Background

In the 1980ies, the United States Centers for Disease Control and Prevention (CDC) developed public health software for its Epidemic Intelligence Service. The software package was called Epi Info and, later supported and promoted by the World Health Organization, experienced an unprecedented spread throughout the world’s public health community.

The initiative to make EpiData was taken by Jens M Lauritsen from Denmark. Initially it was conceived of as part of the "Initiative for Accident Prevention" at Funen County. Why was it necessary to develop a new data entry program, if Epi Info version 6 had all that was needed in terms of control of data entry and simplicity? With the development of the Windows® operating system the majority of current computer users found it increasingly harder to cope with the DOS® operating system of working in Epi Info. Furthermore, with the change in the operating system of computers to newer versions of the Windows® operating system, the Epi Info 6.04d based on the DOS® operating system was eventually becoming obsolete (Windows 7® is no more reading it). Nevertheless, the principles underlying Epi Info are fundamentally sound and needed to be preserved for the new generation of public health practitioners grown up with the Windows® operating system.

On the Epi Info discussion list there were some discussions on strategies around 1997-1998, when the Epi Info team at CDC in USA decided to make an updated Epi Info version 2000. The updated Epi Info applies a different strategy in using a completely new way of working and basing it on the Microsoft Access® database format instead of simple text files.

Commercially available proprietary software is not focused on documentation, simplicity of use and validation of double-entered data. EpiData Entry is a program with a focus on data entry. The ambition of EpiData Entry was to create a simple to use independent application, which would not interfere with or require any special database system drivers (dll-based routines) shared with or interfering with other applications.

EpiData software consisted of three modules, EpiData Manager, EpiData EntryClient, and EpiData Analysis. The predecessor of EpiData Manager and EntryClient, EpiData Entry 3.1., followed the principles of Epi Info 6 with the so-called QES, REC, and CHK triplet, where the *.qes file defined the data entry form structure with variable names, labels, type, and length. This information was then passed on to the actual database structure that would be used for data entry, i.e. the *.rec file. The *.chk file controlled data entry and contained all metadata.

By the 2010s it had become clear that an increasingly larger proportion of computer users had become visually oriented and that systems requiring some comprehension of underlying DOS principles became increasingly difficult to grasp for the regular user. In that vain, a system based on three file types started to overtax some users. It was thus decided to revamp entirely the system for data entry. There would be two software components, one reserved for the person designing and controlling the data entry form, the EpiData Manager software, and the other independent for the data entry person, called the EpiData EntryClient software.

For the EpiData Manager and EntryClient software, a single file is used and, as before, it is a text file but written in a specially adapted language (XML) belonging to the family of languages used for the internet. The language allows field names to be of any type, i.e. instead of English characters only, they can also be e.g. in Chinese or Arabic characters. The same goes for the values of text fields. The software comes in six flavors for the three
operating systems Windows, Mac, and Linux, and each for computers with a 32- and 64-bit architecture.

The development towards the replacement of EpiData Entry 3.1 with EpiData Manager and EntryClient had gone on for about three years of intensive work until it reached a new level of maturity in spring 2015 with release version 2. While some aspects that had been available in its predecessor are still in the pipeline, the new software is considered a full and equivalent replacement of the older one.

In this course you will be learning the use of both EpiData Manager and EpiData EntryClient (Part A) and EpiData Analysis (Part B), and to apply them to operations research (Part C), starting with its very basic functionality to increasing sophistication, and finally extend your programming skills in EpiData Analysis (Part D). The final module concludes with an introduction to R software with the examples of two specific multivariate tasks that exceed the boundaries of EpiData Analysis.

The course is designed and build for PC computers, i.e. for machines using the Windows® operating system. As the principles are the same, most material should be usable and adaptable for the Linux® or Mac OS X® systems. While EpiData Manager and EpiData EntryClient are available for all three operating systems, EpiData Analysis is, for the time being, a Windows® software program only.

Course Objective:
Acquire the skills to capture research study data of high quality, supported by thorough documentation of every procedure, conduct basic analyses, and apply them to operations research.
History of the course

The data for the original course were collected in a study simultaneously conducted in Benin, Malawi, Nicaragua, and Senegal.

The persons who collaborated in study design, data collection, analysis, and writing of a report were Séverin Anagonou (Benin), Thuridur Arnadottir (The Union), Fatoumata Ba (Senegal), Awa Hélène Diop (Senegal), Donald A Enarson (The Union), Martin Gninafon (Benin), A C Kasalika (Malawi), Hans L Rieder (The Union), Tone Ringdal (The Union), Felix L M Salaniponi (Malawi), Alejandro A Tardencilla Gutierrez (Nicaragua) and Arnaud Trébucq (The Union).

Utilizing the data generated in this collaborative research project, three courses of two weeks duration each from 1997 to 1999 with a total of 18 participants were conducted in Paris by The Union. Subsidies to defray costs of these three courses were borne by the United States Centers for Disease Control and Prevention, the Coopération Française, the Norwegian Heart and Lung Association, the International Organization for Migration, and the Korean Institute of Tuberculosis.

The first course was held in April 1997 in Paris, France. The participants were Francis Adatu-Engwau (Uganda), Nora Bonso-Bruce (Ghana), Awa Hélène Diop (Senegal), Asma Elsony (Sudan), and Amina Jindani (The Union). The facilitators were Thuridur Arnadottir, Eric Brenner (USA), Lawrence J Geiter (The Union), Hans L Rieder (The Union), and Arnaud Trébucq (The Union).

The second course was held in April 1998 in Paris, France. The participants were Mohammed Akhtar (Pakistan), Maurice Andriamialisoa (Madagascar), Manfred Danilovits (Estonia), Lew Woo Jin (Korea, Republic of), Nguyen Phuong Hoa (Vietnam), Shanta Bahadur Pand (Nepal), and Alejandro A Tardencilla Gutierrez (Nicaragua). The facilitators were Thuridur Arnadottir (The Union), Eric Brenner (USA), Lawrence J Geiter (The Union), Hans L Rieder (The Union), and Arnaud Trébucq (The Union).

The third course was held in April 1999 in Paris, France. The participants were Ademir de Albuquerque Gomes (Brazil), Fatoumata Ba (Senegal), Ferdinand Kassa (Benin), Pushpa Malla (Nepal), Tieng Sivanna (Cambodia), and Wang Jie-Siu (China), and. The facilitators were Thuridur Arnadottir (The Union), Eric Brenner (USA), Lawrence J Geiter (The Union), Hans L Rieder (The Union), and Arnaud Trébucq (The Union).

