of more useful for strengthening data quality and data management at Peripheral STD clinic & national level. The trainers are very good. Training agenda, presentations, resource book/ materials, exercises, etc., used in the training was very good, informative and useful. I request all the trained personnel to continue to practice and excel in Excel. This training is a foundation and we need to continue to practice for sustaining the skills.

Thanks to VHS-CDC team Dr IC, Ms Sudha and Mr Sathyaraju for their contribution and coordination. Thanks to Dr Ariyaratne for his efforts in coordination with VHS-CDC & undertaking capacity building efforts.

In continuation of feedback, Dr Yujwal Raj made a presentation and shared the key highlights of the training program as:

Key Learnings

Hands-on Training on:
- Understanding datasets, components, structure & database mgt. principles
- Variables & Indicators – Types and how to manage
- Data Quality Assessment & Adjustments using Excel
- Data Management using SPSS
- Exposure to Cohort Database using MS Access
- Data Triangulation
- Communication of Data Analysis Results

Outcomes from the training

- Identified important questions/ topics of programmatic relevance suitable for secondary data analysis
- Exposed participants to basic principles and methods of data management
- Made participants appreciate importance of data quality in program reporting
- Enhanced knowledge and skills on conducting DQA & analyzing programme data under NSACP through hands-on practice on MS Excel
- Improved skills on effective use of data to make evidence-based decision making under the programme
- Evolved data analysis plan as follow-up to workshop & identified next steps

Next Steps

- Work more on NSACP datasets
- Explore Excel functions and options
- Use SPSS with survey data
- Identify topics for analysis and commission
- Practice.... Practice.... & Practice....

Keynote Address: In continuation of brief introduction, Mr B Kamalakar, Finance Controller, VHS-CDC Project, delivered the keynote address. He highlighted the following:

Keynote address delivered by Mr B Kamalakar, Finance Controller, VHS-CDC Project

On behalf of VHS-CDC Project, wish to thank Director-NSACP and Dr Ariyaratne for their systematic support and coordination in the ongoing TA on SI to NSACP. On behalf of our Director and VHS-CDC team, wish to inform that, the TA activities being successfully executed with the great support of SIMU and NSACP.

I trust that, this training program was very much useful for each of you and gained needful knowledge and skills for efficient data management by using excel.

VHS-CDC Project has taken extraordinary efforts for engaging well-known trainers for conducting this training on data management. I am also confident that, this training has contributed for overall achievement of the training objectives and fulfilled the needs and expectations of each one of you.

I appeal and request each one of the medical professionals undergone this training program to undertake follow-up efforts on every day by allocating minimum time to continue to gain knowledge and skills on excel.

I also thank VHS-CDC team for their meticulous planning and contribution for making this training program as another successful one.

Valedictory Address: Dr T Ilanchezhian briefly introduced Dr Rasanjalee Hettiarachchi, Director, NSACP. In continuation of this, Direcotr-NSACP delivered valedictory address. In her valedictory address, she stated that:

VHS-CDC Project has organized training on Operational Research, Scientific Writing, DHIS2 and Data Management. I wish to inform you that, I have also undergone training on data management organized by VHS-CDC Project by the same trainers. The training was very useful.

VHS-CDC Project with the support of CDC, undertaking capacity building initiatives and contributing for conducting this training on data management for Consultant-Venereologists and Medical Officers from Peripheral STD Clinics. Through this training, we are able to build and enhance the capacities of the SI reporting units in the entire country.

I am sure, the training has contributed for enhancing the knowledge and skills. Also, this training might have given motivation for effective management of data, analyzing data and presentation of data. Analyzing the data at the STD clinic level will help in identifying the programmatic gaps and evolving local specific actions for overcoming the same. Similar training was provided to PHIs & Nursing Officers. They will also be supportive to all doctors in ensuring quality in timely reporting.

