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Commission fédérale pour la santé sexuelle (CFSS)
Commissione federale per la salute sessuale (CFSS)
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Second Report
Surveillance Working Group
Federal Commission for Sexual Health

Daniel Kübler, Nicola Low, Herbert Brunold, Svend Capol, Jonathan Elford, Gwenda Hughes, Ying-Ru Lo, and Rolf Rosenbrock

In collaboration with

Kathrin Frey and Amanda Salamina

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Surveillance Working Group of the Federal Commission for Sexual Health
Scientific secretariat
Dr. Kathrin Frey
University of Zurich, Department of Political Science
Affolternstrasse 56, 8050 Zürich
Tel. 044 634 52 09
Email: kfrey@ipz.uzh.ch

1 Introduction

1.1 Report on the Working Group's activities 2013

In 2013, the Surveillance Working Group co-chaired the second data triangulation workshop and held a meeting for one and a half days, 22-23rd of October 2013.[1]

The second data triangulation workshop took place in Berne, 12th September 2013. The workshop was co-chaired by the Working Group (represented by Prof. Dr. Daniel Kübler and Prof Dr. Nicola Low) and the University Institute of Social and Preventive Medicine Lausanne (IUMSP, Prof Dr. Françoise Dubois-Arber). Key actors that collect and analyze surveillance data on HIV and other sexually transmitted infections (STI) as well as the main organizations involved in the planning and implementation of the National Programme on HIV and other STIs (NPHS) 2011-17 were present at the workshop. As the workshop focussed in particular on men who have sex with men (MSM), actors working in the field of HIV/STI prevention targeting MSM were also invited (e.g. actors from local aids help organisations, checkpoints). In total 24 participants attended the workshop (including the chairs and the scientific collaborators of the Surveillance Working Group).

The second data triangulation workshop concentrated on specific issues, namely MSM and antibiotic resistance in gonorrhoea, as decided at the first workshop in 2012. Additionally, the workshop informed about ongoing surveillance activities and, in particular, about the online survey on the health requirements of the Sub-Saharan African population in Switzerland.

The first half day of the October meeting was dedicated to discussing the results of the second data triangulation and recent trends in HIV/STI epidemiology. In particular, the Working Group dealt with the surveillance of antimicrobial resistant *Neisseria gonorrhoeae*. Further, Axel J. Schmidt, Federal Office of Public Health (FOPH), presented the estimation of the MSM population in Switzerland and first analyses with data collected by BerDa ("Beratungsleitfaden/ Datenverwaltung" advisory guidelines/ data management for voluntary counseling and testing sites). Pietro Vernazza, chair of the Federal Commission for Sexual Health (FCSH), also attended the afternoon meeting on the 22nd of October 2013.

The morning session of the second day, 23rd of October, was dedicated to innovations in the field of HIV/STI surveillance, more precisely to the idea of a so called "third generation surveillance". The Working Group had invited Alec Miners, a health economist from the London School of Hygiene & Tropical Medicine, to give a presentation on the issues involved in commissioning and conducting an economic evaluation in the field of HIV/STI prevention. Further, the Working Group discussed the draft tender for an economic evaluation of HIV prevention targeting MSM.[2] Roger Staub, Head of the Section Prevention and Promotion of the FOPH, attended this part of the meeting, and participated in the Working Group's discussion. This part of the meeting

[1] The scientific team of the Working Group compiled background information for the preparation of the meeting (Frey/Salamina 2013). The document also includes the results of the data triangulation workshop.

[2] The FOPH has commissioned the Department of Political Science of the University of Zürich (Prof. Dr. Daniel Kübler) to formulate a tender for an economic evaluation of HIV prevention targeting MSM.

was attended by a further guest from the FOPH (Christine Heuer, Section Evaluation and Research). Finally, the Working Group formulated the present report. The final draft of the present report was approved by the members of the Working Group via circulation.

1.2 Contents of the second Report of the Surveillance Working Group

The present report is the result of the Working Group's discussions on its meeting in October 2013. In section 2, the report presents the Working Group's interpretation of the current epidemiological trends (section 2). Thereafter, the report concentrates on the improvement of the current surveillance system for HIV and other STI in Switzerland (section 3). On the one, hand the Working Group has formulated new recommendations on the improvement of HIV/STI surveillance in taking into account current developments. On the other hand, it follows up on some of the recommendations formulated in its 2012 report. In section 4, the report presents the Working Group's discussion on the idea of a so called "third generation surveillance", in particular on economic evaluations of HIV/STI prevention in Switzerland (section 4). The report closes with a summary and the prospective future agenda of the Working Group (section 5).

2 Interpretation of the current epidemiological trends

As the number of reported new HIV diagnoses among MSM increased between 2011 and 2012 by 17% from 246 to 288 cases (FOPH 2013a: 364-5), the Federal Commission for Sexual Health (FCSH) and its Surveillance Working Group were asked by the FOPH to interpret this trend (see also FCSH 2013).

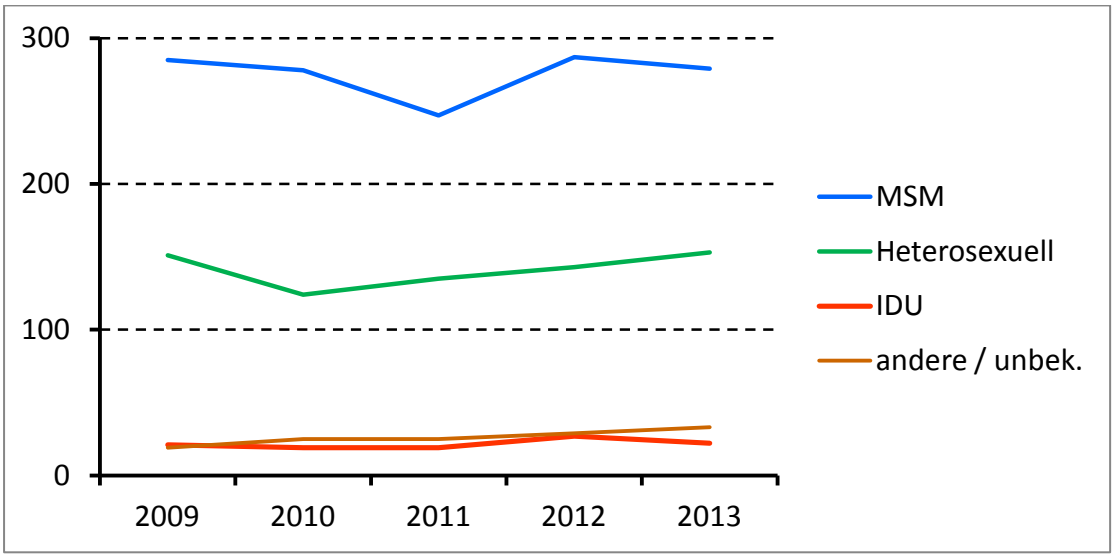
The Working Group discussed the trend in reported HIV diagnoses among men who have sex with men (MSM). Its interpretation is based on the following observations:

MSM are the group most affected by HIV infections in Switzerland: 45% of all HIV diagnoses reported in 2012 originate from this transmission group (FOPH 2013a: 364).[3] The size of this population group is currently estimated to be around 80'000 men in Switzerland (Schmidt 2013), so 288 newly diagnosed HIV infections in 2012 in this population group is a considerable number.