Because of the large costs associated with conducting the course, the course content and format was tested through interactive distance learning during the year 2000 by email. We are particularly indebted to Panganai Dhliwayo (Zimbabwe) and Robert Makombe (Zimbabwe) who went through this course in their free time. This helped in clarifying ambiguities and removing errors and uploading the course in September 2000 to the Internet (http://www.tbrieder.org).

The fourth course was held in Addis Ababa, Ethiopia, in April 2001. The participants were Ahmed Abdurehman (Ethiopia), Jemal Aliy (Ethiopia), Mekdes Gebeeyehu Ayicheh (Ethiopia), Abebe Habte (Ethiopia), Yohannes Mengistu (Ethiopia), Moustapha Ndir (Senegal), Serkalem Tadesse (Ethiopia), Betru Tekle (Ethiopia), Mohammed Ahmed Yassin (Ethiopia), and Getachew Eyob Yitelelu (Ethiopia). The facilitators were Nils E Billo (The Union), Panganai Dhliwayo (Zimbabwe), and Hans L Rieder (The Union).

In 2002, the course material was once more revised to replace Epi Info 6 with EpiData Entry for questionnaire design, data checks, data entry, and data validation. For data analysis the 6.04d DOS version of Epi Info was retained.
The **fifth course** was held in Paris, France, in **January 2003**. The participants were Nadia Aït-Khaled (The Union), Kya Jai Maung Aung (Bangladesh), Chiang Chen-Yuan (Taiwan), Paula I Fujiwara (The Union), Achilles Katamba (Uganda), Kim HeeJin (Korea, Republic of), Dumitru Laticevschi (Moldova), Jones Michongwe (Malawi) and Jotam G Pasipanodya (Zimbabwe). The facilitators were Panganai Dhlìwayo (Zimbabwe), Robert Makombe (Zimbabwe), and Hans L Rieder (The Union).

The **sixth course** was held in Yangon, Myanmar, in **December 2003**. The participants were Nyein Nyein Aye (Myanmar), May Yee Chan (Myanmar), Tin Mi Mi Khaing (Myanmar), Thandar Lwin (Myanmar), Htar Htar Oo (Myanmar), Saw Thein (Myanmar), Ti Ti (Myanmar), Myo Zaw (Myanmar), and Thin Thin Yee (Myanmar). The facilitators were Chiang Chen-Yuan (The Union), Hans L Rieder (The Union), and I D Rusen (Canada). In all previous courses the hypothesis was to test whether The Union’s assumption that ten suspects needed to be examined to identify one case of tuberculosis was applicable to the study area. During the course it emerged, however, that even refutation of the hypothesis had relatively little programmatic implication. It was thus decided to integrate the previously supplementary exercises (dealing with variability of positive findings, patterns of recorded results, and potential incremental yield) into one single hypothesis addressing the critical value of the number of smear examinations that may be justified to identify one additional case or failure on the third diagnostic or the second follow-up smear examination, respectively.

The **seventh course** was held in Paris, France, in **January 2004**. The participants were Wafaa Hassan Ali Taha (Sudan), Goar Balasanyants (Russia), Nulda Beyers (South Africa), Kathy Lawrence (South Africa), Biggie Mabaera (Zimbabwe), Nymadawaa Naranbat (Mongolia), Mahshid Nasehi (Iran), Mauro Occhi (Mozambique), Yevgeniy Shubin (Russia), and Abigail Wright (World Health Organization). The facilitators were Panganai Dhlìwayo (Zimbabwe), Jens M Lauritsen (EpiData Association, Denmark), Robert Makombe (Zimbabwe), and Hans L Rieder (The Union).

The **eighth course** was held in Berne, Switzerland, in **July 2004**. The participants were Sondhja Bitter (Switzerland), Eva Blozik (Switzerland), Lorenz Borger (Switzerland), Michael Endrich (Switzerland), Karin Imoberdorf-Baumgartner (Switzerland), Caroline Keller (Switzerland), Hansjörg Lüthy (Switzerland), Christoph Pammer (Austria), Sabine Recker (Switzerland), Kurt Schmidlin (Switzerland), Jan Wagner (Switzerland), Sabine Walser (Austria), and Mark Witschi (Benin). The facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland). The curriculum of this course was changed in two important aspects from the previous courses. First, a core curriculum was developed to allow the conduct of the course within five working days without loss of any relevant course aspects. Refinements of specific aspects were offered in addenda independent of each other. This allowed course completion within one week (core curriculum) or eight days (core and extended curriculum). Second, the Epi Info Analysis component was replaced by a beta test version of EpiData Analysis which proved to be working smoothly without any glitches.

The **ninth course** was held in Paris, France, in **January 2005**. The participants were Anneke Hesseling (South Africa), Hu Dongmei (China), Zanele Hwalima (Zimbabwe), Liu Zhentian (China), Henri Luwaga (Uganda), Nguyen Thien Huong (Vietnam), John Osho (Nigeria), Tran Ngoc Buu (Vietnam), Nevin Wilson (The Union), and Yao Hongyan (China). The facilitators were Panganai Dhlìwayo (The Union), Jens M Lauritsen (EpiData Association, Denmark), Robert Makombe (Zimbabwe), and Hans L Rieder (The Union). In this course, only free public domain software was used. Data management and analysis were done with
EpiData and EpiData Analysis, supplemented where needed with spreadsheet functions of OpenOffice.

The **tenth course** was held in Berne, Switzerland, in **July 2005**. The participants were Thomas Bart (Switzerland), Lisanne Christen (Switzerland), Stephanie Christensen (Switzerland), Michael Flück (Switzerland), Yvonne Jansen (Switzerland), Irène Marty (Switzerland), Jeanne Moser (Switzerland), Christoph Napierala (Switzerland), Barbara Prokup (Germany), Martin Raab (Switzerland), Franziska Rabenschlag-Trösch (Switzerland), Claudia Sauerborn (Switzerland), and Yasemin Yüksel (Switzerland). The facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland). This course used the same software as the January 2005 course with the latest pre-release version of EpiData Analysis (Version 0.9, Release 5, Build 26). Input from the participants and faculty led to further streamlining of some exercises.

The **eleventh course** was conducted in Paris, in **January 2006**. The participants were Chay Sokun (Cambodia), Andrew D R C Dimba (Malawi), Elhafiz Hussein Ibrahim (Sudan), Nguyen Binh Hoa (Vietnam), Helmuth Reuter (South Africa), Ezra Shimeles (The Union), and Xu Min (China). The facilitators were Achilles Katamba (Uganda), Jens M Lauritzen (EpiData Association, Denmark), and Hans L Rieder (The Union). In September 2005, the EpiData Association had released the stable EpiData Analysis Version 1.0. Between release and course commencement, the EpiData Association released upgrade Version 1.1 which added the last functionality (aggregate command) that had been possible previously only in Epi Info DOS Version 6.