Valedictory address by
Dr Rasanjalee Hettiarachchi,
Director, NSACP

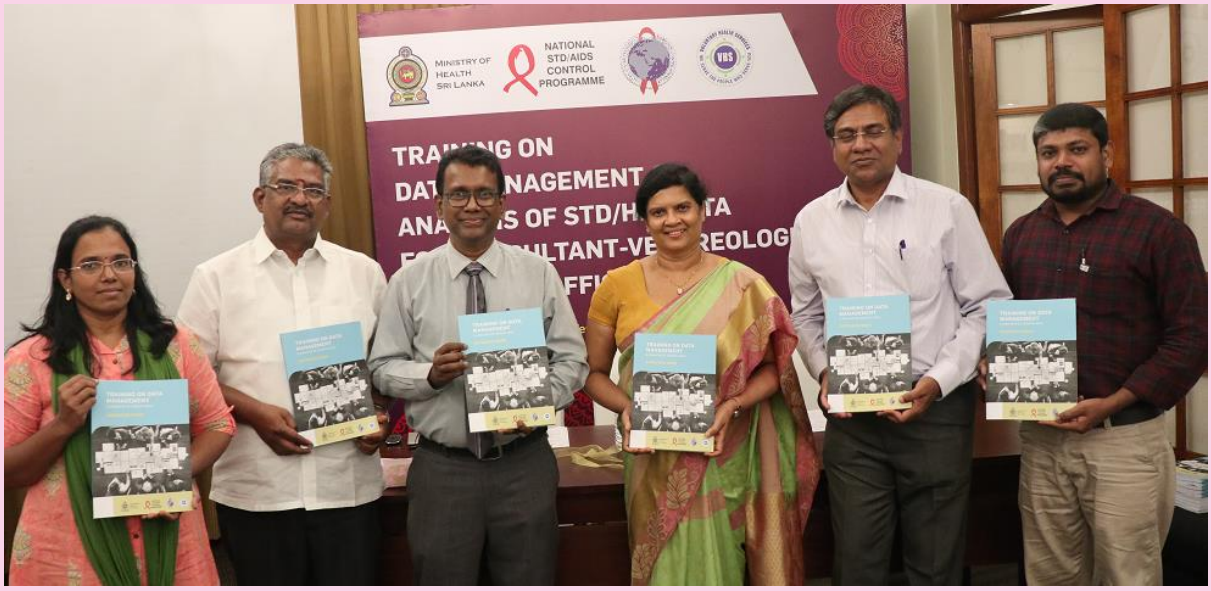
Our sincere thanks, appreciation and congratulations to Dr Joseph D Williams, Director Projects of VHS, Dr T Ilanchezhian, Senior Technical Advisor of VHS-CDC Project, Ms T Sudha, Senior Programme Associate and Mr S Sathyaraju, Associated Manager-Finance for their efforts in systematic planning, developing course materials, engaging resource persons, coordination and successful conduct of training programs in close coordination and partnership with SIMU and NSACP. Our sincere thanks to CDC/DGHT-India for their generous support in this technical cooperation initiatives.

Release of Resource Book: VHS-CDC Project has developed a **"Resource Book"** on Data Management and Analysis of STD/HIV Data based on trainings conducted. Based on experiences, the course materials has been updated and standardized. The Book contains all presentations, exercises & other reading materials.

Resource Book of Data Management was released by
Dr Rasanjalee Hettiarachchi, Director, NSACP
and received by Dr Ariyaratne Manathunge, Consultant-Venereologist, NSACP

The first copy of the book was released by Dr Rasanjalee Hettiarachchi, Director, NSACP and received by Dr Ariyaratne Manathunge, Consultant-Venereologist, NSACP.

