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Final Report of the Surveillance Working Group 2012-2016

Federal Commission for Sexual Health

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1 Introduction

1.1 Surveillance Working Group's mandate 2012-2016: experiences

The Surveillance Working Group of the Federal Commission for Sexual Health (FCSH) 2012-2016 was set up as an advisory body external to government and the main institutions involved in HIV/STI surveillance activities. The Working Group was co-chaired by two members of the FCSH, Prof. Dr. Nicola Low and Prof. Dr. Daniel Kübler. It included two representatives from the national and subnational (cantonal) health authorities and four international experts with different disciplinary backgrounds (epidemiology, public health, and public administration).[1]

The mandate of the Surveillance Working Group (2012) was to provide advice on how to strengthen surveillance data and its use for HIV/STI policy. Its main goals were:

- Quality assessment and further improvement of HIV/STI surveillance and evaluation.
- Promotion of evidence dissemination and utilisation.
- Promotion of innovation in the field of HIV/STI surveillance and evaluation.

The present Surveillance Working Group 2012-2016 will terminate its activities with its fifth and final report. The group will be replaced by a new Surveillance Working Group of the FCSH.

In this report, the Working Group would like to highlight some key experiences made during the past five years:

- **Independent and international expertise for the improvement of surveillance**: The international members of the Surveillance Working Group contributed substantially to the expertise and the advice provided to the FCSH and the Federal Office of Public Health (FOPH). They guaranteed an independent and external view on both biological and behavioural HIV/STI surveillance in Switzerland, informed by their insights on international developments. Such expertise is vital for a small country like Switzerland which, in addition, is not member of the EU and cannot participate in important regional surveillance projects of the European Centre for Disease Prevention and Control. The Working Group shares the opinion that its advice was well received by the FCSH and the FOPH.
- **Keeping quality issues on the agenda**: The Working Group overviewed the different fields of surveillance and played a coordinating role. The quality of the Working Group's activities benefited from the infrastructure to coordinate its activities, workshops and reports which triggered discussions and reflections within the FCSH and the FOPH. The Working Group initiated, supported and acknowledged processes of quality improvements in HIV/STI Surveillance in Switzerland. It found that a coordinating advisory body is important for delivery of quality improvement in the Swiss HIV/STI surveillance system in which responsibilities for biological, behavioural and clinical surveillance are spread across different institutions and amongst whom mechanisms for collaboration on surveillance are largely missing.
- **Facilitating the exchange between the different parties involved in surveillance**: The annual workshops on HIV/STI data triangulation, organised by the Working Group, are well attended by data analysts from different fields of surveillance and by policymakers and other data users. The Working Group is convinced that these events initiated fruitful discussions and interpretation of both biological and behavioural surveillance data that have informed further surveillance and policy activities.

[1] In 2014, the representative of the cantonal health authorities and one international expert left the group because of new professional duties and were not replaced.

- **Responding to the information needs of policymakers**: The Surveillance Working Group dealt with the FOPH's need for better information on the effectiveness and efficiency of HIV/STI interventions. Therefore, it initiated and supported workshops and studies to advance the measurements of effectiveness and efficiency. It shares the opinion that these efforts have strengthened cooperation between relevant disciplines and contributed to a better understanding of the challenges and limits of such measurements among those involved.

1.2 Surveillance Working Group's activities 2012-2016

The following table provides an overview of the Surveillance Working Group's activities from 2012 to 2016. It lists the meetings and workshops held over these years, including a summary of the topics discussed during these events.

Table 1: Overview of the Surveillance Working Group's activities 2012-2016

Date	Event
20.3.2012	**Constituent Meeting of the Surveillance Working Group** Topics: discussion and approval of mandate, first impressions on HIV/STI surveillance in Switzerland; enhanced second generation surveillance; initiation of data triangulation workshop
10.9.2012	**Workshop "Data Triangulation HIV/STI" 2012** Topics: current developments and possible improvements of HIV/STI surveillance
30.10.2012	**Meeting of the Surveillance Working Group** Topics: biological surveillance; third generation surveillance (feasibility study of economic evaluation of HIV/STI prevention)
12.9.2013	**Workshop "Data Triangulation HIV/STI" 2013** Topics: men who have sex with men (MSM); antibiotic resistance in gonorrhoea, information on the online survey on health requirements of the Sub-Saharan African population in Switzerland
22./23.10.2013	**Meeting of the Surveillance Working Group** Topics: Recent trends HIV/STI epidemiology; surveillance of antimicrobial resistant *Neisseria gonorrhoeae*; analyses with data from VCT-sites (BerDa); third generation surveillance; economic evaluation in the field of HIV/STI prevention (draft tender for economic evaluation of HIV prevention targeting MSM)
1.2014	**Proposal for National Research Programme "Sex.21"**
22.5.2014	**Workshop "Advancing the measurement of the effectiveness of HIV prevention"** Topics: International experiences; Swiss experience; policy-makers perspectives
11.9.2014	**Workshop "Data Triangulation HIV/STI" 2014** Topics: General population; migrant population coming from high prevalence countries
11./12.9.2014	**Meeting of the Surveillance Working Group** Topics: Recent trends and developments in the field of HIV/STI surveillance; preparedness for STI outbreaks; advancement of the measurement of effectiveness of HIV prevention
19.3.2015	**Coordination meeting for the study on the effectiveness of Break the Chains 2015**
8.9.2015	**Coordination meeting for the study on the effectiveness of Break the Chains 2015**
22.10.2015	**Workshop "Data Triangulation HIV/STI" 2015** Topics: Effectiveness of Break the Chains 2015; new trends among MSM; key indicators for the evaluation and planning of the national programme on HIV and other STI
22./23.10.2015	**Meeting of the Surveillance Working Group** Topics: Advancing the measurement of the effectiveness of HIV prevention; modernising HIV surveillance (HIV surveillance centre) / key indicators (proposal of Dr. Somaini); surveillance of human papillomavirus (HPV) vaccination uptake and vaccination impact
12.1.2016	**Coordination meeting for the study on the effectiveness of Break the Chains 2015**
3.11.2016	**Workshop "Data Triangulation HIV/STI" 2016** Topics: HIV/STI trends among key populations (MSM, migrants, sex workers), biological and behavioural surveillance data; SWAN (Sex Workers ANswers) survey 2016; human papillomavirus-associated cervical neoplasia in Switzerland (CIN3+plus) study
3./4.11.2016	**Meeting of the Surveillance Working Group** Topics: follow up on the recommendations 2012-2016; information on Break the Chains 2015 study; reflection on the work of the Surveillance Working Group; recommendations for the future

From 2012 to 2016, the Surveillance Working Group held a total of six meetings and organised yearly data triangulation workshops.