However, preliminary data for 2013 show that the number of reported HIV diagnoses among MSM in the period between January and August 2013 did not increase further (see Figure 1). Figure 1 and Figure 2 provide the most recent surveillance data presented by the FHOP at the data triangulation workshop in September 2013 (the number for 2013 is extrapolated to 12 months).

[3] The total number of reported new HIV diagnoses increased between 2011 and 2012 from 562 to 645 cases (FOPH 2013a). Preliminary data for 2013 show a stable trend of 660 cases (FOPH 2013b).

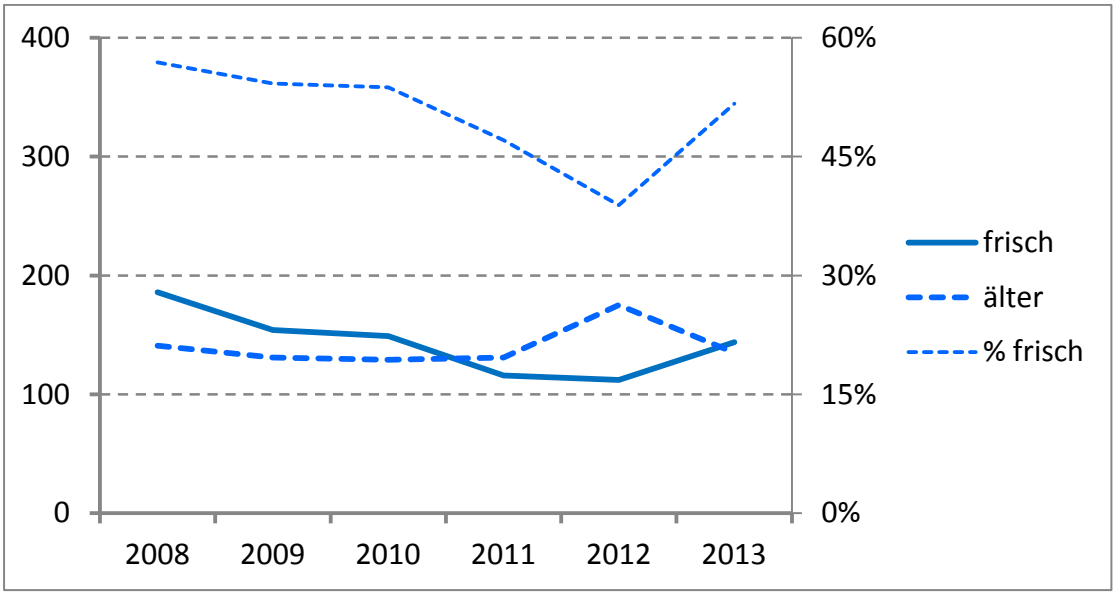
Figure 1: Number of reported HIV diagnoses among men in Switzerland by way of infection and test year



Source: FOPH (the number of cases for 2013 covers the period January to August 2013 and is extrapolated to a period of 12 months). MSM men having sex with men, IDU injecting drug users.

Figure 2 shows the proportion and the absolute number of MSM who had a recent HIV infection at the time of diagnosis. There was a decrease in the proportion of recent infections among MSM in 2012 as the number of older infection increased. The decrease in the proportion of recent infections did not continue in 2013; the proportion was similar to 2010 and 2011 (see FOPH 2013b; FCSH 2013).

Figure 2: Number of recent (=frisch) and older (=ältere) HIV infections among MSM in Switzerland.



Source: FOPH (the number of cases for 2013 covers the period January to August 2013 and is extrapolated to a period of 12 months)

The Working Group shares the opinion that this change likely reflected random variation and that overall the surveillance data show a stable trend in reported HIV diagno-

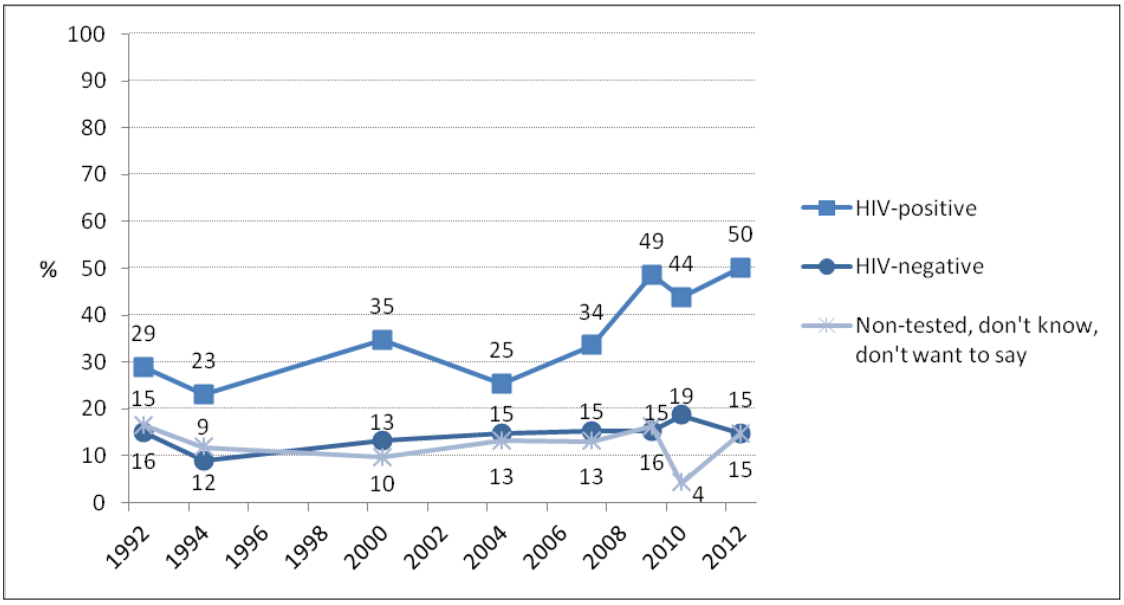
ses among MSM in Switzerland for the last five years. There is a consistent interpretation for this trend in countries such as Switzerland, the UK or the Netherlands: HIV infections seem to be driven by the fraction of undiagnosed MSM. The number of undiagnosed HIV positive MSM in Switzerland is estimated clearly at below 20% (14% in 2010 according to van Sighem et al. 2012). Further, it is assumed that this rather small group of MSM accounts for about 80% of all HIV transmissions in Switzerland (van Sighem et al. 2012).

The Working Group considered that the increase in 2012 in the reported number of HIV diagnoses among MSM should not be over-interpreted as the five years trend is stable overall. The increase in 2012 might be explained by a slight increase in testing activities. However, the absolute numbers are small and the variation in numbers of reported HIV diagnoses by year of test would not seem unexpected over the perspective of five years or more.

Further, the Working Group considered the numbers of reported HIV diagnoses in other transmission groups to be stable over the last five years. The Working Group noted that the number of HIV diagnoses among heterosexual men and women is stable in Switzerland, in contrast to many other European countries where a decreasing trend is observed. The decrease of HIV diagnoses among the heterosexual population in other European countries is consistent with a decrease in migration originating from high prevalence countries (e.g. Sub-Saharan Africa). In Switzerland, the reported 27% of HIV diagnoses in heterosexuals originating within this group of migrants (FOPH 2013a: 367) is comparably low.