During 2005 and 2006 the structure of the course was changed into three parts (EpiData Entry, EpiData Analysis, and Operations Research). Parts A (EpiData Entry) and B (EpiData Analysis) were stripped of the operations research component for the benefit of those who do not have sufficient time available or who wish to familiarize themselves solely with the software. Conversely, Part C (Operations research) was stripped of components now introduced in Parts A and B, concentrating on the application of the latter to the example research project.

In **July 2006**, the **twelfth course** was conducted in Berne, Switzerland, for Master of Public Health students and other interested participants. These were Martin Adam (Switzerland), Edith Betschart (Switzerland), Tobias Eckert (Switzerland), Denise Felber Dietrich (Switzerland), T John Kessler-Teuscher (Switzerland), Esther Kolb (Switzerland), Brigitte Kuenzle (Switzerland), Sonia Menéndez-González (Switzerland), Stefan Neuner-Jehle (Switzerland), Christoph Paul Röder (Switzerland), and Hildebrand Schwab (Switzerland). The facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland).

In **August 2006**, the **thirteenth course** was given in Changsha, Hunan Province, China. All participants were from China. They were were Fan Yueling (范月玲), Jia Zhongbin (贾忠彬), Kan Xiaohong (阚晓宏), Li Xiaofeng (李晓风), Lin Yan (林岩), Qiu Baihong (邱柏红), Tan Zhen (谭振), Wang Bo (王铂), Wang Qingya (汪清雅), Zhang Enpu (张恩溥), Zhang Hongwei (张宏伟), Zhang Huimin (张会民), Zhao Dingyuan (赵丁源). Facilitators were Chiang Chen-Yuan (The Union) and Hans L Rieder (The Union).

In **December 2006**, the **fourteenth and fifteenth courses** were given sequentially in Beijing, China. All participants were from China. In the thirteenth course the participants were Chen Huijuan (陈慧娟), Chen Jing (陈静), Chen Wei (陈伟), Fang Hongxia (房宏霞), Hu Jia (胡嘉), Liang Lu (梁路), Liu Eryong (刘二勇), Ma Binzhong (马斌忠), Wang Danxia (王丹霞), and Wu Yiyong (吴亚军).
Dingfeng), 于宝柱 (Yu Baozhu), and 张慧 (Zhang Hui). In the fourteenth course, the participants were 陈广华 (Chen Guanghua), 孔霞 (Kong Xia), 李曙光 (Li Shuguang), 罗丹 (Luo Dan), 马艳 (Ma Yan), 庞学文 (Pang Xuewen), 司马雅云 (Sima Yayun), 徐吉英 (Xu Jiyin), 依帕尔 (Yi Pa'er), 张广恩 (Zhang Guangen), 赵津 (Zhao Jin), and 周杨 (Zhou Yang). Facilitators were Jens M Lauritsen (EpiData Association, Denmark), Biggie Mabaera (University of Zimbabwe, Zimbabwe), and Hans L Rieder (The Union), with the assistance of 胡冬梅 (Hu Dongmei), 徐敏 (Xu Min), and 张慧 (Zhang Hui).

In June 2007, the sixteenth course was given in Khartoum, Sudan. Two major changes were made to the course curriculum. The first change was that the database for Part C was changed to the utilization of the dataset collected as a course project of the January 2003 and 2004 courses (data courtesy: Dumitru Laticevschi, Moldova; Nyamadawaa Naranbat, Mongolia; Achilles Katumba, Uganda; Biggie Mabaera, Zimbabwe). The second change was to use the test version 2.0 of EpiData Analysis. All participants were from Sudan. The participants were 赵津, 张慧, and Hans L Rieder (The Union). Facilitators were Hans L Rieder (The Union) and Marcel Rieder (University of Bern, Switzerland). The coordinator was 阿尔法斯·侯赛因·伊布拉欣 (Elhafiz Hussein Ibrahim, Epi-Lab, Sudan), and Hans L Rieder (The Union).

In July 2007, the seventeenth course was given in Berne, Switzerland, for Master of Public Health students and other interested participants. These were Nicole Bender-Oser (Switzerland), Bettina Br ingolf-Isler (Switzerland), Sabina Büttn er (Switzerland), Christian Frei (Switzerland), Florian Gutz willer (Switzerland), Peter Heri (Switzerland), Kerstin Hug (Switzerland), Andr é B Kind (Switzerland), Dimitri Korol (Switzerland), Cornelia Marti (Switzerland), Anne Spar (Switzerland), and Françoise Teuscher (Switzerland). The facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland).

In November 2007, the course material was updated to make minor changes to Part A and to accommodate the changes introduced with the release Version 2.0 of EpiData Analysis.

In April 2008, the eighteenth course was given in Chisinau, Moldova. EpiData Version 3.1 (Build 270108) and EpiData Analysis Version 2.0 (Pre-release 2.1 Test Build 132) was utilized. The participants were Ольга Мамонова Natavan (Alikhanova Natavan), Абдамеедж Кымбат (Abdalmaged Osman Musa), and Азми Омар (Azm i Omar). The coordinator was Душан Азимали (Azim Ali), and facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland).

In June 2008, the nineteenth course was given in Ulaanbaatar, Mongolia. EpiData Version 3.1 (Build 270108) and EpiData Analysis Version 2.0 (Pre-release 2.1 Test Build 132) were utilized. The participants were パウロツダガ (Apuza ya Purevdagya), 哥楞 比力根 (Bilegsaikhan Tsolmon), ブルネバタ (Burneebataar Buyankhishig), Буянхуу Энхтүү (Budbazar Enkhtuyu), Довдон Хандаасурий (Dovdon Khandasuren), N Naranbold (N. Наранболд), Baatarikhuu Oyuntuuya (Баатархүү Оюнтууя), Dorj Ogtontsetseg (Дорж Огонтцэцэг), Demberelsuren Sodbayar
In June / July 2008, the twentieth course was given in Berne, Switzerland, for Master of Public Health students and other interested participants. EpiData Version 3.1 (Build 270108) and EpiData Analysis Version 2.0 (Pre-release 2.1 Test Build 132) were utilized. All participants were from Switzerland. They were Caroline Bähler-Baumgartner, Daniela Dyntar, Martin Egger, Carola A Huber, Ursula Kälin-Keller, Annette Koller Doser, Andrea Merkel-Hoek, Eric Odenheimer, Helen Prytherch, Anna Späth, and Melinda Spiesshofer. The facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland).