In 2016, the Working Group focused on finalising the evaluation study of the Break the Chains campaign 2015. During the second half of the year, the Working Group organised its expert meeting and the fifth data triangulation workshop. The data triangulation workshop was held in November 2016 and attended by 26 participants. The workshop covered the following topics: report on the impact of revisions of biological HIV/STI surveillance implemented in 2016 (FOPH 2016j); recent trends in biological surveillance for HIV/STI (FOPH 2016c) and behavioural surveillance among key populations (Lociciro et al. 2016a); findings of a survey on sex workers in Switzerland (Lociciro 2016); report from the the CIN3+plus study "human papillomavirus-associated cervical neoplasia in Switzerland" (Low/Egli-Gany 2016). The workshop was concluded with information on ongoing surveillance activities; the Federal Statistical Office (FSO) presented the sexual health module in the Swiss Health Survey (SHS) 2017 (FSO 2016) and the FOPH gave an update on the plans for an HIV surveillance centre.

1.3 Contents of the final report of the Surveillance Working Group

The present report highlights the achievements related to the past recommendations of the Surveillance Working Group 2012-2016, emphasises the importance of some recommendations that have yet to be implemented and provides some suggestions about the modernisation project of HIV and STI surveillance.

This report is the result of the Working Group's discussions at its meeting in November 2016. Based on a synthesis of evidence from international and Swiss epidemiological studies (Frey/Sigrist 2016), the Working Group identified challenges for HIV and STI surveillance. The report starts with some comments on the modernisation project (the HIV surveillance centre, section 2). The report summarises developments in biological surveillance (section 3), in behavioural surveillance (section 4) and data triangulation, accessibility and dissemination (section 5).The report includes the Working Group's discussions on innovation in HIV/STI surveillance and evaluation (section 6) and closes with a summary (section 7).

The present report was discussed and adopted by the Federal Commission for Sexual Health at its meeting on March 23, 2017. The Federal Commission for Sexual Health asked for two amendments concerning the recommendation 9 about HIV test costs and the final recommendation 16 about an integrated strategy of surveillance, monitoring, and evaluation activities. These amendments which are in line with the intentions of the Surveillance Working Group are integrated in the present report.

2 General recommendations

In 2015, the FOPH launched a plan to establish an (virtual) HIV surveillance centre based on a proposal that Dr. Bertino Somaini (2015) elaborated on behalf of the FOPH. The goal of this plan is to improve the content and quality of surveillance data on new HIV diagnoses and on HIV-positive people in Switzerland. In order to achieve this goal, a combined dataset of the notification data of the FOPH and the data of the Swiss HIV Cohort Study (SHCS) is envisaged. This dataset should enable provision of better information about the HIV care cascade and other analyses relevant for the planning and evaluation of the National Programme on HIV and other STI (NPHS, FOPH 2010). Therefore, the FOPH and the SHCS should engage in a cooperation that is institutionalised by the foundation of an HIV surveillance centre. The Working Group discussed the proposal of Dr. Somaini and supported the foundation of an HIV surveillance centre. It shared the opinion that an HIV surveillance centre has the potential to "become a pioneer for surveillance, monitoring and evaluation of HIV, other diseases and future developments in medical care" (Surveillance Working Group 2015: 4). It recommended the FOPH to pursue this plan and also provided some detailed advice on the design of the centre (see Table 4 in the appendix).

At the November 2016 meeting of the Working Group, the FOPH reported that it has not established the HIV surveillance centre for several reasons. First, there are issues around data protection, data ownership issues and governmental procurement procedure that need to be resolved. Second, the Surveillance Working Group had the impression that the support for the modernisation plan – a closer cooperation between the FOPH and the SHCS for the purpose of surveillance – could be strengthened among the key stakeholders. Successful realisation of this plan requires not only support but also a common understanding by the involved parties of the relevance, goals and purpose of HIV and STI surveillance.

The Working Group remains convinced that the founding of the HIV surveillance centre could bring major improvements and recommends that the FOPH should endeavour to find a solution for its implementation. Further, it refers to its considerations in its fourth report on the formulation of key indicators, which remain valid (Surveillance Working Group 2015). The Working Group reemphasises that surveillance of STIs other than HIV and behavioural surveillance should be sustained and is integral to HIV and STI surveillance.

Recommendation 1
The FOPH should proceed with the founding of an HIV surveillance centre and maintain surveillance of other STIs and behavioural surveillance as integral parts of surveillance.

The Working Group is concerned that the delay of the modernisation project might impede current surveillance activities. Moreover, this implementation deferral coincides with the transition period of the Surveillance Working Group, which played a key role in supervising HIV/STI surveillance in Switzerland. These developments create uncertainties that are unlikely to encourage progress in the field of HIV/STI surveillance.

Therefore, the Working Group recommends that the FOPH, supported by the successor Surveillance Working Group 2017-2019, should advance the cooperation of key stakeholders in order to strengthen a common understanding of the relevance and goals of HIV/STI surveillance and further improve analytical capacity and data triangulation. More precisely, the Working Group suggests that some specific projects that promote collaboration between the different parties involved in HIV/STI biological and behavioural surveillance and the SHCS could run parallel with the preparatory work for the foundation of an HIV surveillance centre.

Project-based cooperation facilitates collaboration as it deals with well-defined, short-term aims and questions. Such project-based cooperation is likely to facilitate the foundation of an HIV surveillance centre, but should not be considered as a substitute for an HIV surveillance centre.