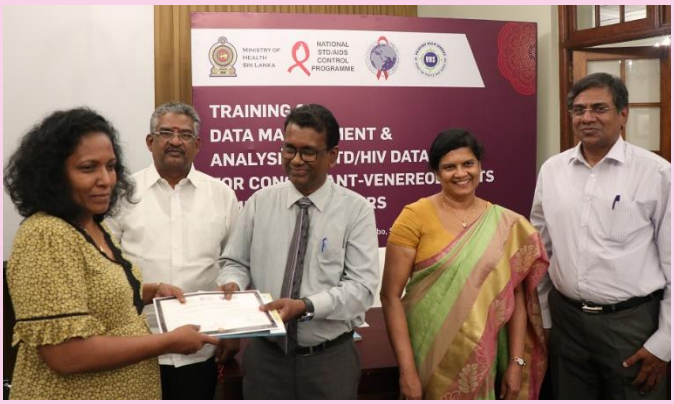
The second copy of the book was received by Mr B Kamalakar, Finance Controller, VHS-CDC Project.



In continuation of this, Director-NSACP also distributed copy of the Resource Book to two participants. VHS-CDC Project has provided copy of the Resource Book to all the participants and requested to:

- To place this book in the library of respective STD clinic
- To use as a ready reckoner cum reference material for yourself and for the team available at Peripheral STD clinic.

Certificate Distribution: Dr Rasanjalee Hettiarachchi, Director-NSACP, Dr Ariyaratne, Dr T Ilanchezhian and Mr B Kamalakar jointly distributed the certificates for each one of the participants underwent training on Data Management.



Vote of thanks: Dr T Ilanchezhian thanked Dr Ariyaratne and his team for the support extended for successful conduct of this training program, participation as a facilitator and contributing in conducting the training. In continuation of this brief note, he invited Dr Ariyaratne to deliver vote of thanks.

During his note, he recalled the efforts undertaken, process adopted in evolution of this technical cooperation which is being contributing for system development & capacity building of SI team in the country. Through this technical cooperation initiative, SIMU and the SI team is benefiting through this technical assistance initiatives on SI.

He thanked Dr Joseph D Williams, Director Projects, VHS for his strategic leadership and support in leading this initiative. He thanked Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project for his professional coordination, technical support and contribution in conducting this training as facilitator, coordinator and supporter. He thanked Mr Kamalakar, Finance Controller, VHS-CDC Project for his participation in this training program and support extended in conducting this training.

Dr Ariyaratne mentioned and thanked Ms T Sudha, Senior Programme Associate, VHS-CDC Project for her continuous support in ensuring communication, documentation of the training, registration and all other support. He thanked Mr S Sathyaraju, Associate Manager – Finance, VHS-CDC Project for his support in logistics coordination including venue, ticket, food, travel, transport and other related activities.

He thanked the support and encouragement extended by Dr Rasanjalee Hettiarachchi, Director, NSACP and for her participation in this valedictory function, delivering valedictory address, distributing certificates and grace the occasion. He thanked Dr Yujwal Raj for his contribution in conducting the training, Dr Muraliharan for his support as Coordination Committee Member and Trainer, Dr Himali Perera, Training Coordinator and the NSACP team. In this training, VHS-CDC team has engaged the SIMU team as a trainer based on the training conducted earlier.

Dr Ariyaratne requested all the participants to utilize this training, undertake follow-up, continue to practice in excel for effective data management. Overall the training was very successful by ensuring technical aspects through systematic planning, supported with resource materials, trainers, tools, exercises and innovative methodologies.

The Master of Ceremony of the valedictory function was coordinated by Dr T Ilanchezhian, VHS-CDC Project

In continuation of the Valedictory function, group photo session was held.

Chapter 4: Annexures

4.1. Training agenda

Goal: To impart & advance the data management skills of Consultant-Venereologists & Medical Officers in order to improve the data quality, strengthen the data analysis and use of STD & HIV/AIDS programme data for an evidence-based programming under NSACP.

Objectives:

- To improve the understanding of the Consultant-Venereologists & Medical Officers on the programme datasets under NSACP from an evidence-based approach.
- To introduce the basic principles and approaches of data management.
- To apprise the participants of the various methods of data quality assessment, validation & adjustments.
- To build the basic skills in programme data analysis using MS Excel.
- To improve the presentation, dissemination and use of data for programmatic purposes.