In October 2008, the twenty-first course was given in Kampala, Uganda. Course I was given during this five-day course. It was specifically designed to fit this 5-day course, also incorporating the previously existing brief overview of EpiData software. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.0 (Pre-release 2.1 Test Build 141) were utilized. The participants were Raymond Asiimwe (Uganda), Bernard Ssentalo Bagaya (Uganda), Freddy Bwanga (Uganda), Henry Byabajungu (Uganda), Basra Esmail Doulla (Tanzania), Nicholas Ezati (Uganda), Fred Kangave (Uganda), George Lukyamuzi (Uganda), Diana Nadunga (Uganda), and Raymond Shirima (Tanzania). Francis Adatu-Engwau (Uganda) was a guest participant, and formerly a participant in the first course. The facilitator was Hans L Rieder (The Union), supported in part by Achilles Katamba (Makerere University, Uganda, and The Union Country Office, Uganda).

In February 2009, the twenty-second course was given in Kampala, Uganda. Course II, Part B (EpiData Analysis) and Part C (Operations research) were given during this five-day course, although some exercises had to be skipped due to the brief duration of the course. EpiData Analysis Version 2.1 (Test Build 159) was utilized. The participants were Francis Adatu-Engwau (Uganda), Bernard Ssentalo Bagaya (Uganda), Freddy Bwanga (Uganda), Basra Esmail Doulla (Tanzania), Fred Kangave (Uganda), Diana Nadunga (Uganda), and Raymond Shirima (Tanzania). The facilitator was Hans L Rieder (The Union), supported in part by Achilles Katamba (Makerere University, Uganda, and The Union Country Office, Uganda).

In July 2009, the twenty-third course was given in Berne, Switzerland, for Master of Public Health students and other interested participants. EpiData Version 3.1 (Build 270108) and EpiData Analysis Version 2.2 (Build 169) were utilized. All but one participant from the principality of Liechtenstein were residents of Switzerland. They were Aline Barbir, Rita
Born, Mazda Farshad, Oliver Fuchs, Juliette Gerber, Gerti Kitting Gaillard, Meltem Kuttar Joss, Teresa Leisebach Minder, Elisabeth Oberfeld, Anna Plym, Corinna Rüegg, Dino Schlamp, Eliane Siegenthaler, Federico Soldati, and Esther Walser (Principality of Liechtenstein). The facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland).

In October 2009, the twenty-fourth course was given in Paris, France, for fellows and participants in the training module 2 offered by the Centre for Operational Research of The Union. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.171 were utilized. The participants were Dawit Assefa Lemma (Ethiopia), Walter Kizito Kibango (Kenya), Proscovia Namuwenge Mukonzo (Uganda), Mweete Debra Nglazi (South Africa), Nguyen Binh Hoa (Viet Nam), Mahfuza Rifat (Bangladesh), Srinath Satyanarayana (India), Zaw Myo Tun (Myanmar), and Hannock Mukoma Twewya (Malawi). The facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland).

In March 2010, the twenty-fifth course was given in Paris, France, for three selected fellows and participants in the training module 2 offered by the Centre for Operational Research of The Union. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.171 were utilized. The course focused on Parts C (Operations Research) and D (More on EpiData software). The participants were Nguyen Binh Hoa (Viet Nam), Zaw Myo Tun (Myanmar), and Hannock Mukoma Twewya (Malawi). The facilitators were Hans L Rieder (The Union) and Jens M Laurtisen (EpiData Association).

In July 2010, the twenty-sixth course was given in Berne, Switzerland, for Master of Public Health students and other interested participants. EpiData Version 3.1 (Build 270108) and EpiData Analysis Version 2.2 (Build 171) were utilized. All participants were residents of Switzerland. They were Brigitte Brunner, Adrian Businger, Elisabeth Maurer Schild, Rebecca Osterwalder, Alexandra Rauch, Charles Senessie, Ulf Tölle, and Roco Umbescheidt. The facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland).

In October 2010, the twenty-seventh course was given in Paris, France, for fellows and participants in the training module 2 offered by the Centre for Operational Research of The Union. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.171 were utilized. The participants were Felix Afutu (Ghana), Sarabjit Singh Chadha (India), Karen Du Preez (South Africa), Razia Fatima (Pakistan), Oliver Gadabu (Malawi), Lucy Guluka-Gawa (Malawi), Mohammed Kogali (Sudan), Rose Jepchumba Kosgei (Kenya), Ajay M V Kumar (India), Tonderayi Clive Murimwa (Zimbabwe), Mauro Niskier Sanchez (Brazil), and Kudakwashe Collin Takarinda (Zimbabwe). The facilitators were Hans L Rieder (The Union), Nguyen Binh Hoa (Viet Nam), Zaw Myo Tun (Myanmar), and Sven Gudmund Hinderaker (The Union).

In May 2011, the twenty-eighth course was given in Paris, France, for two selected fellows from the training module 2 offered by the Centre for Operational Research of The Union. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.171 were utilized. The course focused on Parts C (Operations Research) and D (More on EpiData software). The participants were Karen Du Preez (South Africa) and Ajay M V Kumar (India). The facilitators were Hans L Rieder (The Union), Jens M Laurtisen (EpiData Association), and Hannock Mukoma Twewya (Malawi).

In November 2011, the twenty-ninth course was given in Paris, France, for fellows and participants in the training module 2 offered by the Centre for Operational Research of The Union.
Union. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.171 were utilized. The participants were Henry Shadreck Kanyerere (Malawi), Nicholas Kirui (Kenya), Pranay Lal (India), Sharath Bugurina Nagaraja (India), Sharan Ram (Fiji), Carlos Alberto Mendoza-Ticona (Peru), Emmanuel Singogo (Malawi), Nelda van Soelen (South Africa), Kerry Viney (New Caledonia), and Aung Naing Win (Myanmar). The facilitators were Hans L Rieder (The Union), Sarabjit Chadha (The Union), and Ajay M V Kumar (India).

In February 2012, the thirtieth course was given in Kathmandu, Nepal, for fellows and participants in the training module 1b offered by the Centre for Operational Research of South East Asia office of The Union. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.178 were utilized. The participants were Tshering Jamtsho (Bhutan), Tashi Denup (Bhutan), Shyla Islam (Bangladesh), Wasantha Jayakodi (Sri Lanka), Swati Srivastava (India), Suresh Shastry (India), Ramya Ananthakrishna (India), Rajendra Basnet (Nepal), Caetano Gusmao (Timor Leste), Sokhan Khann (Cambodia), Sarwat Shah (Pakistan), Iwayan Artwan (Indonesia). The facilitators were Ajay M V Kumar (The Union, India) and Srinath Satyanarayana (The Union, India).