The proposed project-based cooperation could deal with the following topics:

a) **Triangulate data on the dynamics of syphilis in Switzerland** including data from the notification system, the SHCS, voluntary counselling and testing (VCT) sites (**Ber**atungs- und **Da**tenerfassungssystem, BerDa), and behavioural surveillance surveys. The triangulation should aim at informing prevention and testing strategies for syphilis (FOPH 2016l; Jansen et al. 2015; Vernazza 2015). In particular, the analysis should aim at better evaluating the impact of HIV coinfection on syphilis transmission (Burchell et al. 2015; Malek et al. 2015; Sprenger et al. 2014). The SHCS has recently conducted a study on the SHCS patients (Shilaih et al. 2017). However, there does not appear to have been any cooperation or (official) exchange between the FOPH and the SHCS on this topic.

b) **Evaluate the complementarity of the notification system and the SHCS** with regard to newly reported HIV diagnoses: For clinical surveillance of HIV, information on the entire population is crucial; i.e. documentation about the stages of the HIV care cascade (Gardner et al. 2011; Kohler et al. 2015). Therefore, it is important to have as complete a picture as possible of the proportion of the population that knows its HIV status, including those with HIV infection,

and the proportion of patients with an HIV diagnosis who are linked to care, both in the SHCS and elsewhere (Shilaih et al. 2016). The SHCS could benefit from additional studies that complement their existing analyses of the representativeness of its data. Thus, the FOPH and SHCS could start to link their data on a project basis for a defined period in order to allow analysis of newly reported HIV diagnoses by non-participation / participation in the SHCS.

c) **Collect and analyse (qualitative) data on risk perceptions and behaviours of men who have sex with men (MSM)** with recent HIV infection, with a diagnosis of another STI, or with an HIV-negative test result but HIV risk behaviours. Such analyses should be performed in order to better design and tailor the prevention and testing strategy for MSM.

This list is provisional and could serve as input for a workshop that aims to build support and common understanding for an interim solution and the foundation of an HIV surveillance centre. The partners – the FOPH, the SHCS and behavioural surveillance analysts – should discuss the priorities for HIV surveillance activities together. The successor Surveillance Working Group 2017-2019 could support the FOPH in this stakeholder process that aims to clarify the added value of clinical HIV surveillance, the contributions and interfaces of the involved stakeholders of the FOPH (notification system, BerDa system, prevention and promotion section), the SHCS and the responsible partners for behavioural surveillance.

Recommendation 2
To support the foundation of an HIV surveillance centre the FOPH should pursue an interim project-based cooperation with the key stakeholders.

3 Biological surveillance

The Working Group reviewed the implementation of its previous recommendations regarding improvements in biological surveillance based on the scientific background report compiled by its secretariat (Frey/Sigrist 2016) as well as the FOPH's presentation held at the data triangulation workshop 2016. The Working Group very much appreciated the presentation of the long term trends in the number of reported diagnoses of HIV and other STI and the information provided by the FOPH to its secretariat in advance of the meeting (FOPH 2016a-e,g,j-l).

Table 5 in the appendix lists the Working Group's recommendations presented in its four previous reports (Surveillance Working Group 2012, 2013, 2014, 2015) and highlights the activities taken for their implementation. The Working Group acknowledges the key improvements that have been realised:

- the simplification of procedures and forms for the clinical notification of HIV, syphilis and gonorrhoea (FOPH 2016f);
- the introduction of notifications on the total yearly number of HIV, chlamydia and gonorrhoea tests by laboratories in 2016;
- the strengthening of the use of available complementary data sources for HIV surveillance.

These improvements relate to the Working Group's recommendations, but other factors facilitated their implementation. Below, a more detailed discussion on the developments in biological surveillance is presented together with the Working Group's final recommendations in this field.

3.1 FOPH's capacity for biological surveillance

Based on its experience from the past years, the Working Group shares the impression that major progress in biological surveillance was difficult to achieve due to limited resources at the FOPH. This is especially true regarding capacity for surveillance of STIs other than HIV, where the FOPH was only partially able to meet the needs for timely analyses of the data.

Considering the increasing trends in STIs other than HIV in Switzerland, especially the rising numbers of syphilis cases (FOPH 2016k), the continuation of biological surveillance at the current level – i.e. laboratory and clinical notifications for HIV, syphilis and gonorrhoea, laboratory notification for chlamydia – is absolutely crucial. In order to maintain data quality, sustaining resources within the FOPH is essential. Therefore, the Working Group strongly recommends to maintain existing capacity for HIV and STI surveillance at the FOPH.

The Working Group notes that the FOPH's publications of HIV/STI numbers and analyses have been reduced to one bulletin article per year covering the previous year (FOPH 2016a,b,d,e,k). Trends for the ongoing year are available on the website of the FOPH. However, these are limited to the weekly numbers of notified cases. Currently, a large part of the information stays within the FOPH and is not published until a year after notification. Making the data available in a timely manner is important for the planning of HIV/STI interventions by the partners of the FOPH. It would also be a signal to the physicians that their reported data are important and being used. The Working Group therefore stresses the importance of disseminating information and making it available as close to real-time as possible.

Further, the Working Group would like to emphasise the importance of having surveillance systems with capacity for detecting outbreaks of other 'non-typical' sexually transmissible infections. Outbreaks of gastrointestinal pathogens such as *Shigella spp*. in MSM have re-emerged as sexually acquired infections in several countries (Baker et al. 2015) and public health experts are calling for increased vigilance. The FOPH notified the Working Group that such an outbreak would be detected. Nevertheless, the Working Group shares the opinion that the successor Surveillance Working Group should take up this issue and require the FOPH to provide the relevant documents on the procedures for detecting outbreaks of both notifiable STIs and other pathogens for which sexual transmission is not the major route of transmission in Switzerland. This theme could be taken up by the institution that hosts the national centre for outbreak investigation.

Recommendation 3
Sustain existing HIV/STI surveillance capacity at the FOPH.

Recommendation 4
Strengthen the dissemination and publication of information from biological surveillance for HIV and other STIs, including improved timeliness.

Recommendation 5
The preparedness of Swiss infectious disease surveillance systems for detecting outbreaks of STIs should be reviewed and assessed in the context of emerging evidence on changing risk behaviours and, if necessary, revised.