Finally, the Working Group also commented on the increase in syphilis and gonorrhoea diagnoses particularly among MSM in the period 2009 to 2010. Such an increase in other STIs among MSM has been observed in other European countries (e.g. UK). However, the Working Group pointed out that further analyses and research are needed to understand these trends. Behavioural surveillance data on the risk behaviour of MSM for the same period show an increase in HIV risk exposure among HIV positive MSM (Gaysurvey, Lociciro et al. 2010, 2012, 2013a). Figure 3 presents behavioural data for the indicator "global HIV risk exposure among MSM" for the period 1992-2012 (Lociciro et al. 2013a). The indicator comprises the proportion of respondents that reported having had at least one episode of unprotected anal intercourse with a partner of different or unknown HIV-status within the last twelve months. The figure shows the proportions according to HIV status.

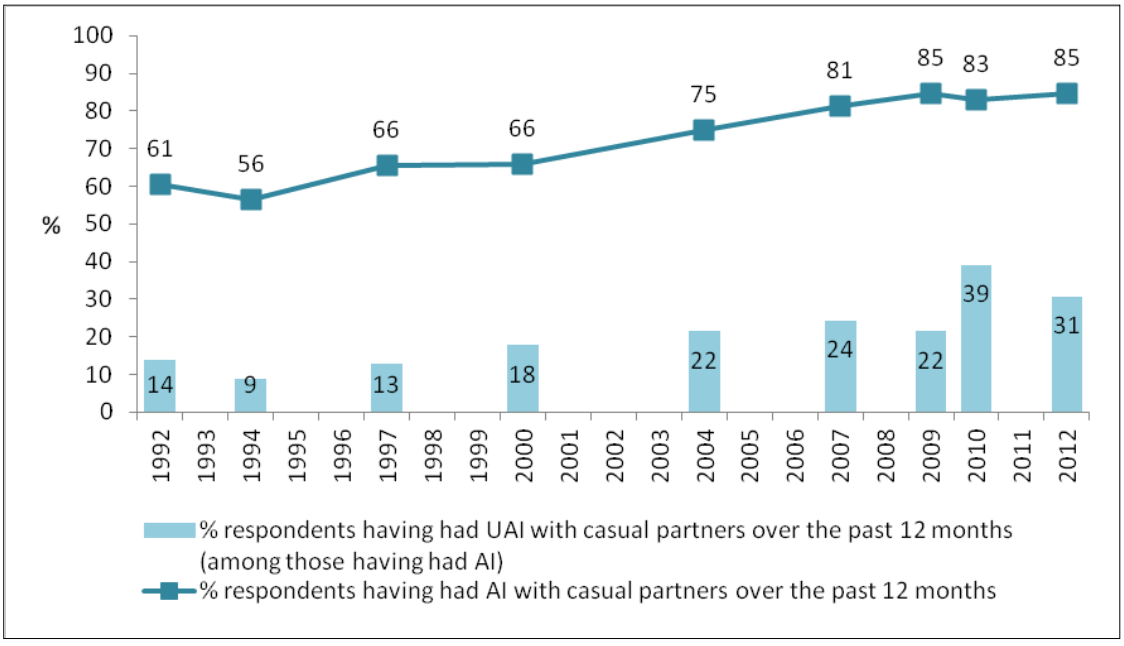
Figure 3: HIV risk exposure among MSM according to HIV status.



Source: Gaysurvey/EMIS, Lociciro et al. 2013a, slide 9. (HIV risk exposure: proportion of respondents reported having had at least one unprotected anal intercourse within the last twelve months with a partner of different or unknown HIV-status)

STI risk is also present in situation of unprotected sex with a partner of the same HIV-status. Figure 4 shows that the proportion of respondents who reported having had unprotected anal intercourse with a casual partner within the last twelve months increased between 2009 from 22% to 31% in 2012.

Figure 4: Anal intercourse (AI) and unprotected anal intercourse (UAI) with casual partners within the last twelve months.



Source: Gaysurvey/EMIS, Lociciro et al. 2013a, slide 6.

The Working Group noted that behavioural surveillance data for the years 2009, 2010 and 2012 are difficult to interpret. The report "Gaysurvey 2012" is not yet available. The Working Group was also wondering whether the different data sources (EMIS European MSM Internet Survey for 2010 and Gaysurvey for 2009/2012) are comparable without any further qualifications.

The Working Group strongly supports the need for an analysis of the available data from the Swiss HIV Cohort Study (SHCS), as suggested at the second data triangulation workshop. The SHCS data on condom use among HIV positive MSM shows a remarkable decrease of condom use with stable and occasional partners since 2009 (Rickenbach 2013). As the SHCS routinely performs syphilis serology, an analysis should investigate whether there is an association between those MSM who are not using condoms and those who are exposed to syphilis (see section 3.4, recommendation 15).

3 Follow-up on the improvements of HIV/STI surveillance

3.1 General recommendations for HIV/STI surveillance

The Working Group recommended in 2012 report the need to maintain existing HIV/STI surveillance capacity and to strengthen the efforts of information exchange, cooperation and data triangulation in the field of HIV/STI surveillance. The Working Group observed variable progress in these respects.

Recommendation 1:
Establish sufficient capacity for surveillance of STIs other than HIV that allows realizing important improvements.

The Working Group is concerned about the existing capacity of the FOPH for surveillance of other STIs. As we will outline below, some efforts to improve the quality of biological STI surveillance have taken place but important, improvements planned by the FOPH have been delayed (e.g. revision of the syphilis notification forms to improve the quality of clinical information). Therefore, the Working Group recommends adequate surveillance capacity for STIs other than HIV to allow the recommended improvements to be completed.

Recommendation 2:
Strengthen and sustain the efforts of data triangulation.

The Working Group shares the opinion that the exchange of information, cooperation and data triangulation in the field of HIV/STI surveillance has increased. The Working Group was impressed by the attendance and results of the second data triangulation workshop in September 2013. The annual workshop on data triangulation appears to fulfil a need of HIV/STI surveillance data analysts as well as of the actors involved in the planning and implementation of the National Programme on HIV and other STI (NPHS).

The Working Group shares the opinion that the workshops discussions were stimulating and fruitful. The decision to concentrate on a few specific topics seems to be a valuable strategy for allowing more in depth triangulation and interpretation of available surveillance data. The results of the data triangulation workshop served as key inputs for the Working Group's discussions. The Working Group summarizes the key results of the data triangulation workshop 2013 as follows:

- The workshop highlighted some potential inconsistencies between different sources of surveillance data on HIV-testing and risk behaviour among HIV positive MSM. These findings point to important topics for further analyses.
- The workshop discussions clearly endorsed need for antimicrobial resistance monitoring for *Neisseria gonorrhoeae*. It is likely that the diagnosis of reduced antimicrobial susceptibility in Switzerland is being hampered by the costs of laboratory tests. An individual patient with a high franchise has to pay for these tests, even though the benefit of the tests is more for public health surveillance rather than individual patient benefit.

Based on the promising results of the workshop, the Working Group recommends strengthening and sustaining data triangulation efforts.

3.2 Biological surveillance

Biological surveillance forms the essential basis of surveillance of HIV and STI. High quality data on HIV and STI cases in Switzerland are fundamental for any public health action in this field. Therefore, the Working Group encourages the FOPH to take the necessary steps to improve data quality.

In the following, the Working Group strongly endorses the exemption of HIV/STI tests from the franchise in order to establish effective antimicrobial resistance monitoring for *N. gonorrhoeae*. Thereafter, the Working Group provides further arguments and information on recommendations formulated in its first report.

Recommendation 3:
The laboratory costs for HIV/STI tests should be exempted from the franchise.

The threat of spreading antimicrobial resistant *N. gonorrhoeae*, the revised epidemic law and the successful promotion of HIV testing among MSM in spring 2013 require a change in the health insurance costs regime of HIV/STI testing in Switzerland.