Outcomes:

- Identified important questions/ topics of programmatic relevance suitable for secondary data analysis.
- Exposed participants to basic principles and methods of data management.
- Made the participants appreciate the importance of data quality in programme reporting.
- Enhanced knowledge and skills on conducting DQA & analyzing programme data under NSACP through hands-on practice on MS Excel.
- Improved skills on effective use of data to make evidence-based decision making under the programme.
- Evolved a data analysis plan as a follow-up to the workshop and identified the next steps.

Facilitators:

- Dr Yujwal Raj, Technical Advisor (SI), VHS-CDC Project.
- Dr Ariyaratne Manathunge, Consultant-Venereologist, NSACP.
- Dr T Ilanchezhian, Senior Technical Advisor, VHS-CDC Project.
- Dr S Muraliharan, MO/Planning/SIM unit/NSACP.

SCHEDULE

Time	Session	Session Details	Facilitators
0900 – 1800	**DAY 1 – 21, August 2019 (Wednesday)**		
0900 – 0930	Registration		
0930 – 1000	Inaugural • Introduction of participants/ facilitators • Objectives & Expected Outcomes of the workshop		
1000 – 1015	Pre-assessment		
1015 – 1115	Planning data analysis – Identifying programmatic questions & mapping data sources	Discussion & Practical Exercise	Dr Yujwal Raj & All Facilitators
1115 – 1130	Break		
1130 – 1215	Introduction to principles of database management	Presentation & Practical Exercise	Dr Yujwal Raj
1215 – 1330	Understanding datasets under NSACP – Issues with Programme Data	Group Exercise	Dr Ariyaratne
1330 – 1430	Lunch		
1430 – 1530	Variables & Indicators	Presentation & Group Exercise	Dr Yujwal Raj & All Facilitators
1530 – 1630	Data quality assessment	Presentation & Discussion	Dr Yujwal Raj & All Facilitators
1630 – 1730	Data Adjustments & Validation	Demonstration & Group Exercise	Dr Yujwal Raj & All Facilitators
1730 – 1800	Participants work on their datasets with facilitators		Facilitators
0830 – 1800	**DAY 2 – 22, August 2019 (Thursday)**		
0830 – 0900	Recap		Dr Ariyaratne Dr T Ilanchezhian
0900 – 1000	Preliminary data analysis – measures & methods	Presentation & Practical Exercise	Dr Yujwal Raj

Time	Session	Session Details	Facilitators
1000 – 1115	DQA & Basic data analysis using basic functions in Excel	Demonstration & Practical Exercise	Dr Yujwal Raj & All Facilitators
1115 – 1130	Break		
1130 – 1315	DQA & Basic data analysis using basic functions in Excel (Contd…)	Demonstration & Practical Exercise	Facilitators
1315 – 1415	Lunch		
1415 – 1545	Advanced use of Excel – Pivot Tables, Vlookup	Demonstration & Practical	Dr Yujwal Raj
1545 – 1700	HIV/AIDS specific analysis from programme data (Epidemic Monitoring, Progress Monitoring, Performance Monitoring, Cascade & Cohort Analysis)	Discussion & Group Exercise	Dr Yujwal Raj & All Facilitators
1700 – 1730	Data Triangulation	Presentation & Discussion	Dr Yujwal Raj
1730 – 1800	Participants work on their datasets with facilitators		Facilitators
0830 – 1700	**DAY 3 – 23, August 2019 (Friday)**		
0830 – 0900	Recap		Dr Ariyaratne Dr T Ilanchezhian
0900 – 1030	Presenting Data Graphically – Tables, Graphs, Charts	Demonstration & Practical Exercise	Dr Ariyaratne & All Facilitators
1030 – 1115	Presenting Data Graphically – Tables, Graphs, Charts (Contd…)	Demonstration & Practical Exercise	Dr Ariyaratne & All Facilitators
1115 – 1130	Break		
1130 – 1230	Data Interpretation	Demonstration Practical Exercise	Dr Yujwal Raj
1230 – 1315	Communication of analysis results – Abstracts, Policy Briefs, Folders, Handouts, Posters, Papers	Presentation & Discussion	Dr Yujwal Raj & All Facilitators
1315 – 1415	Lunch		
1415 – 1515	Use of Data for Programmatic Decision Making	Presentation & Discussion	Dr Yujwal Raj
1515 – 1545	Question & Answer Session, Post-assessment & training evaluation		
1545 – 1700	Valedictory and Group Photo		