3.2 Quality of biological surveillance data

The Working Group acknowledges improvements in the quality of biological surveillance data which was achieved by revising the notification system (FOPH 2016f). The laboratories have been obliged to report the total number of positive and negative HIV, chlamydia and gonorrhoea tests since 2016. Improvements were also made regarding data on the probable country of HIV infection in migrants from high prevalence countries; the revised HIV physician notification form has collected the date of entry for non-CH citizens since the beginning of 2016. This should improve accuracy of information on probable country of HIV infection.

There is evidence that with the revised notification forms and procedures, the completeness of notifications has improved. In this regard, the Working Group appreciates the working document produced by the FOPH (2016g) analysing the completeness of notifications of HIV, syphilis and gonorrhoea cases from 2010 until 2015. Compared to a previous similar analysis (FOPH 2011), the results of this provisional analysis suggest that improvements have been achieved, specifically in the completeness of

syphilis notifications after the revision of the clinical notification form in 2015. The Working Group stresses the importance of maintaining laboratory and clinical notification for syphilis infections, especially in the context of increasing trends in the number of new diagnoses (FOPH 2016k). Further analyses to investigate these upward trends are important. The Working Group recommends consolidation of analyses on the completeness of information obtained from laboratory and physician notifications (FOPH 2016c,g) and repeat such analyses regularly.

Improvements have also been made regarding the data on antimicrobial resistant (AMR) gonorrhoea. The Federal Council (2015) has agreed on a Strategy on Antibiotic Resistance Switzerland (STAR). The strategy acknowledges the worrying developments in AMR gonorrhoea and includes comprehensive monitoring of AMR to ensure long-term efficacy of antibiotics. In line with this, the Swiss Centre for Antibiotic Resistance (anresis.ch) has been strengthened. These efforts should be sustained, and data on AMR gonorrhoea should be routinely analysed, assessed and published.

Furthermore, the Working Group appreciates the strengthening of analyses using data collected by the VCT-sites through the BerDa system (FOPH 2016l). Acknowledging this achievement, the Working Group nevertheless considered that analysis of BerDa data could be further improved through better data integration and stronger coordination within the FOPH. The Working Group therefore suggests exploring opportunities for optimising internal coordination of data analyses to exploit BerDa data to their full potential.

Recommendation 6
Sustain data quality and maintain the existing notification obligation, in particular the clinical notification of syphilis cases.

Recommendation 7
Improve collection, analysis and dissemination of data on antimicrobial resistant gonorrhoea.

Recommendation 8
Strengthen coordination of analyses of biological surveillance and BerDa data within the FOPH.

3.3 HIV/STI policy

Against the background of spreading antimicrobial resistance and successful promotion of HIV testing among MSM with the Break the Chains campaign, the Working Group (2013) has recommended the exemption of HIV/STI tests from the franchise. In March 2016, the cantonal hospital of St. Gallen initiated a study named STAR-trial (**S**TI-**T**esting of **A**symptomatics at **R**isk Trial) to investigate the prevalence of HIV/STI in key populations at high risk of infection (Vernazza 2015). The study offers free testing for any men and women aged 16 and above who have had sex with three or more people in the previous 12 months. The study will strengthen the evidence on the need for exempting routine HIV/STI-tests from the franchise for people at risk. The Working Group appreciates this effort.

The Federal Commission for Sexual Health shared the opinion that it is important and urgent to reduce the monetary disincentives for HIV/STI testing for patients. The Federal Commission for Sexual Health re-emphasized concerns that the surveillance and control of antimicrobial resistant gonorrhoea are hampered if patients are reluctant to undergo costly tests if the results of these tests will not alter clinical management. The Commission also pointed out that the current testing costs undermine prevention and detection of HIV/STI infections.

The Federal Commission for Sexual Health suggested a slight modification of recommendation 9 of the Surveillance Working Group as it agreed that all possible options to reduce the costs of HIV/STI tests for patients should be considered. The Federal Commission for Sexual Health strongly encourages the FOPH to find a solution to reduce the costs of HIV/STI tests.

The Working Group (2014) has also pointed out the importance of making decisions on chlamydia screening programmes at the national level in order to make sure that any decisions about programmes are in line with accepted international standards. The FOPH noted that it could only recommend that cantons apply these standards. Due to Swiss federalism, the cantons have the authority to act. The FOPH further commented that there was no evidence that an organised chlamydia screening programme was necessary in Switzerland. Acknowledging the fact that Switzerland is a federalist country, the Working Group believes that the FOPH should nevertheless play a coordinating role regarding decisions about chlamydia screening.

Recommendation 9
The costs for HIV/STI tests should be reduced.

Recommendation 10
The FOPH should play a coordinating role in decisions about chlamydia screening.

4 Behavioural surveillance

The Working Group acknowledges the achievements made in the field of behavioural surveillance in the period between 2012 and 2016 (see Table 6 in the appendix). Key achievements are:

- Behavioural surveillance of migrants from high prevalence countries was improved and included a survey targeting this population group for the first time (Simonson et al. 2015).
- Behavioural surveillance of sex workers was strengthened by a survey among sex workers (Lociciro 2016).
- The sexual health module was included in both the 2012 and 2017 SHS.

4.1 Behavioural surveillance for key populations

The Working Group is particularly impressed with the progress that has been made regarding behavioural surveillance in key populations, including the “African Net Survey We Respond!” (ANSWER) study (Simonson et al. 2015) and the “Sex Workers Answers” (SWAN) study (Lociciro 2016). These and the survey conducted among MSM (Lociciro/Bize 2015) are important and should be repeated regularly.

The Working Group’s discussions on the results of these studies led to the conclusion that it would be important to understand the specific contexts of risk behaviour, specifically among MSM. In line with this, the Working Group recommends that qualitative approaches should be pursued in order to gain a better understanding of risk behaviours (see also section 2).

Recommendation 11
Studies on behavioural surveillance for the following key populations should be repeated at regular intervals:
- men having sex with men;
- migrants from countries with high HIV prevalence;
- sex workers.

Recommendation 12
Qualitative approaches should be pursued to gain a better understanding of risk perceptions, behaviours and the contexts of risk behaviours.

4.2 Behavioural surveillance for the general population

In 2012, surveillance on sexual behaviour in the general population included only four questions in the sexual health module of the Swiss Health Survey (SHS). The Working Group acknowledges the continuation of this module in the SHS 2017. However, it is concerned about the limited size of this highly important module that provides representative data on sexual behaviours among the Swiss population.