First, the Working Group re-emphasizes its concerns about the spread of antibiotic resistant *N. gonorrhoeae*. The ability of *Neisseria gonorrhoeae* to successively develop resistance to different antibiotics is of global concern and has hampered control efforts. In response, the WHO (2012a) has published a global action plan to control the spread and impact of antimicrobial resistance in *N. gonorrhoeae*, which includes strengthening surveillance as a key recommendation (see also ECDC 2013d).

While the Working Group acknowledges that FOPH is working together with other relevant national partners on a national strategy on antimicrobial resistances in Switzerland, it takes the opportunity to highlight that the surveillance of antimicrobial resistant *N. gonorrhoea* is hampered by monetary disincentives of the health insurance system at the individual level. Currently, clients with a high franchise have to pay for

the full costs of laboratory HIV/STI tests. In cases in which antimicrobial resistance testing will not alter the clinical management, patients are reluctant to undergo costly tests. Anecdotal experiences from HIV/STI testing sites show that counsellors have to discuss the costs and benefits of the tests with their clients (e.g. young MSM with a high franchise) in order to find out what they are willing to pay or what they can afford. The routine collection of data from laboratory tests for antimicrobial susceptibility in *N. gonorrhoeae* is limited because fewer laboratory tests are being done. The Working Group and the participants of the data triangulation workshop share the opinion that clients should not have to pay for laboratory tests whose main purpose is surveillance and that surveillance is a core public health task.

Second, Swiss citizens accepted the revision of the law on epidemics in a referendum in September 2013. One of the main reasons for the revision was that the new law provides the legal bases for the development and implementation of national programmes in the area of antimicrobial resistance. The exemption of costs of laboratory HIV/STI tests from the franchise will contribute to the implementation of the revised law.

Finally, the Working Group noted the success of the campaign "Break the Chains" to promote testing uptake among MSM with vouchers for HIV tests. Vouchers were distributed during the campaign in April 2013 and could be used at Checkpoint clinics (target group specific voluntary counselling and testing sites) in May 2013. The available data shows a distinct peak in the number of HIV tests performed by these sites (May 2013: 600 HIV tests compared to an average of approx. 300 tests per month). The Working Group shares the opinion that these data indicate the campaign's success in test promotion and support the concern that there are monetary disincentives to undergoing an HIV test under normal conditions. This problem was highlighted in previous expert reports. The international panel of experts chaired by Prof. Rolf Rosenbrock stated that the current testing costs policy "undermines the public health imperative and the priorities of prevention" (Rosenbrock et al. 2009: 23). Further it emphasized that the Swiss cost regime of HIV/STI testing differs substantially from well established practices in other countries. The panel recommended that HIV/STI testing should be free of charge or at lowest possible cost.

The Surveillance Working Group concludes that there are important reasons to change the current practices and exempt the testing costs from the franchise. The Working Group is convinced that a coherent policy aiming to prevent the spread of HIV/STI requires such a change. Further, there are other areas where such a change was implemented successfully (e.g. measles elimination programme).

Therefore, the Working Group recommends the FCSH to formulate a letter to the FOPH in which such a change is recommended, outlining the reasons why HIV/STI testing should be released from the franchise.

Recommendation 4:
Increase the number of laboratories contributing to surveillance by the Swiss Centre for Antimicrobial Resistance to improve the data on antimicrobial resistant gonorrhoeae.

The Working Group agrees that the surveillance of antimicrobial resistant *N. gonorrhoeae* should be part of the national strategy on antimicrobial resistance. The Working Group emphasizes the need for experts developing the national strategy to take into account current weaknesses in data about antimicrobial resistant *N. gonorrhoeae*.

The Swiss Centre for Antimicrobial Resistance coordinates anresis (www.anresis.ch). This project is a national network that covers a considerable range of pathogens and antimicrobials and has received funding from many sources including the Swiss National Science Foundation, the FOPH and the University of Bern (Low et al. 2013, www.anresis.ch). The laboratories contributing to anresis cover most inpatient settings but fewer outpatient settings. Laboratories serving STI clinics are therefore likely to be under-represented. In addition, laboratories use different criteria to define antimicrobial resistance, and do not collect absolute levels of minimum inhibitory concentrations which are essential for monitoring emerging resistance.

Therefore, the Working Group recommends that the FOPH should motivate additional laboratories, and specifically those which serve STI clinics, to participate in anresis.

Recommendation 5:
Improve data quality (notification compliance)

The Working Group acknowledged in its last report the well-known problems with completeness of supplementary notifications by physicians (further information on data quality problems are referred to in our 2012 report). It recommended that the revision of the form for syphilis notification should be prioritised, but the notification of HIV and gonorrhoea should be simplified too.

The Working Group acknowledges that there has been a promising start of the revision of the syphilis notification from. The revision process has been set up and a working group has met once in spring 2013. The Working Group is concerned about the delay in this revision process. Other important issues such as the simplification of the notification of HIV and gonorrhoea have not progressed.

The Working Group strongly encourages the FOPH to take the necessary steps to complete the work to improve data quality (see also recommendation 1).

Recommendation 6:
Better exploration of existing data sources on HIV testing activities and improve knowledge on the limitations of these data sources.

The discussions on the second data triangulation workshop in September 2013 highlighted again the benefits of having information on the total number of HIV/STI tests performed. Such information is needed to better interpret trends in the number of newly diagnosed HIV/STI infections.

The available data on HIV testing among the MSM population collected with BerDa and Gaysurvey present some inconsistencies. While Gaysurvey presents a rather stable trend in HIV testing uptake among MSM (Lociciro et al. 2013a) the data collected with BerDa shows an increasing trend (Schmidt et al. 2013, Schmidt 2013).

The Working Group discussed different ways of collecting better information on HIV/STI testing activities in Switzerland. However, it concluded that there are no reasonable ways to generate better data on HIV testing activities at present. Laboratory data on the number of HIV tests would not include the number of performed HIV rapid tests. Such tests are routinely used in voluntary counselling and testing sites but do not involve laboratories in case of negative results. The test sales do not provide very meaningful information either, as the number of HIV tests performed in at-risk population groups may be rather small. Changes in test uptake among MSM are not likely to be detectable in the overall numbers of HIV test sales.

Therefore, the Working Group recommends better exploration of existing data sources (e.g. BerDa, Gaysurvey) in order to improve the knowledge on HIV testing behaviour. The use of BerDa by test sites should be promoted in order to increase BerDa coverage. The knowledge on the limitations of those data sources should be improved.

Recommendation 7:
Collect the number of laboratory tests for chlamydia.

The Working Group re-emphasizes that the number of tests is particularly important for chlamydia as trends in diagnosis are highly dependent on underlying testing patterns and, as in the last year's report, recommends: The collection of the total number of tests performed (broken down by gender and age) for chlamydia is an absolute necessity and should be initiated.

Recommendation 8:
Initiate a discussion on the value of a general population prevalence survey.

The Working Group takes the opportunity to further substantiate the need for (better) prevalence data. A prevalence survey based on a representative sample of the general population would provide gold standard data about the prevalence of asymptomatic STI that are common in the general population. Such data are essential for reliably quantifying the extent of the public health problem. A population prevalence survey provides data on the frequency and distribution of asymptomatic STI in a defined group of population together with socio-demographic and behavioural information. This information allows targeting prevention interventions towards the most at-risk populations and can inform decisions on resource allocation.