In March 2012, the thirty-first course was given in Bengaluru, India, for participants of the operational research course conducted by the Centre for Operational Research of South East Asia office of The Union in association with the National Tuberculosis Programme, United States Centre for Disease Control and Prevention, and the National Tuberculosis Institute. EpiData Entry Version 3.1 (Build 270108) was utilized. The participants (all residing in India and working for or in close association with the national tuberculosis programme) were Gurpeet Singh, Priyanka Agrawal, Subhakar, Raju Chepuri, Solomon Muller Ankala, Chetan Purad, D J Deka, Rajeev Pathak, Pankaj Nimavat, Amar Shah, Sunil Kumar, Karthickeyan DSA, Rajesh Deshmukh, Tapas Patra, Parija Debudatta, Asha Fedrick, Shivramakrishnan, Rajabhau D Yeole, Suparna Chatopadhaya, Shiv Kumar Singh, Vrinda Sahasrabhojane, Anand and Tripathi. The facilitators were Ajay M V Kumar (The Union, India) and Srinath Satyanarayana (The Union, India).

In April 2012, the thirty-second course was given in Paris, France, for three selected fellows from the training module 2 offered by the Centre for Operational Research of The Union. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.178 were utilized. The course focused on Parts C (Operations Research) and D (More on EpiData software). The participants were Sarabjit Singh Chadha (India), Sharath Burugina Nagaraja (India), and Nicholas Kirui (Kenya). The facilitators were Hans L Rieder (The Union), Ajay M V Kumar (The Union, India), and Jens M Lauritsen (EpiData Association).

In May 2012, the thirty-third course was conducted in Goa, India, for about 60 or more WHO-hired consultants working for the national tuberculosis programme in India (plus a couple of observers from the WHO-India and WHO-SEARO office) to build their capacity in data management; they were in turn expected to train all the 650 and more data entry operators working for the national tuberculosis programme. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.178 were utilized. The course duration was three days and focused on Parts A (Data Entry) and B (Data Analysis). The facilitators were Ajay M V Kumar (The Union, India), Sharath Burugina Nagaraja (India), Kiran Rade (India) and Srinath Satyanarayana (The Union, India).

In May-June 2012, the thirty-fourth course was given in Nairobi, Kenya, as a component of a course on data management for personnel working in tuberculosis reference laboratories, largely in Africa. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version
2.2.1.178 were utilized. The course focused on Parts A (Data Entry) and B (Data Analysis). The participants were Pamela Juma Akinyi (Kenya), Vignon Charles Frank Falhun (Benin), Frederick Kangave (Uganda), Thuwein Yusuf Makamba (Tanzania), Faisal Masood (Pakistan), Margaret Ndisha (Kenya), Diana Nadunga (Uganda), Collins Tanaka Sakubani (Zimbabwe), Tigest Habitamu Shiferaw (Ethiopia), Elizabeth Ndaafetwa Shipiki (Namibia), Raymond Philip Shirima (Tanzania), and Mukururi Sibanda (Botswana). The facilitators were Hans L Rieder (The Union) and Armand Van Deun (The Union). Subsequent to the course, the structure of Part A (EpiData Entry) was adjusted to improve the flow into more coherent blocks.

In July 2012, the thirty-fifth course was given in Berne, Switzerland, for Master of Public Health students and other interested participants. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2 (Build 178) were utilized. The participants (all residing in Switzerland) were Lukas Fenner, Micòl Gianinazzi, Lotte Habermann-Horstmeier, Eva-Maria Hau-Grosch, Marianne Jost, Tanja Löhr, Thomas Plattner, Regina Scharf, Laura Wengenroth, Alfred Wiesbauer, and Natascha M Wyss. The facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland).

In July 2012, the thirty-sixth course was given in Paris, France, for fellows and participants in a training module offered by the Centre for Operational Research of The Union. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.178 were utilized. The participants were Serge Ade (Benin), Fengling Mi (China), Emmanuel Kanike (Malawi), Bodrun Siddiquea (Bangladesh), Kang Yang Lim (Singapore), Prashant Bhat (India), Ganzaya Sukhbaatar (Mongolia), Hilary Gunguyo (Zimbabwe), Philip Owiti (Kenya), Eunice Wahome (Kenya), Christine Njuguna (South Africa) and Kesete Yirdaw (Ethiopia). The facilitators were Ajay M V Kumar (The Union, India), Nguyen Binh Hoa (Viet Nam) and Srinath Satyanarayana (The Union, India).

In September 2012, the thirty-seventh course was given in Chennai, India, for participants of the operational research course conducted by the South East Asia office of The Union in association with the National Institute for Research in Tuberculosis (erstwhile Tuberculosis Research Centre). EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.178 were utilized. The participants (all residing in and working for tuberculosis control in India) were Kovid Sharma, Jaya Prasad Tripathy, Jaiswal Narendra, Jigneswar Patel, Nanda Kumar, Sanat Kumar Tripathi, Kamal Chand Naik, Lord Wasim Reza, Priyakanta Nayak, Ramesh Kumar, Palanivel C and Deepa D. The facilitators were Ajay MV Kumar (The Union, India), Ramya Ananthakrishnan (REACH, India) and Amar Shah (WHO, India).

In December 2012, the thirty-eighth course was given in Nadi, Fiji Islands, for participants of the Pacific Operational Research Course conducted by the Centre for Operational Research of The Union and The Secretariat of the Pacific Community. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.1.178 were utilized. The participants, from different countries of the Pacific region were Edwin Henry Daiwo (Solomon Islands), Rupihner Defang (Federated States of Micronesia), Saen Fanai (Vanuatu), Louise Fonua (Tonga), Natalie Girin (New Caledonia), Mareta Hauma (Republic of Marshall Islands), Noel Itogo (Solomon Islands), Tom Jack (Republic of Marshall Islands), Veisinia Matoto (Tonga), Joaquin Nasa (Republic of Marshall Islands), Markleen Tagaro (Vanuatu) and Karen Tarira (Cook Islands). The facilitators were Ajay M V Kumar (The Union, South East Asia office and also module chair), Karen Bissell (The Union), Shakti Gounder (Fiji Ministry of Health), Bridget Kool (The University of Auckland, New Zealand), Sharan Ram
(Fiji National University), Christine Roseveare (EpiData Trainer, New Zealand) and Kerri Viney (Secretariat of the Pacific Community).