In its previous reports, the Working Group (2014, 2015) recommended the inclusion of three additional questions in the SHS: one about paying for sex, one on sexual and transgender identity, and one on sexual violence. The FSO responsible for the SHS decided, however, that any new question could only be included at the cost of cancelling one of the existing questions.

Following discussion at the data triangulation workshop 2016 among the key stakeholders of the FOPH, the FSO and the Institut universitaire de médecine sociale et préventive (IUMSP), the Working Group shared the opinion that the sexual health module should retain existing questions asked in 2012, including the one on gender of sexual partners. The Working Group rejected the suggestion to replace this question with the question on sexual identity, as the gender of sexual partners is crucial for estimating the size of the MSM population, which is the population most affected by HIV and other STIs. The Working Group welcomed the suggestion of the FSO to add the question on sexual identity as a filter question after the question on the gender of sexual partners.[2]

The Surveillance Working Group would like to acknowledge and emphasise the importance of the question about “sexual identity” for the analysis of health inequalities, stigmatisation and discrimination. This question is not only relevant for sexual health issues but affects many other areas. Based on international experience, such a question can be integrated into any national population survey and should be added to the SHS in 2022.

The Working Group shares the opinion that it is important to collect representative data on the sexual behaviour of the general population at reasonable time intervals, i.e. every 5 years. These data allow investigations of behavioural trends and comparisons with other population groups. Observations on behavioural changes, e.g. among the younger population, serve as early warnings to inform changes in HIV/STI policy and facilitate interpretation of HIV/STI surveillance data, which is particularly important in times of rising numbers of STI reports among the general population.

The Working Group recommends the FOPH take all necessary measures for the continuation of the sexual health module in the future SHS. It also stresses that it is important to publish survey results promptly after survey completion to support policy-makers and inform the public.

As the Surveillance Working Group (2014, 2015) shares the opinion that the SHS provides important but limited data, it has recommended in its previous reports that the FOPH should consider conducting an additional population survey outside the SHS. Such a survey should in particular collect data on paid sex. In this regard, the Working Group acknowledged the survey on sexual behaviour in Switzerland by sotomo (Hermann et al. 2016), which was published shortly after the November 2016 meeting of the Working Group. The study was commissioned by the FOPH in the framework of the LOVE LIFE-Campaign and asked questions about numbers of sex partners and paid sex. However, survey respondents were a convenience sample, and the response rate and representativeness were unknown. This survey does not relate to any past surveys on sexual behaviour of the Swiss population. The Working Group recommends exploring how survey methodologies associated with prevention campaigns could be improved to support behavioural surveillance.

[2] The Surveillance Working Group directly communicated with the FOPH, the FSO and the IUMSP in order to agree on the questions of the sexual health module in the SHS 2017; i.e. the Surveillance Working Group sent a letter with its recommendations to the FSO on the 7th of November 2016.

Recommendation 13
The sexual health module should be continued in future Swiss Health Surveys (SHS).

Recommendation 14
Data collection on sexual behaviour in the framework of prevention campaigns should aim at producing data that is usable for surveillance.

5 Data triangulation, accessibility and dissemination of evidence

Over the past five years, the Surveillance Working Group has organised yearly data triangulation workshops with the aim of strengthening the dissemination, interpretation and utilisation of data on HIV and other STIs. The purpose of the workshops is to triangulate the findings of biological and behavioural data that come from different sources but address the same theme.

These workshops have been well-attended by key actors including data analysts of the different fields of surveillance, policy makers from the FOPH, the Swiss Aids Federation, Sexual Health Switzerland and other partners. On average, 25 participants took part in the data triangulation workshops. According to feedback received, participants benefited from the presentation of recent data, and the opportunity to raise questions and express information needs. The workshops contributed to a broader reception and discussion of surveillance data and facilitated coordination between the actors.

In light of these positive experiences, the Working Group strongly recommends continuation of these workshops. If the organisation of these workshops stays within the successor Surveillance Working Group, the Working Group should be supported by the FOPH and/or receive adequate funding for this task. In order to allow for ample preparation time and early announcement of the next workshop to stakeholders, the Working Group strongly recommends that this decision is taken as soon as possible.

Recommendation 15
The data triangulation workshops should be continued.

6 Innovation in HIV/STI surveillance and evaluation

The FOPH asked the Surveillance Working Group to work on conceptual bases for the new idea of “third generation surveillance” (Surveillance Working Group 2012, 2013; Frey 2016). The idea of “third generation surveillance” was introduced by the National Programme on HIV and other STI (NPHS) 2011-2017 (FOPH 2010: 157) and proposes to extend the concepts of first generation (biological) and second generation (behavioural) surveillance by an additional component. Table 2 provides an overview of the three components of surveillance. It highlights that biological and behavioral surveillance provide information on the size of the public health problem. In contrast, the third component shifts the focus to the problem solutions – the interventions implemented to fight against the epidemics:

> *“Third-generation surveillance (TGS) is the name given to a comprehensive surveillance system, which includes biological and epidemiological surveillance along with behavioural surveillance, but goes further still in that individual prevention measures and the care services on offer are subjected to monitoring with a view to establishing their effectiveness. This monitoring also includes a cost/benefit analysis. The aim of third-generation surveillance is to arrive at a situation in which the preventive measures are rendered comparable as regards their benefits and costs and can thus be assigned priorities. This gives the decision makers the necessary inputs for allocating the scarce resources optimally to the individual preventive measures.” (FOPH 2010: 157).*

The first and second component of surveillance might provide data usable to measure the effects of interventions, but additional information is required to answer the questions on effectiveness and efficiency of policy measures.