4.2. Training Need Assessment Form

1. Mention the category of personnel/ officials proposed to participate in the training program and their key responsibilities.

Designation / category of persons	**No. of participants**	**Key responsibilities**

2. Whether the proposed participants has undergone any of the training on Data Management and Analysis previously? **YES** / **NO**

   If yes, please specify.

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3. What are all the expectations from the upcoming International Training on Data Management and Analysis of HIV/AIDS Data including data skills, data quality, data analysis and use of HIV/AIDS data for epidemiological & programmatic? Please specify.

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4.3. Pre & Post-Training Assessment Forms

(To be answered by the participants before the training)

1. Fields in a database refer to? ( )
A) Rows
B) Columns
C) Cases
D) Data cells

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

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

4. Data recording, reporting & aggregation are steps in ( )
A) Data management
B) Data analysis
C) Modelling
D) Communication

5. Which of the following is not a form of data communication? ( )
A) Policy Brief
B) Report
C) Data Table
D) Article

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

7. A good database is one without ( )
A) Blank cells
B) Merged cells
C) Duplicate variables
D) All the above

8. A descriptive list of names, definitions and attributes of data elements collected in an information system or database is called ( )
A) Dataset
B) Data Manual
C) Data Dictionary
D) Variable List

9. 'Presence or absence of genital discharge' is an example of ( )
A) Nominal variable
B) Ordinal variable
C) Interval variable
D) Ratio variable

10. Proportion of males visiting STD clinic is an example of ( )
A) Output indicator
B) Outcome indicator
C) Process indicator
D) Input indicator

11. Precision of data refers to ( )
A) Completeness of dataset
B) Adequate details
C) Repeatability
D) Accuracy

12. Data of an indicator over time is best represented using a ( )
A) Bar graph
B) Line graph
C) Pie chart
D) Area plot

13. Function in Excel used to generate crosstabs of different variables is ( )
A) What If analysis
B) Pivot Tables
C) Macros
D) Formulae

14. Which of the following is used in Excel to highlight cells of a particular type? ( )
A) Filter
B) Sort
C) Conditional Formatting
D) Merge cells

15. The smallest element of data is called ( )
A) Information
B) Indicator
C) Variable
D) Case

4.4. Training Evaluation Form

Please rate your level of agreement with each of following statements on a scale of 1-5:

5	4	3	2	1
Exemplary	**Very Good**	**Good**	**Average**	**No Comments**

	Rate
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 Data Management.	
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 & length of the workshop.	
Group works/ hands-on exercises are well structured with clear instructions.	
Guidance & mentoring support was adequately provided in group works/ exercises.	
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.	

	Rate
The facilitators effectively handled the questions that were asked.	
The examples & experiences quoted by the 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, on a scale of 5?	
Facility & Amenities	
The venue and seating arrangement were comfortable and suitable for the 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, on a scale of 5?	
I am satisfied with the training course.	
I will recommend this course to others.	

What did you like about the course?

How can we strengthen and improve this training further?

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

Any other comments.

VHS-CDC Project

The Voluntary Health Services (VHS), India
Supported by Centers for Disease Control and Prevention (CDC/DGHT-India)
T.T.T.I. Post, Rajiv Gandhi Salai,
Taramani, Chennai – 600 113, Tamil Nadu, INDIA.
Ph.: +91-44-22541965 | Email: vhs.cdcproject@gmail.com