In January 2013, the thirty-ninth course on “Efficient, Quality assured Data capture using EpiData” was given in Bengaluru, India, for medical college professionals working in close collaboration with the Revised National TB Control Programme in Karnataka. This course was conducted by the South-East Asia office of The Union in association with the Bangalore Medical College and Research Institute. This course, the first of its kind in India, utilized EpiData Entry Version 3.1 (Build 270108). The participants were Madhusudan M, Mohammed Imran, Amit Kumar Rao, Arshiya Kouser S, Navya CJ, Vinay M, Nagaraja Goud B, Ranganath TS, Ravish KS, Kishore SG, Sarsawathi S, Thiñak SA, Shivaraj BM, Riyaz Basha S, Nimmy Dominic, Ashok Kumar Gudagunti, Deepak Tamang, Surbhi Joshi, Karuna D Sagili, Archana Trivedi, Swaroop Kumar Sahu, Josephine Priya K, Suresh Kumbhar, Anushka T, Lilian Dosouza, Nevin Wilson and Sunita Prasad. The facilitators were Ajay M V Kumar (The Union, South East Asia office and also module chair), Balaji Naik (WHO-RNTCP, Bengaluru), Deepak KG (WHO-RNTCP, Tumkur), Prashant Bhat (WHO-RNTCP, Hubli) and Palanivel (IGMCRI, Puducherry).

In February-March 2013, the fortieth course was given in Kathmandu, Nepal, for participants of the Asian Operational Research Course conducted by the Centre for Operational Research of South-East Asia office of International Union Against Tuberculosis and Lung Disease (The Union). EpiData Entry Version 3.1 (Build 270108) and Epi Data Analysis Version 2.2.2.180 were utilized. The participants were Mangal Bahadur Tharu (Nepal), Xia Yinyin (China), Yaping Chang (China), Lekey Khandu (Bhutan), Jakir Hossain Bhuiyan Masud (Bangladesh), Sumudu Chandana Abeygunawardena (Srilanka), Olga Denisiku (Ukraine), Gabeena Mamoon (Pakistan), Satyavani (India), Mrinalini Das (India), Shankar D (India), Ravinder Kumar (India). The facilitators were Ajay M V Kumar (The Union, India), Swati Srivastava (PHFI, India), Balaji Naik (WHO-RNTCP, India), Karuna D Sagili (The Union, India) and Deepak Tamang (The Union, India).

In March 2013, the forty-first course on “Efficient, Quality-assured Data capture using EpiData” was given for medical college professionals and scientists from the Vector Control Research Centre working in Puducherry, India. This course was conducted by the South-East Asia office of The Union in association with the medical college Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER). This course utilized EpiData Entry Version 3.1 (Build 270108). The participants were Murugan V, Prasad Dikale, Kavita Vasudevan, Hemant Shewade, Johnson Cherian, Mahalakshmi, Subitha L, Anindo Majumdar, Kalaiselvi, Vedapriya, Anuj Mittal, Ramesh Chauhan, Madhan Raj, S Srikanth, E Susiganesh Kumar, R Kanagarethinam, R Moorthy, Yogesh A Bahurupi, Om Prakash Bera, Surendar Rangaswamy, Manoj Kumar Panigrahi, R Srinivasan, C Sadanandane and Ganesh. The facilitators were Ajay M V Kumar (The Union, South-East Asia office and also module chair), Palanivel (IGMCRI, Puducherry), Swaroop Kumar Sahu (JIPMER, Puducherry), Karuna D Sagili (The Union, India) and Deepak Tamang (The Union, India).

In March 2013, the forty-second course was given in Bengaluru, India, for participants of the operational research course conducted by the Centre for Operational Research of South-East Asia office of The Union in association with the India National Tuberculosis Programme, United States Centers for Disease Control and Prevention (CDC Atlanta), and the National Tuberculosis Institute, Bangalore. EpiData Analysis Version 2.2.2.180 was utilized. The participants (all residing in India and working for or in close association with the national tuberculosis programme) were Gurpeet Singh, Priyanka Agrawal, Raju Chepuri, D J Deka,
Rajeev Pathak, Amar Shah, Sunil Kumar, Karthickeyan DSA, Rajesh Deshmukh, Parija Debudatta, Asha Fedrick, Shivramakrishnan, Rajabhau D Yeole, Anand and Tripathi. The facilitators were Ajay M V Kumar (The Union, India), Srinath Satyanarayana (The Union, India), Balaji Naik (WHO-RNTCP, India), Sreenivas Nair (WHO-India), Vineet K Chadha (NTI, India), Patrick Moonan (CDC Atlanta), Smitha Ghosh (CDC Atlanta) and John Oeltmann (CDC Atlanta).

In March 2013, the forty-third course on “Efficient, Quality-assured Data Analysis using EpiData” was given in Bengaluru, India, for medical college professionals working in and around Bengaluru, Karnataka. This course was organized by Bangalore Medical College and Research Institute in collaboration with the South-East Asia office of The Union. This course utilized EpiData Analysis Version 2.2.2.180. The participants were Amit Kumar Rao, Ashwini, Navya CJ, Nagaraja Goud B, Ranganath TS, Ravish KS, Sarsawathi S, Thilak SA, Shivraj BM, Riyaz Basha S, Nimmy Dominic, Swaroop Kumar Sahu, Josephine Priya K, Lilian Dsouza, Hamsa L, Puneeth Kumar and Subhash Babu P. The facilitators were Ajay M V Kumar (The Union, South-East Asia office and also module chair), Karuna DS Sagili and Deepak Tamang (The Union, India).

In April 2013, the forty-fourth course on “Advanced use of EpiData software for operations research” was conducted in Delhi, India, with an emphasis on Parts B, C, and D, using EpiData Entry Version 3.1 (270108) and EpiData Analysis Version 2.2.2.180. The participants, all from India, were Jay a Prasad Tripathy, Palanivel C, Amar N Shah, Balaji Naik, Priyakanta Nayak, Debadutta Parija, Mrinalini Das, Deepak Tamang, Karuna Devi Sagili, and Riyaz Basha Sardar. The facilitators were Ajay M V Kumar (The Union, South-East Asia office and also module chair), Karuna D Sagili (The Union, India) and Deepak Tamang (The Union, India).

In May 2013, the forty-fifth course was conducted in Yaoundé, Cameroun, using EpiData Entry Version 3.1 (270108) and EpiData Analysis Version 2.2.2.181. The participants were Wilfried Békou Kossi (Bénin), Frédéric Békang Angui (Cameroun), André Nana Yakam (Cameroun), Yvon Martial Ngana (Centrafrique), Jules Toloko Risasi (Congo, RD), Valéri Oulaï Ibodé (Côte d’Ivoire). The facilitator was Hans L Rieder (The Union, Paris).