Table 2: Three components of HIV/STI surveillance

	First component	**Second component**	**Third component**
Questions	– How many HIV/STI infections are there?	– What are the main risk behaviours? – How do risk behaviours change over time?	– Which interventions are delivered? – What are the costs of the interventions? – What are the effects of the interventions?
Focus	Public health problem – Spread of infections (incidence/prevalence) – Ways of transmission, etc.	Public health problem – Spread of risk behaviours – Spread of testing behaviours	Public policy – Intervention intensity – Effects of interventions – Costs of interventions
Data	Notification system	Behavioural surveillance – Behavioural survey in groups with high-risk behaviours – Behavioural survey in the general population	Monitoring and evaluation
Guidelines; key reference documents	UNAIDS/WHO 2000, 2013	ECDC 2009, UNAIDS/WHO 2000, 2013, for Switzerland Dubois-Arber et al. 2012, Jeannin et al. 2009.	

The Surveillance Working Group aimed to contribute to the highlighted cells in the table above. Therefore, it initiated and supported a development process that included the following steps, in particular:

- feasibility study of an economic evaluation of HIV/STI prevention (Frey et al. 2013);
- workshop on economic evaluation with an international expert, October 2013; the workshop assessed the plan for an economic evaluation of HIV prevention (Surveillance Working Group 2013);
- workshop on the advancement of the measurement of the effectiveness of HIV/STI prevention with evaluation researchers and programme managers in May 2014 (Kübler et al. 2014);
- measurement of the effectiveness of Break the Chains 2015 (Frey et al. 2016).

The development process is documented in detail in a separate paper on behalf of the Surveillance Working Group and the FOPH (Frey 2016). The present report concentrates on the conclusions and achievements concerning the advancement of the "third component" of surveillance as discussed by the Surveillance Working Group at its November 2016 meeting.

Firstly, the Surveillance Working Group would like to comment that the term "third generation surveillance" causes confusion as it tends to mask the differences between surveillance, and monitoring and evaluation activities (see Rehle et al. 2004; Rugg et al. 2004; UNAIDS 2010). The members of the Working Group shared the impression that the term is not likely to be well-received by public health professionals and researchers in the field of HIV/STI. Moreover, "third generation surveillance" currently seems to be used to describe modernisation efforts that mainly concern innovation in the field of clinical surveillance (see section 2). Although one could argue that it is just a "label" and thus of secondary relevance, the term "third generation surveillance" creates unnecessary ambiguity among the involved actors with different institutional and disciplinary backgrounds.

Secondly, the Working Group acknowledges that the aim to generate better evidence on the effectiveness and efficiency of HIV/STI interventions remains crucial. The FOPH and the successor Surveillance Working Group should continue to work towards this aim.

Thirdly, the Surveillance Working Group has helped advance the measurement of the effectiveness and costs of an HIV prevention intervention – the evaluation of the Break the Chains campaign 2015 (Frey et al. 2016). These results could be used for a mathematic modelling study, and could also be used to compare effectiveness and costs with other HIV/STI prevention interventions. The future surveillance, monitoring and evaluation strategy should be informed by the following lessons learned from the evaluation of Break the Chains 2015 (see also Frey 2016):

Analysis of the implementation: The experience shows that the partner organisations involved do not routinely monitor the implementation of HIV/STI intervention(s) in a systematic and consistent manner, thereby limiting analysis of implementation success. A standard tool that collects consistent key information for each intervention could inform implementation processes on an ongoing basis by enabling early identification of issues, as well as future measurements of the effectiveness and efficiency of the intervention. The key information could comprise the frequencies of the intervention activities (service), the (estimated) numbers of persons in the target population reached by the intervention, and resources used or spent.

Analysis of the cost: Provides an economic perspective and is feasible with adequate data collection efforts. The experience shows that the organisations involved do not routinely collect information about manpower used to deliver a particular intervention. Partners implementing the HIV/STI intervention(s) might have a particular interest in monitoring their input at an individual level and thus might agree to develop and use a tool to measure this. Such data would facilitate and support future cost calculations.

Analysis of the effects: If possible, routine surveillance data collection (including behavioural surveys, the BerDa system but also the future HIV surveillance centre) should address the effects of current prevention intervention(s) with key questions. For instance, information on the reasons for HIV/STI testing should be collected more frequently to help measure the effects of a test promotion campaign. Further, the study of Break the Chains 2015 reveals that analyses of intervention coverage and outcomes by different risk profiles of the target population provide valuable insights.

While the Federal Commission for Sexual Health supported the recommendation for an integrated strategy of surveillance, monitoring and evaluation, it emphasized that any generation and analysis of evidence serve the purpose to inform HIV/STI policy. The strategy should concentrate on “evidence for action” and include mechanisms that support and strengthen the link between evidence and policy measures.

Recommendation 16
An integrated strategy of surveillance, monitoring and evaluation activities should be pursued to improve evaluation of the effectiveness and efficiency of HIV/STI interventions. The strategy needs to entail the approach of surveillance-response (“evidence for action”) and also include procedures that strengthen the link between evidence and policy measures.

7 Summary

The Surveillance Working Group elaborated the present report based on presentations and discussions at the data triangulation workshop and its meeting in November 2016. Furthermore, the Working Group was provided with background information compiled by its scientific secretariat (Frey/Sigrist 2016). The following table provides an overview of the recommendations.

Table 3: Surveillance Working Group's final recommendations

Modernisation of HIV/STI surveillance

1. The FOPH should proceed with the founding of an HIV surveillance centre and maintain surveillance of other STIs and behavioural surveillance as integral parts of surveillance.
2. To support the foundation of an HIV surveillance centre the FOPH should pursue an interim project-based cooperation with the key stakeholders.

Biological surveillance

3. Sustain existing HIV/STI surveillance capacity at the FOPH.
4. Strengthen the dissemination and publication of information from biological surveillance for HIV and other STIs, including improved timeliness.
5. The preparedness of Swiss infectious disease surveillance systems for detecting outbreaks of STIs should be reviewed and assessed in the context of emerging evidence on changing risk behaviours and, if necessary, revised.
6. Sustain data quality and maintain the existing notification obligation, in particular the clinical notification of syphilis cases.
7. Improve collection, analysis and dissemination of data on antimicrobial resistant gonorrhoea.
8. Strengthen coordination of analyses of biological surveillance and BerDa data within the FOPH.
9. The costs for HIV/STI tests should be reduced.
10. The FOPH should play a coordinating role in decisions about chlamydia screening.