Further, prevalence data can help to quantify and ascertain the direction of biases in other types of surveillance data. The limitations of non-random, non-representative samples of biological and behavioural routine surveillance data are an ongoing theme in discussions and analyses that aim to better understand HIV/STI epidemics.

The Working Group acknowledges the high cost and logistic difficulties of population prevalence surveys. It shares the opinion that the generation of such prevalence data is a research task and a long term endeavour. Nevertheless, the Working Group en-

courages the FOPH to launch the discussion of establishing such a gold standard database for STIs (e.g. as a National Research Programme funded by the Swiss National Science Foundation). Thereby, the Working Group refers in particular to research programmes established in the UK (Natsal The National Survey on Sexual Attitudes and Lifestyles www.natsal.ac.uk). The main results of the third survey round (surveys conducted in 1990, 2000 and 2010) will be published in the Lancet in November 2013.

Recommendation 9:
Strengthen the utilization of complementary data sources for HIV surveillance.

The Working Group appreciated the advancements in exploring the data gathered with BerDa that were presented at the data triangulation workshop by collaborators of the FOPH and the IUMSP. Further, the Working Group appreciated the presentation by Axel J. Schmidt, FOPH, during its meeting. The Working Group welcomes the FOPH's initiative to estimate the size of the MSM population and its geographical distribution in Switzerland. The Working Group encourages continuing this work and advancing the estimation with more sophisticated statistical approaches that better take into account data uncertainties. Further, it recommends using the forthcoming data from the Swiss Health Survey 2012 for further validating the estimation.

Recommendation 10:
Strengthen the dissemination of information from biological surveillance of HIV and other STI.

The Working Group shares the opinion that the data triangulation workshop is an encouraging step to improve the information exchange and common interpretation of data among the data analysts and the actors involved in the planning and implementing of the national HIV/STI programme. However, an important group of actors, the general practitioners, who collect biological surveillance data, are not involved in these activities and should be reached by other information channels.

The Working Group re-emphasizes that is important to inform those who collect the data how the data is used and what it helped to improve. Therefore the Working Group recommends improving the feedback and dissemination of surveillance information particularly to those who are crucial in providing/maintaining surveillance data.

3.3 Behavioural surveillance

The Surveillance Working Group shares the opinion that behavioural surveillance has progressed in key areas. Therefore, the Working Group highlights progress and emphasizes further improvements.

Recommendation 11:
Better exploration of behavioural surveillance data for analyses on the predictors of risk behaviour and for the evaluation of the effectiveness of prevention interventions.

The Working Group re-emphasizes that it is important to analyze the social and individual conditions of risk behaviour in various at-risk populations. Such analyses can essentially contribute to the improvement of primary prevention, access and quality of

testing and treatment. Therefore, the Working Group states again that behavioural surveillance should aim to improve knowledge on the predictors of risk behaviours.

The Working Group suggests reviewing the usefulness of the contents (indicators) of existing behaviour surveillance as a next step in order to strengthen this approach. The review should highlight the usefulness of existing indicators for both analyses on the predictors of risk behaviours as well as for the evaluation of the effectiveness of prevention interventions. The review should also point out whether some particular indicators (questions) should be integrated in surveys done for the purpose of behavioural surveillance in order to strengthen this track of analyses. The Working Group is aware that the possibility of behavioural surveillance to contribute to this track of analyses is limited as behavioural surveillance is based on repeated cross-sectional surveys. However, it is important that the potential, though limited, is fully exploited in order to improve policy relevant evidence. Behavioural surveillance data should be used more systematically to improve knowledge and hypotheses on the predictors of risk behaviour in various at-risk populations and on the effectiveness of prevention interventions.

Recommendation 12:
Improve behavioural surveillance for migrants.

The Working Group acknowledges that the IUMSP is currently conducting a survey about the health needs of the Sub-Saharan African population in Switzerland (ANSWER African Net Survey WE Respond; http://afric-answer.weebly.com/; Dubois-Arber 2013). The survey aims to establish a baseline for surveillance in this population and to test the feasibility of such an Internet based survey (questionnaire in seven languages). The Working Group acknowledges in particular that the survey is conducted with a broad approach and uses multiple points of access to this target group. It is central that the participation in the survey is not only promoted by flyers at places visited by the target group, but also involves personal mobilization by people working with/ being part of this population.

Therefore, the Working Group emphasizes to further follow this promising approach of data collection and is looking forward to discuss the results of the survey at its next meeting in autumn 2014.

Recommendation 13:
Strengthen behavioural surveillance in the field of sex work.

In contrast to behavioural surveillance among migrants from high prevalence countries, the data collection in the field of sex work has not progressed substantially. Meanwhile the concerns of the Working Group have even been reinforced based on newly available data: The national youth survey CH-X conducted in 2010-2011 collected data on "paid sex" in asking the participants if they have paid for sex at least once during their life. The researchers conclude (Jeannin et al. 2013: 857): "Enfin, on constate une forte augmentation récente (en 2010-2011) de la proportion d'hommes (mais pas de femmes) déclarant avoir eu recours comme client au sexe tarifé au moins une fois au cours de leur vie." The data from Gaysurvey 2012 (Lociciro et al. 2013a) also shows an increase of the proportion of MSM that have paid for sex at least one during their life.

Therefore, the Working Group re-emphasizes the relevance of updated, representative information on the prevalence of paying for sex in the general population. It is crucial that the next Swiss Health Survey 2017 includes a question on paid sex. The existing barriers for the inclusion of such a question seem to be strong and need to be resolved at the political level. Surveillance practices in Switzerland and elsewhere have consistently demonstrated that such questions were successfully asked in population surveys (cf. Jeannin et al. 2010, 2013). Thus, there are no grounds to omit such questions in population based surveys from a scientific perspective. In contrast, data on the prevalence of paying for sex in the general population and on sex work clients essentially contributes to the development and planning of interventions in the field of HIV/STI prevention. Prevention specialists articulated their information needs repeatedly at the national workshop "data triangulation in the field of HIV/STI" in 2012 and 2013.

Recommendation 14:
Behavioural surveillance (IUMSP) should maintain and strengthen its efforts in data triangulation.

The Surveillance Working Group appreciated that the IUMSP co-chaired the data triangulation workshop together with the Working Group. Further, the IUMSP is also developing tools to better use the potential of the data collected by BerDa and has used data from biological and behavioural surveillance as well as from the Swiss HIV Cohort Study for the evaluation of "Break the Chains" 2012 (Lociciro et al. 2013b). The Working Group acknowledges these efforts of the IUMSP to strengthen data triangulation and recommends maintaining and strengthening these efforts.

3.4 Clinical information on HIV/STI

The Working Group has not progressed much the discussion on the role the Swiss HIV Cohort Study (SHCS) for surveillance.

Recommendation 15:
A study should be initiated 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.

It re-emphasizes that it strongly encourages exploring the potentials of the SHCS to contribute to HIV and STI surveillance. It appreciates that SHCS participated and presented relevant data at the triangulation workshop. As outlined in the second section of this report, the Working Group recommends performing the analysis that was suggested at the triangulation workshop. The SHCS data provides the opportunity to perform such an analysis with syphilis serology. The Working Group is aware that the SHCS data has in particular two limitations: The numbers of cases (incidence of syphilis) is rather low. Second, the behavioural data of the SHCS is not collected anonymously and thus they are likely to be biased (social desirability). Nevertheless, the Working Group shares the opinion that a study should investigate whether reduced condom use in that HIV positive MSM impacts on the transmission of other STIs.