In May-June 2013, the forty-sixth course was conducted in Paris, France, using EpiData Entry Version 3.1 (270108) and EpiData Analysis Version 2.2.2.182. The course title was “Advanced use of EpiData software for operations research” and was given to four participants selected from the Union’s Centre for Operational Research 2012 cohort who had already passed “Module 1b”. The course focused on Parts B (Introduction to EpiData Analysis), C (Operations Research) and D (More on EpiData software). The participants were Kesete Yirdaw (Ethiopia), Prashant Bhat (India), Philip Owiti (Kenya), and Lim Kang Yang Leo (Singapore). The facilitators were Hans L Rieder (The Union), Ajay M V Kumar (The Union, India), and Jens M Laurtisen (EpiData Association).

In July 2013, the forty-seventh course was conducted in Berne, Switzerland, using EpiData Entry Version 3.1 (270108) and EpiData Analysis Version 2.2.2.182. The course title was “From paper to computer records – ensuring data quality for analysis”. The course was provided for participants enrolled in the Swiss Public Health training curriculum. The participants were Lars P Andersen, Anka Baltensperger, Nicole Bartlomé, Katrin Cramerí, Corina Ehnother, Nicole Gysin, Isabelle Keel, Gablu Kilcher, Jörg Lützner, Miriam Pfiffner, Anne Schmidt, and Johannes Wacker. The facilitators were Hans L Rieder (The Union) and Marcel Zwahlen (University of Berne, Switzerland).

In September-October 2013, the forty-eighth course was conducted in Dhaka, Bangladesh, using EpiData Entry Version 3.1 (270108) and EpiData Analysis Version 2.2.2.182. In
addition, an introduction was made to EpiData Manager public release version v1.4.2 and EpiData Entry Client v1.4.2. The course title was “EpiData software for quality-assured data entry and analysis”. The course was provided for personnel working in the Damien Foundation projects in Bangladesh and selected personnel from the national tuberculosis control program. The participants were Muhammad Ameer Ali, Panna Lal Goswani, Md Anwar Hossain, Md Shamin Hossain, Aung Kya Jai Maung, Priojit Kumar Nandi, and Binoy Tudu. The facilitator was Hans L Rieder (The Union).

In October 2013, the forty-ninth course was given in Chennai, India, for participants of the National Operational Research Course (2013-14) conducted by the South-East Asia Regional Office of The Union in association with the National Institute for Research in Tuberculosis, India. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.2.182 were utilized. The course was titled “Efficient, Quality-assured Data Capture and Analysis using EpiData”. The participants (all residing in and working for tuberculosis control in India) were Kalpita Shringarpure, Deepit Nirwal, Sairu Philip, Shankar Dapkekar, Kiran Kumar Reddy, Kumaravel Ilangoovan, Syed Imran Farooq, Hemant D Shewade, Umesh Chandra Tripathi, Bhavin Vadera, Anshul Avijit, and Poorana Ganga Devi. The facilitators were Ajay MV Kumar, Karuna Sagili, Deepak Tamang (The Union, India), Palanivel C, Swaroop Sahu (JIPMER, Puducherry), and Mrinalini Das (MSF, India).

In March 2014, the fiftieth course was given in Kathmandu, Nepal, for participants of the Asian Operational Research Course conducted by the Centre for Operational Research of South-East Asia office of International Union Against Tuberculosis and Lung Disease (The Union). EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.2.182 were utilized. The participants were Raman Mahajan (India), Wajira Rajapakshe (Sri Lanka), Sarder Tanzir Hossain (Bangladesh), Nay Thha (Myanmar), Nang Thu Thu Kyaw (Myanmar), Basant Joshi (Nepal), Kimcheng Choun (Cambodia), Srinivas Baiy (India), Kinley Zam (Bhutan), Sai Ko Ko Zaw (Myanmar), Aashifa Yaqoob (Pakistan) and Vishal Dogra (India). The facilitators were Karuna D Sagili (The Union, India), Mrinalini Das (MSF, India), Prashant Bhat (WHO-RNTCP, India), Hemant Shewade (Indira Gandhi Medical College and Research Institute, India) and Jay Prasad Tripathy (PGIMER, India). Ajay M V Kumar (The Union, India) participated as observer.

In July 2014, the fifty-first course was given in Paris, France, for participants of the fifth Paris Operational Research Course conducted by the Centre for Operational Research of International Union Against Tuberculosis and Lung Disease (The Union). EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.2.182 were utilized. The participants were Riitta Dlodlo (Zimbabwe), Thi Mai Phuong Nguyen (Vietnam), Janet Dzangare (Zimbabwe), Daphne Lagrou (Afghanistan/Belgium), Shuisen Zhou (China), Mar Verlade (Switzerland), Charity Kanyoro (Kenya), Mbazi Senkoro (Tanzania), Wondu Teshome Amen (Ethiopia), Michel Sawadogo (Burundi), Justine Mirembe (Uganda) and Josephine Namboze (Zimbabwe). The facilitators were Ajay M V Kumar (The Union, India), Rafael van den Bergh (Luxembourg), Kuda Takarinda (Zimbabwe), Philip Owiti (Kenya) and C Palanivel (India).

In March 2015, the fifty-second course was given in Kathmandu, Nepal, for participants of the fourth Asia Operational Research Course conducted by the Department of Research, International Union Against Tuberculosis and Lung Disease (The Union), South-East Asia Regional Office, New Delhi, India. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.2.182 were utilized. The participants were Sudeepa Khanal (Nepal), Mongal Singh Gurung (Bhutan), Hamayoun Hemat (Afghanistan), Mahboob Ul Haq (Pakistan), Aye Myat Thi (Myanmar), Thi Thanh Huyen Truong (Vietnam), Sujit Kumar
Sah (Nepal), Zin Min Thet Lwin (Myanmar), Kathirvel Soundappan (India), Chandor Wangdi (Bhutan), and Srinivas Reddy Edla (India). The facilitators were C Palanivel (India), Vivek Gupta (The Union, India), Hemant Shewade (The Union, India), Philip Owiti (Kenya), Mrinalini Das (MSF, India) and Jay Prasad Tripathy (India).

In March 2015, the fifty-third course was given in Cotonou, Bénin, for collaborators from 9 francophone countries in Africa in the observational study of the “Bangladesh 9-month regimen” for multidrug-resistant tuberculosis. The course was given in French but the English course material was used and it focused on the analysis of study data, using as introduction material from Parts A and B. EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.2.183 were utilized. The participants were Gisèle Badoum (Burkina Faso), Wilfried Békou (Bénin), François Ciza (Burundi), Valentin Fikuma (République Centrafricaine), Yves Habimana-Mucyo (Rwanda), Charlotte Kamgué Tchieche (Cameroun), Ferdinand Kassa (Bénin), Lucien Kofi Kouakou (Côte d’Ivoire), Olivia Mbitikon (République Centrafricaine), Marie-Léopoldine Mbulula (République Démocratique du Congo), Yvon Ngana (République Centrafricaine), Jürgen Noeske (Cameroun), Ibodé Valéri Oulai (Côte d’Ivoire), Alberto Piubello (Niger), Tandaogo Saouadogo (Burkina Faso), Bassirou Souleymane (Niger), Jules Toloko (République Démocratique du Congo). The facilitators were Ghislain Kobto Koura (The Union), Hans L Rieder (The Union), Valérie Schwöbel (The Union), and Arnaud Trébucq (The Union).