Behavioural surveillance

11. Studies on behavioural surveillance for the key populations, i.e. men having sex with men, migrants coming from a country with a high HIV prevalence, sex workers, should be repeated at regular intervals.
12. Qualitative approaches should be pursued to gain a better understanding of risk perceptions, behaviours and the contexts of risk behaviours.
13. The sexual health module should be continued in future Swiss Health Surveys (SHS).
14. Data collection on sexual behaviour in the framework of prevention campaigns should aim at producing data that is usable for surveillance.

Data triangulation, accessibility and dissemination

15. The data triangulation workshops should be continued.

Advancing the measurement of effectiveness of HIV prevention

16. An integrated strategy of surveillance, monitoring and evaluation activities should be pursued to improve evaluation of the effectiveness and efficiency of HIV/STI interventions. The strategy needs to entail the approach of surveillance-response (“evidence for action”) and also include procedures that strengthen the link between evidence and policy measures.

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Table 4: Compilation of the Surveillance Working Group's recommendations on modernisation of HIV/STI surveillance

Recommendations (Surveillance Working Group 2012, 2013, 2014, 2015)		Year (number of the recommendation)	Taken up by the FOPH	Remarks
1.	The FOPH should pursue the project of an HIV surveillance centre as outlined by Dr. Somaini. – The list of key indicators for the planning and assessment of the NPHS should cover HIV and other STIs and provide information on the data sources (e.g. notification data, SHCS data, survey data) and data characteristics. – Indicators on the reasons for HIV testing, test history and other STI are important to include in the list of key indicators. – Behavioural surveillance needs to be sustained as an integral part to reach the goals of modernisation of HIV and STI surveillance.	2015 (1-4)	Not yet founded	The surveillance centre has not yet been created. The FOPH communicated at the 2016 data triangulation workshop that it is still aiming to establish an HIV surveillance centre. There are some legal, financial and government procurement issues that are difficult to solve.

Table 5: Compilation of the Surveillance Working Group's recommendations on biological surveillance

Recommendations (Surveillance Working Group 2012, 2013, 2014, 2015)		Year (number of the recommendation)	Taken up by the FOPH	Remarks
2.	Sustain the existing HIV/STI surveillance capacity of the FOPH. Establish sufficient capacity for surveillance of STIs other than HIV that allows realizing important improvements.	2012 (2a) 2013 (1) 2015 (5)	yes, but difficult to assess	The capacities for HIV/STI – personnel resources within the FOPH – have been maintained between 2012 and 2016. However, there was a shortfall of personnel due to health reasons.
3.	Strengthen the dissemination of information from biological surveillance of HIV and other STI.	2012 (3f) 2013 (10)	no	Reporting on HIV/STI case statistics was reduced to one report in the FOPH bulletin in autumn that covers the previous year (FOPH 2016a,b,d,e,k). Current trends of the ongoing year, e.g. for the first six months of the current year, are not included. Trends for the ongoing year are available on the website of the FOPH but are limited to the weekly number of notified cases (e.g. no information on transmission is available).
4.	The preparedness of Swiss infectious disease surveillance systems for detecting outbreaks of sexually transmissible infections should be reviewed and assessed in the context of emerging evidence on changing risk behaviours and, if necessary, revised.	2014 (2)	no	The FOPH considers that no changes to its surveillance systems are required, but did not provide any details on the existing provisions and how an outbreak would be detected.

Continuation Table 5

Recommendations (Surveillance Working Group 2012, 2013, 2014, 2015)		Year (number of the recommendation)	Taken up by the FOPH	Remarks
5.	Improve data quality (notification compliance).	2012 (3a) 2013 (5)	yes	The revision of the notification forms for syphilis and gonorrhoea (simplification, revision of the case definition) was implemented at the beginning of 2015 (FOPH 2016f). The HIV clinical notification from was simplified in 2015 and the revision implemented at the beginning of 2016. The FOPH produced new information material (posters, etc.) for the physicians (FOPH 2016h,i). The FOPH has provided a draft analysis concerning the return rates of laboratory and practitioners' notification forms (FOPH 2016c,g) that indicates that return rates and completeness might have increased. Further consolidated analyses are required to assess the improvements.
6.	Improve the data on antimicrobial resistant gonorrhoea.	2012 (3c) 2013 (4)	yes, but difficult to assess	The Federal Council (2015) has agreed on the Strategy on Antibiotic Resistance Switzerland (STAR) in 2015. The strategy announces eight fields of activities to achieve long-term efficacy of antibiotics. Comprehensive monitoring figures as essential component of the strategy. The Swiss Centre for Antibiotic Resistance anresis.ch was strengthened. Further, a recommendation for physicians to do a culture before any antibiotic treatment was published (Trellu et al. 2014). These cultures are necessary to detect antimicrobial resistant gonorrhoea and hence are crucial for correct treatment as well as for monitoring. Apart from that, it was difficult to obtain more detailed information on the activities of the FOPH concerning antimicrobial resistant gonorrhoea.
7.	The FOPH should assess the feasibility of collecting more objective information about the probable country of HIV infection in migrants from high prevalence countries to improve the targeting of prevention activities.	2014 (1)	yes, but analysis not yet available	The FOPH has revised the HIV physician notification form; it collects the date of entry for non-CH citizens since the beginning of 2016. Therewith, the FOPH should be able to ascertain the probable country of HIV infection.
8.	Strengthen the utilization of complementary data sources for HIV surveillance.	2012 (3d) 2013 (6, 9)	yes	The FOPH has strengthened the analyses of the data collected by the VCT-sites (BerDa Advisory guidelines and data management system for VCT centres) (FOPH 2016l).
9.	Collect information on the number of tests performed. Collect the number of laboratory tests for chlamydia.	2012 (3b) 2013 (7)	yes	The ordinance of the Federal Department of Home Affairs about the notification of infectious diseases of the 1st December 2015, enacted by 1st of January 2016, introduces an obligation for the laboratories to report the total number of positive and negative HIV, chlamydia and gonorrhoea tests.
10.	Generate better prevalence data. Initiate a discussion on the value of a general population prevalence survey.	2012 (3e) 2013 (8)	no	There are no attempts to collect better prevalence data.