Recommendation 16:
Generate systematic information on the representativeness of the SHCS database.

Additionally, the Working Group noted that no progress has been reached to assess the representativeness of the SHCS database. As the Working Group shares the opinion that this is an important issue, it maintains its recommendation that new ways to systematically match biological surveillance data and SHCS data should be explored.

4 Innovation in HIV/STI surveillance and evaluation

The Working Group furthered its discussion on innovations in HIV/STI surveillance and evaluation. Thereby, it concentrated on issues of an economic evaluation of HIV/STI prevention in Switzerland.

The Working Group deals with these issues because the NPHS 2011-2017 introduces the idea of a so called "third generation surveillance" that aims to include – besides biological and behavioural surveillance – the monitoring of individual prevention and care services as well as cost/benefit analysis of specific measures, instruments, and campaigns into the HIV/STI surveillance system (FOPH 2010). This provisional concept emphasizes the importance of information on the effectiveness and efficiency of prevention interventions.

The Working Group emphasizes that it does not intend to abandon the existing concept of second generation surveillance. In contrast, it aims to support the development of innovative extensions that are not made at the expenses of the existing surveillance system.[4]

In order to explore the possibility to generate economic information about HIV/STI prevention, the FOPH commissioned a feasibility study for an economic evaluation of HIV/STI prevention (Frey et al. 2013). Based on the findings of the economic evaluation, the authors of the feasibility study drafted a tender for an economic evaluation of HIV prevention targeting MSM. The Working Group had invited Dr. Alec Miners, health economist from the London School of Hygiene & Tropical Medicine, to contribute to the discussion on how to commission and conduct an economic evaluation in the field of HIV/STI prevention. The contribution of Alec Miners was very stimulating and showed that the aim and scope of the envisaged economic evaluation of HIV prevention targeting MSM are underspecified. Dr. Miners pointed out that it is important to define the main comparators (i.e. intervention alternatives) before any evaluation can begin. Further, he highlighted that an economic evaluation usually does not include primary data collection. Thus, the effectiveness of HIV/STI prevention interventions needs to be measured before conducting an economic evaluation.

The Working Group shared the opinion that evidence on the effectiveness of HIV prevention intervention targeting MSM needs to be improved in order to be able to perform an economic evaluation. Thus, it recommends postponing the economic evalua-

[4] The Working Group's background information for its third meeting (Frey/Salamina 2013) provides an attempt to better define "surveillance" and "surveillance system" that is presented in the appendix of this report.

tion and first generating better data on the effectiveness of HIV prevention intervention targeting MSM. The discussion on causal models, variables and indicators as well as on study designs (e.g. controlled trials, cohort study on gay men's health) showed that there is no consensus on how to conceptualize and how to measure the effectiveness of HIV prevention interventions.

The Working Group agrees that the effectiveness measures should be improved in order to be usable for a dynamic model of HIV transmission respectively an economic evaluation.

Recommendation 17:
Generate better evidence on the effectiveness of HIV/STI prevention.

5 Summary and prospects

The Working Group formulated the present report on the bases of the presentations and the discussions on its meeting in October 2013. Its discussions were informed by the scientific background information provided by the research team of the University of Zurich (Frey/Salamina 2013) and the results of the second data triangulation workshop.

The Working Group commented the trend in the number of reported new HIV diagnoses among MSM and shares the opinion that surveillance data show a stable trend in reported HIV diagnoses among MSM in Switzerland for the last five years. In contrast, the Working Group pointed out that further analyses and research is need to understand the trends in syphilis and gonorrhoeae diagnoses among MSM.

The Working Group has observed variable progress with respect to the recommendations formulated in its 2012 report. Therefore, the Working Group has re-emphasized some of its recommendations of the last year's report. Additionally, the Working Group formulated new recommendations on the improvement of HIV/STI surveillance in taking into account current developments (recommendation 15).

The members of the Working Group consider that improvements in biological HIV/STI surveillance should enjoy high priority. The Working Group shares the opinion that is important to establish sufficient capacity for biological surveillance of STIs other than HIV that allows realizing important improvements (recommendations 1, 4, 5, 7). The Working Group is convinced that a coherent policy aiming to prevent the spread of HIV/STI requires a change in the health insurance costs regime of HIV/STI testing in Switzerland (recommendation 3). The threat of spreading antimicrobial resistant N. gonorrhoeae, the revised epidemic law and the successful promotion of HIV testing among MSM in spring 2013 call for the exemption of HIV/STI tests from the franchise. Additionally, the Working Group emphasizes that evidence on the effectiveness of HIV prevention intervention needs to be improved in order to be able to perform an economic evaluation (recommendations 11 and 17).

Overview: Recommendations of the Surveillance Working Group

General recommendations for HIV/STI surveillance

1. Establish sufficient capacity for surveillance of STIs other than HIV that allows realizing important improvements.
2. Strengthen and sustain the efforts of data triangulation.

Recommendations for biological surveillance

3. The laboratory costs for HIV/STI tests should be exempted from the franchise.
4. Improve the data on antimicrobial resistant gonorrhoeae.
5. Improve data quality (notification compliance)
6. Better exploration of existing data sources on HIV testing activities and improve knowledge on the limitations of these data sources.
7. Collect the number of laboratory tests for chlamydia.
8. Initiate a discussion on the value of a general population prevalence survey.
9. Strengthen the utilization of complementary data sources for HIV surveillance.
10. Strengthen the dissemination of information from biological surveillance of HIV and other STI.

Recommendation for behavioural surveillance

11. Better exploration of behavioural surveillance data for analyses on the predictors of risk behaviour and for the evaluation of the effectiveness of prevention interventions.
12. Improve behavioural surveillance for migrants.
13. Strengthen behavioural surveillance in the field of sex work.
14. Behavioural surveillance (IUMSP) should maintain and strengthen its efforts in data triangulation

Recommendation for clinical information

15. 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.
16. Generate systematic information on the representativeness of the SHCS database

Recommendation for innovation in HIV/STI surveillance and evaluation

17. Generate better evidence on the effectiveness of HIV/STI prevention.

New recommendations that were not part of the last report are printed in red.

The Working Group is looking forward to continue its work. It plans to meet next autumn 2014 to discuss newest trends and developments in the field of HIV and STI surveillance. The Working Group plans to further its discussions on international strategies in the field of HIV/STI surveillance. The following topics currently enjoy some popularity and will stimulate the Working Group's future efforts to improve HIV/STI surveillance in Switzerland:

- *STI surveillance:* Guidelines about strategies and laboratory methods for strengthening STI surveillance (WHO/UNAIDS 2012); antimicrobial resistance monitoring (particularly for *N. gonorrhoeae*, see also the assessment by the ECDC 2013d); prevalence approach (Fan 2013).
- *Tuberculosis - HIV:* Collaboration between HIV and TB programs, integrated services (e.g. incorporation of tuberculosis screening in HIV tests and HIV surveillance is discussed, WHO 2012c, ECDC/WHO 2013).

- *Improvements of the surveillance among population most at risk for HIV:* General guidelines (WHO/UNAIDS 2011a; 2010) migrants (ECDC 2013c), MSM (ECDC 2013b).
- *Surveillance and monitoring HIV drug resistance:* Development and implementation of a global strategy, WHO (2012a).
- *HIV surveillance:*
  - Guidelines for second generation HIV surveillance, an update: Know your epidemic (WHO/UNAIDS 2013a);
  - Use of assays for recent infection to estimate HIV incidence at a population level (WHO/UNAIDS 2011b);
  - Paediatric HIV surveillance among infants and children (WHO/UNAIDS 2013b).