In April 2015, the fifty-fourth course on “Efficient, quality-assured data capture using EpiData” was given for medical college faculty and public health professionals of South India at Puducherry, India. This course was conducted by the South-East Asia Regional office of The Union in association with the medical college Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER). This course utilized EpiData Entry Version 3.1 (Build 270108). The participants were Sheethal MP, Gudadappa Kasabi, Prasanna Thirunavukkarasu, Vaman Kulkarni, Giriyanna Gowda, Vinayagamoorthy V, Mohan Kumar R, Jeyashree Kathiresan, Sagar A Borker, Rachana AR, Suguna E, Sudhir Prabhu H, Asha B, Shankar Reddy Dudala, Sathish Chandra MR, Sowmya N Malamardi, Iswarya S, Achyutananda Das Mohapatra, Rakesh K Nayak and Prakash M. The facilitators were Palanivel C (JIPMER, Puducherry), Swaroop Kumar Sahu (JIPMER, Puducherry), Kalaiselvi S (JIPMER, Puducherry), Subitha L (JIPMER, Puducherry), Vivek Gupta (The Union, India), Hemant Shewade (The Union, India) and Ajay M V Kumar (The Union, India).

In May 2015, the fifty-fifth course with EpiData software was given for staff at the Leibniz-Center for Medicine and Biosciences, Research Center Borstel, Germany. Preceding the course, Part A was revised and the exercises on data form design and data entry were switched from utilization of EpiData 3.1 to EpiData Manager Version 2.0.4.43 and EpiData EntryClient Version 2.0.3.15. For the analysis component, EpiData Analysis Version 2.2.2.183 was used. The participants were Patricia Sánchez Carballo, Jan Heyckendorf, Barbara Kalsdorf, Ioana Olaru, Nelleke Smitsman, and Nasstasja Wassilew. The facilitator was Hans L Rieder (Tuberculosis Consultant Services, Switzerland).

In July 2015, the fifty-sixth course was conducted in Berne, Switzerland, using EpiData Manager Version 2.0.5.51 and EpiData EntryClient Version 2.0.3.15. For the analysis component, EpiData Analysis Version 2.2.2.183 was used. The course title was “From paper to computer records – ensuring data quality for analysis”. The course was provided for participants enrolled in the Swiss Public Health training curriculum and students and staff from the Institute of Social and Preventive Medicine of the University of Berne.. The participants were Marcel Bruggisser, Beat Brüngger, Carine Graf Keer Rendon, Rahel
Kasteler, Kathrin Pachlatko, Dominik Straumann, Nerina Vischer, Annette Weiss, and Kathrin Zürcher. The facilitators were Marcel Zwahlen (University of Berne) and Hans L Rieder (Tuberculosis Consultant Services, Switzerland).

In September 2015, the fifty-seventh course was conducted in Chennai, India, for participants of the operational research course conducted by the South East Asia office of The Union in association with the National Institute for Research in Tuberculosis (erstwhile Tuberculosis Research Centre). EpiData Entry Version 3.1 (Build 270108) and EpiData Analysis Version 2.2.2.183 were utilized. The participants (all residing in India and working in public health) were Himanshu Gupte, Himbala Verma, Thirumugam M, Yasobant Sandul, Dina Nair, Sendhilkumar Muthappan, Shobha Ekka, Ashish Kumar Pandey, Akash Ranjan Singh, Valan Adimai Siromany, Kalaiselvi Selvaraj and Sudhir Chawla. The facilitators were Hemant D Shewade (The Union, India), Jaya Prasad Tripathy (The Union, India), Karuna Sagili (The Union, India), Palanivel C (JIPMER, India), Prashant Bhat (CHAI, India) and Kalpita Shringarpure (Baroda Medical College, India).

In October 2015, the fifty-eighth course on “Efficient, Quality-Assured Data Analysis Using EpiData” was conducted for medical college faculty and public health professionals of South India at Puducherry, India. This course was conducted by the South-East Asia Regional office of The Union in association with Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), a premiere medical college in India. This course utilized EpiData Analysis V2.2.2.183. The participants were Sheethal MP, Prasanna Thirunavukkarasu, Giriyanna Gowda, Vinayagamoorth V, Mohan Kumar R, Jeyashree Kathiresan, Rachana AR, Sudhir Prabhu H, Sathish Chandra MR, Sowmya N Malamardi, Achyutananda Das Mohapatra, Rakesh K Nayak, Yogesh Bahurupi, Mahalakshmi, Kavita Vasudevan, Prasad Dhikale, Ramesh Chand Chouhan, Bijaya Nanda Naik and Prakash M. The facilitators were Palanivel C (JIPMER, Puducherry), Swaroop Kumar Sahu (JIPMER, Puducherry), Kalaiselvi S (JIPMER, Puducherry), Jaya Prasad Tripathy (The Union, India), Hemant D Shewade (The Union, India) and Ajay MV Kumar (The Union, India).

In November 2016, the fifty-ninth course on “EpiData software for efficient, quality-assured data entry and analysis, Part 2 of the course: EpiData Analysis module” was conducted at the Forschungszentrum Borstel (Germany) for staff and invited guests. This course used EpiData Manager v2.0.13.64 and EpiData EntryClient v2.0.10.26 (for one exercise only) and EpiData Analysis V2.2.2.185. The participants were Serghei Covântev (Chisinau, Moldova), Barbara Kalsdorf (Borstel, Germany), Niklas Köhler (Lübeck and Borstel, Germany), Ioana Olaru (Borstel, Germany), Patrícia M Sánchez Carballo, Borssel (Germany), and Dagmar Schaub (Borstel, Germany). The facilitator was Hans L Rieder (Tuberculosis Consultant Services, Switzerland).

In April 2018, the sixtieth course on “EpiData software for efficient, quality-assured data entry and analysis, Part 2 of the course: EpiData Analysis module” was conducted at the Institute of Tropical Medicine in Antwerp, Belgium. This course used EpiData Manager v4.2.0.0 and EpiData EntryClient v4.2.0.0 (for one exercise only) and EpiData Analysis V2.2.2.187. The participants were Tom Decroo, Mourad Gumusboga, and Armand Van Deun, all from the Institute of Tropical Institute. The facilitator was Hans L Rieder (Tuberculosis Consultant Services, Switzerland).