Continuation Table 5

Recommendations (Surveillance Working Group 2012, 2013, 2014, 2015)		Year (number of the recommendation)	Taken up by the FOPH	Remarks
11.	The laboratory costs for HIV/STI tests should be exempted from the franchise.	2013 (3)	Yes, partially	In March 2016, the cantonal hospital of St. Gallen has set up a study named STAR-trial (**S**TI-**T**esting of **A**symptomatics at **R**isk Trial) to analyse whether routine HIV/STI-tests should be exempted from the franchise for people at risk (Vernazza 2015).
12.	Decisions about chlamydia screening should be taken at the national level.	2014 (3)	no	The FOPH states that decisions rest with the cantons.

Table 6: Compilation of the Surveillance Working Group's recommendations on behavioural surveillance

Recommendations (Surveillance Working Group 2012, 2013, 2014, 2015)		Year (number of the recommendation)	Taken up by the FOPH	Remarks
13.	Improve behavioural surveillance for migrants. The ANSWER study – survey among migrants from high prevalence countries – should be repeated at an interval of three years.	2012 (4b) 2013 (12) 2015 (6)	yes	The FOPH has commissioned the IUMSP to conduct the ANSWER (African Net Survey We Respond!) study in 2014 (Simonson et al. 2015). The FOPH has not yet decided whether the survey is repeated in 2017.
14.	Strengthen behavioural surveillance in the field of sex work.	2012 (4c) 2013 (13)	yes	The FOPH has commissioned the IUMSP to conduct the SWAN (Sex Workers ANswers) study. IUMSP has presented the findings at the data triangulation workshop, November 2016 (Lociciro 2016).
15.	The forthcoming Swiss Health Surveys (SHS) need to continue the module on sexual health. Questions about paying for sex, sexual identity and transgender, and sexual violence should be collected in future SHS.	2014 (4) 2015 (7)	yes, partially	The module on sexual health is continued in the SHS 2017. No additional questions were included on sexual health for the entire sample. It was only possible to include the question on "sexual identity" as filter question for the subgroup of respondents with no sex during life, no sex partners in the last five years and those who had same sex partners in the last five years.
16.	The behavioural data on the general population should be strengthened. The FOPH should together with the FSO consider conducting an additional population survey. If it is not possible to integrate the question on paid sex into the Swiss Health Survey, the FOPH should collect such data in a different way.	2014 (5) 2015 (7)	no	The FOPH has not yet decided to conduct an additional representative population survey to collect data on paid sex and other crucial information such as on sexual identity. However, the FOPH has commissioned sotomo to conduct an online-survey among the general population using a convenient sampling method (Hermann et al. 2016). This survey was conducted supporting the framework of the LOVE LIFE-campaign 2016, and does not relate to any past surveys on sexual behaviour of the Swiss population. It collected information on "paid sex". It is unclear whether the FOPH intends to use this survey data for surveillance purposes. Representative data on paid sex remains an important indicator for behavioural surveillance of the general population.

Continuation Table 6

Recommendations (Surveillance Working Group 2012, 2013, 2014, 2015)		Year (number of the recommendation)	Taken up by the FOPH	Remarks
17.	Strengthen the analysis on predictors of risk behaviour. Better exploration of behavioural surveillance data for analyses on the predictors of risk behaviour and for the evaluation of the effectiveness of prevention interventions.	2012 (4a) 2013 (11)	yes	The IUMSP has published various studies and reports on behavioural surveillance (see e.g. Lociciro/Bize 2015, Simonson et al. 2015). Furthermore, it contributed to the evaluation of Break the Chains 2015 (Frey et al. 2016).
18.	Behavioural surveillance (IUMSP) should take an active part in data triangulation.	2012 (4d) 2013 (14)	yes	The IUMSP has co-led the data triangulation workshops 2012-2016.

Table 7: Compilation of the Surveillance Working Group's recommendations on clinical surveillance

Recommendations (Surveillance Working Group 2012, 2013, 2014, 2015)		Year (number of the recommendation)	Taken up by the FOPH	Remarks
19.	Swiss HIV Cohort Study (SHCS) should contribute to HIV surveillance.	2012 (5a)	no	No progress has been made. The plan to create a surveillance centre could not be realized so far.
20.	Generate systematic information on the representativeness of the SHCS database.	2012 (5b) 2013 (16)	no	No progress has been made between 2012 and 2016.
21.	Initiate a study that investigates the available SHCS data on HIV positive MSM and their sexual behaviour (condom use) in relation to HIV viral load, and syphilis serology.	2013 (15)	yes, by the SHCS, but not yet available	The SHCS investigated the link between increasing rates of STIs (including syphilis) and condom less sex. The analysis was published in January 2017 (Shilaih et al. 2017).

Table 8: Compilation of the Surveillance Working Group's recommendations on data triangulation

Recommendations (Surveillance Working Group 2012, 2013, 2014, 2015)		Year (number of the recommendation)	Taken up by the FOPH	Remarks
22.	Improve the exchange of information and cooperation between the different actors in the field of surveillance. – Strengthen and sustain the efforts of data triangulation. – Data triangulation should be more systematic and disseminated more widely. – The planned HIV surveillance centre should improve the accessibility and dissemination of evidence by appropriate means (e.g. database with surveillance reports, etc.).	2012 (2b) 2013 (2) 2014 (6) 2015 (8)	yes	The Working Group has organized annual data triangulation workshops from 2012 until 2016.

Table 9: Compilation of the Surveillance Working Group's recommendations on innovation in HIV/STI surveillance and evaluation

Recommendations (Surveillance Working Group 2012, 2013, 2014, 2015)		Year (number of the recommendation)	Taken up by the FOPH	Remarks
23.	Generate better evidence on the effectiveness of HIV/STI prevention. The FOPH should commission a study on the effectiveness of Break the Chains 2015. The findings should be published in a peer-reviewed journal and used to inform prevention policy and key indicators on governance.	2013 (17) 2014 (7) 2015 (9)	yes	The main results and recommendations of the study on the effectiveness of Break the Chains 2015 were submitted to the FOPH and the Swiss Aids Federation in April 2016. A journal article on the study is being drafted and will be submitted for publication in the beginning of 2017. A separate paper on the developments and conceptual considerations of the Surveillance Working Group is being drafted and should be submitted for publication in 2017.