If possible the Working Group will hold its meeting directly after the data triangulation workshop in order to have the possibility that some of its members join the workshop.

6 References

CAREC Caribbean Epidemiology Centre (2002): Guidelines for Upgrading of HIV/AIDS/STI Surveillance in the Caribbean. Port of Spain: CAREC.

CDC Center for Disease Control and Prevention (2013): Statistics Center, online available at http://www.cdc.gov/hiv/statistics/index.html (last visited 3rd June 2013).

Dubois-Arber, Françoise (2013): ANSWER (African Net Survey WE Respond). Une enquête sur les besoins de santé des populations d'Afrique sub-saharienne (SSA) vivant en Suisse. Presentation at the 2nd data Triangulation Workshop, 12.09.2013, Bern.

Dubois-Arber, Françoise, André Jeannin, Brenda Spencer, Jean-Pierre Gervasoni, Bertrand Graz, Jonathan Elford, Vivian Hope, France Lert, Helen Ward, Mary Haour-Knipe, Nicola Low, Marita van de Laar (2010): Mapping HIV/STI behavioural surveillance in Europe. BMC Infectious Diseases, 10:290.

ECDC European Center for Disease Prevention and Control (2013a): Surveillance objectives, online available at: http://www.ecdc.europa.eu/en/activities/surveillance/legal_framework_strategy/Pages/surveillance_objectives.aspx (last visited 19 July 2013).

ECDC European Center for Disease Prevention and Control (2013b): STI and HIV prevention in men who have sex with men in Europe. Stockholm: ECDC.

ECDC European Center for Disease Prevention and Control (2013c): Responses to HIV and migration in western industrialised countries: current challenges, promising practices, future directions. Stockholm: ECDC.

ECDC European Center for Disease Prevention and Control (2013d): Gonococcal antimicrobial susceptibility surveillance in Europe 2011. Stockholm: ECDC.

ECDC/WHO European Center for Disease Prevention and Control and World Health Organization (2013): Tuberculosis surveillance and monitoring in Europe. Stockholm: ECDC.

Fan, Mary D. (2012): Decentralizing STD Surveillance: Toward Better Informed Sexual Consent. *Yale Journal of Health Policy, Law, and Ethics* 12(1): 1-38.

FOPH Federal Office of Public Health (2010): National Programme on HIV and other STI (NPHS) 2011-2017. Bern: FOPH.

FOPH Federal Office of Public Health (2012): HIV and STI case numbers 2011: reporting, analyses and trends. Bern: FOPH.

FOPH Federal Office of Public Health (2013a): HIV- und STI-Fallzahlen 2012: Berichterstattung, Analysen und Trends. Bulletin Bundesamt für Gesundheit 2013/22: 363-382.

FOPH Federal Office of Public Health (2013a): HIV- und STI im Jahr 2013: Trends im ersten Halbjahr. Bulletin Bundesamt für Gesundheit 2013/47: 847-847.

FCSH Federal Commission of Sexual Health (2013): Provisorische Beurteilung der HIV-Fallzahlen 2012 durch die EKSG. Bern: FCSH.

Frey, Kathrin, Christopher Goodman, Thomas Widmer and Daniel Kübler (2013): Feasibility study for an economic evaluation of prevention measures in the field of HIV and STI. Zurich: Department of Political Science, University of Zurich.

Frey, Kathrin and Amanda Salamina (2013): Swiss HIV/STI surveillance. Background information for the third meeting of the Working Group on "HIV&STI Surveillance 2012-2015". Unpublished, working document. Zurich, Department of Political Science, University of Zurich.

Garcia-Abren, Anabela, William Halperin and Isabella Danel (2002): Public Health Surveillance Toolkit. A guide for busy task managers. Washington: World Bank.

Jeannin, André, Giovanni Meystre-Agustoni, Stéphanie Lociciro, et Françoise Dubois-Arber (2010): Monitoring der Schweizer Präventionsstrategie gegen HIV/Aids. Synthesebericht 2004-2008. Lausanne: Institut universitaire de médecine sociale et préventive (Raisons de santé, 155b).

Jeannin, André, Stéphanie Lociciro, et Françoise Dubois-Arber (2013): Monitorage du comportement sexuel et de l'utilisation du préservatif chez les jeunes de 18 à 20 ans. Bulletin de l'office fédéral de la santé publique 2013/47: 855-856.

Lociciro, Stéphanie, André Jeannin, et Françoise Dubois-Arber (2010): Les comportements face au VIH/SIDA des hommes qui ont des relations sexuelles avec des hommes. Résultats de Gaysurvey 2009. (Raisons de santé 163). Lausanne: Institut universitaire de médecine sociale et préventive.

Lociciro, Stéphanie, André Jeannin, et Françoise Dubois-Arber (2012): Les hommes qui ont des relations sexuelles avec des hommes. Résultats de l'enquête EMIS 2010. (Raisons de santé 194). Lausanne: Institut universitaire de médecine sociale et préventive.

Lociciro, Stéphanie, André Jeannin and Françoise Dubois-Arber (2013a): Men who have Sex with Men: National trends in sexual behaviour. Presentation at the 2nd data Triangulation Workshop, 12.09.2013, Bern.

Lociciro, Stéphanie, André Jeannin and Dubois-Arber Françoise (2013b): Evaluation de la campagne break the chain 2012. Rapport final. (Raisons de santé 210). Lausanne: Institut universitaire de médecine sociale et préventive.

Schmidt, Axel J. (2013): The Denominator Problem. How many men in Switzerland have sex with men, and how do they geographically distribute? Presentation at the 2nd data Triangulation Workshop, 12.09.2013, Bern.

Schmidt, Axel J., Steven Derendinger, Matthias Gnädinger, Markus Stratmann und Roger Staub (2013): Positive Predictive Value and (cost)effectiveness of HIV-testing at Swiss VCT-sites. An evaluation of the Internet tool BerDa, 2008-2012. Poster presented at the Deutsch-Österreichischer AIDS-Kongress DÖAK 2013.

Rickenbach, Martin (2013): Sexual behaviour of MSM living with HIV: new data from the Swiss HIV Cohort Study. Presentation at the 2nd data Triangulation Workshop, 12.09.2013, Bern.

RKI Robert Koch Institut (2013): Surveillance, online available at http://www.rki.de/DE/Content/Institut/OrgEinheiten/Abt3/FG32/fg32_org.html (last visited 5th June 2013).

Rosenbrock, Rolf, Calle Almedal, Jonathan Elford, Daniel Kübler, France Lert and Srdan Matic in collaboration with Larissa Plüss, Kathrin Frey and Axel J. Schmidt (2009): Review of the Swiss HIV Policy by a Panel of International Experts. Report on behalf of the Swiss Federal Office of Public Health. Horgen: Syntagma GmbH.

UNAIDS Joint United Nations Programme on HIV/AIDS (2010): Basic Terminology and Frameworks for Monitoring and Evaluation. Geneva: UNAIDS

Van Sighem, Ard, Beatriz Vidondo, Tracy R. Glass, Heiner C. Bucher, Pietro Vernazza, Martin Gebhardt, Frank de Wolf, Steven Derendinger, André Jeannin, Daniela Bezember, Christophe Fraser, Nicola Low, the Swiss HIV Cohort Study (2012): Resurgence of HIV Infection among Men Who Have Sex with Men in Switzerland: Mathematical Modelling Study. PLoS ONE (7); e44819.

Von Stokar, Thomas, Anna Vettori and Juliane Fliedner (2012): Evaluation des obligatorischen Meldesystems übertragbarer Krankheiten. Schlussbericht vom 26. April 2012. Zürich: INFRAS.

WHO World Health Organization (2012a): Global action plan to control the spread and impact of antimicrobial resistance in Neisseria gonorrhoeae. Geneva: WHO. http://whqlibdoc.who.int/publications/2012/9789241503501_eng.pdf

WHO World Health Organization (2012b): World Health Organziation Global Strategy for the Surveillance and Monitoring of HIV Drug Resistance. Geneva: WHO.

WHO World Health Organization (2012c): WHO policy on collaborative TB/HIV activities. Guidelines for national programmes and other stakeholders. Geneva: WHO.

WHO/UNAIDS World Health Organization and Joint United Nations Programme on HIV/AIDS (2000): Guidelines for Second Generation HIV Surveillance.

WHO/UNAIDS World Health Organization and Joint United Nations Programme on HIV/AIDS (2002): Initiating second generation HIV surveillance systems: practical guidelines.

WHO/UNAIDS World Health Organization and Joint United Nations Programme on HIV/AIDS (2010): Guidelines on estimating the size of populations most at risk to HIV. Geneva: WHO.

WHO/UNAIDS World Health Organization and Joint United Nations Programme on HIV/AIDS (2011a): Guidelines on surveillance among populations most at risk for HIV. Geneva: WHO.

WHO/UNAIDS World Health Organization and Joint United Nations Programme on HIV/AIDS (2011b): When and how to use assays for recent infection to estimate HIV incidence at a population level. Geneva: WHO.

WHO/UNAIDS World Health Organization and Joint United Nations Programme on HIV/AIDS (2012): Strategies and laboratory methods for strengthening surveillance of sexually transmitted infections.

WHO/UNAIDS World Health Organization and Joint United Nations Programme on HIV/AIDS (2013a): Guidelines for second generation HIV surveillance: an update: Know your epidemic

WHO/UNAIDS World Health Organization and Joint United Nations Programme on HIV/AIDS (2013b): Paediatric HIV surveillance among infants and children less than 18 years of age. Geneva: WHO.

Appendix

Definitions of "surveillance" and "surveillance system"

In the following, we briefly outline how *surveillance* is defined in the international literature. We will highlight the key components of the definitions in use and point out some ambiguities.[5]

The literature does not distinguish very clear between surveillance and surveillance system. The term *surveillance* is the very general term used for this particular field of activity, whereas the term *surveillance system* puts an emphasis on structural aspects: Different countries have different surveillance systems (with different actors, different data sets, etc.), but they all *do* surveillance (cf. WHO/UNAIDS 2012; CDC 2013).

Surveillance is usually defined as continuous and systematic collection and analysis of data about relevant public health problems (e.g. diseases). In most definition, surveillance is not constrained to data collection but includes data publication, analysis and utilization in order to inform public action (policies). HIV/STI surveillance concentrates on the data relevant to deal with these infections.

In the field of HIV, WHO/UNAIDS have elaborated and promoted the so called "second generation HIV surveillance" strategy (WHO/UNAIDS 2013a: 3).[6] This strategy was introduced in 2000 as an advancement of the so called first generation surveillance that relied solely on data on AIDS cases and some sentinel studies on HIV prevalence. On the one hand, SGS strongly promotes a more tailored approach to the epidemic state of a country. On the other hand, SGS emphasizes the need for a more comprehensive approach that includes other data sources in particular behavioural data. Thus, the strategy recommends concentrating resources where they will yield information that is most useful in reducing the spread of HIV and in providing care for those affected. SGS should make the best use of other sources of information (e.g. communicable disease surveillance) to increase understanding of the HIV epidemic. But most important, SGS aims to concentrate data collection in key populations at higher risk of HIV exposure and to compare information on HIV prevalence and on the behaviours that spread the infection to build up an informative picture of the epidemic (WHO/UNAIDS 2013a: 3). HIV second generation surveillance consists of the following components:

[5] Points of origin for this localization were several documents. On the one hand, the Swiss National Programme on HIV and other STI (NPHS) 2011-2017 (FOPH 2010) and different documents of international organizations (WHO/UNAIDS 2013a,b, 2012, 2011a, 2010, 2002, 2000; Garcia-Abren et al 2002; ECDC 2013a; CAREC 2002) that deal with the topic of surveillance were consulted. On the other hand, it was looked up how *surveillance* is defined by other countries (cf. CDC 2013; RKI 2013) or in research (cf. Von Stokar et al. 2012; Dubois-Arber et al. 2010).

[6] WHO/UNAIDS (2013a) just published an update for their guidelines for second generation surveillance. While the key elements of SGS remain similar and are listed below, the update aims to re-emphasize the strategy, highlight new methods, tools and thinking to make SGS more critical and relevant and to give guidance on using and interpreting surveillance data more effectively.

- HIV and AIDS case and mortality reporting,
- Behavioural or Bio-Behavioural Surveys,
- Size Estimation of Risk Groups,
- Sentinel Surveillance and
- STI Surveillance.

This list emphasis, that STI surveillance is considered as part of HIV surveillance. However, by consulting the different guidelines it becomes also clear that STI surveillance is regarded as an autonomous type of surveillance (cf. WHO/UNAIDS 2012).

In Switzerland, STI and HIV surveillance were performed separately in the past. While for HIV a very specific surveillance was established, the surveillance of other STI was integrated in the surveillance of communicable disease in general and received no particular attention. Since 2012, HIV and SIT surveillance data are analyzed and published twice a year together (e.g. FOPH 2013a, b, 2012). The HIV specific surveillance was given up.

The discussion within the Surveillance Working Group, but also the international documents, highlight that the boundaries or relations between surveillance, monitoring and evaluation seems not to be clear (cf. UNAIDS 2010). In Switzerland, the term HIV/STI monitoring is used as synonym for surveillance (FOPH 2010). Sometimes, it only refers to a particular part of SGS, namely behavioural surveillance (Jeannin et al. 2010, 2013). The term monitoring is also used to cover the routine tracking and reporting of information about HIV prevention interventions. WHO/UNAIDS seem to more exclusively use the term "monitoring" to refer to routine tracking and reporting of information about HIV prevention interventions (cf. UNAIDS 2010; WHO/UNAIDS 2013a: 4). Evaluation is commonly considered as an instrument to assess (public) policies (intervention, programs, etc.), e.g. their efficiency and/or effectiveness (e.g. WHO/UNAIDS 2013a: 4). There seems to be a consensus that the activities of surveillance, monitoring and evaluation have some overlaps. In some definitions evaluation (of measures and interventions) is even seen as another purpose of surveillance (see Von Stokar et al. 2012; RKI 2013; WHO/UNAIDS 2012; ECDC 2013a; CAREC 2002).

The FOPH has introduced the idea (concept) of a so called "*third generation surveillance*" that aims to include – besides biological and behavioural surveillance – a monitoring of individual prevention and care services as well as cost/benefit analysis into the HIV/STI surveillance systems (cf. FOPH 2010).This provisional concept emphasizes to strengthen or even integrate evaluation and in particular economic evaluation into the concept of HIV/STI surveillance.

Finally, Switzerland has established and maintained an HIV Cohort Study (SHCS) that enjoys international reputation. Despite the strong interest of the public health authority, the potential of the SHCS to contribute to HIV surveillance with (clinical) information on HIV-infected persons is not exploited.