

Group 1 National Hub Template (HBM data for Awareness)

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Introduction:	
<ul style="list-style-type: none"> Background information on the evolution and status of HBM in your country e.g COPHES/DEMOCOPHES and EU programs. 	<p>Switzerland currently has neither a national HBM program nor a sufficiently large national cohort for health surveillance. Nevertheless, policy makers, researchers and federal agencies in Switzerland recognize the need for better health data and the important link between health and exposure that HBM can provide, especially when used in combination with data on lifestyle habits and practices, food consumption etc. In 2008, a political intervention (Postulat Moser, 08.3223, link: 08.3223 Mise en place d'un outil d'analyse des concentrations de substances chimiques Objet Le Parlement suisse (parlament.ch)) has asked for the analysis of the chemical burden of the Swiss population, and responding to this the Swiss government has committed to the establishment of a working group on a nation-wide surveillance system. To support these efforts, to gain experience and to promote HBM in Switzerland and Europe-wide, Switzerland has taken part in DEMOCOPHES in 2012 under the supervision of the Swiss Federal Office of Public Health (FOPH), with a convenience sample of 120 mother-child pairs (ref DEMOCOPHES). Together with researchers, the FOPH has then further developed the process for establishing and funding a national cohort with an HBM module, the "Swiss Health Study". As a first step, in 2018 a pilot phase for the Swiss Health Study was started that aims to build the infrastructure (EDV systems, processes for sampling and storage of samples and data, quality assurance, public participation) and collect health data and HBM samples in two regions in Switzerland (https://www.bag.admin.ch/bag/en/home/das-bag/aktuell/news/news-15-09-2020.html). This pilot phase will be concluded by the end of 2021 and the results will serve as decision basis for the funding and establishment of a national cohort.</p> <p>300 words maximum for only the Introduction.</p>
Main text - Results and Discussion	
ENSURE YOUR NARRATIVES ARE REFERENCED AS FAR AS POSSIBLE	
<ul style="list-style-type: none"> Description of issue(s) which have resulted in the raising of awareness. Include brief description of sample population, 	<p>Whenever there are incidents with findings of chemicals in environmental media that can potentially be of harm to humans, citizens and, thus, also politicians are becoming aware of the fact that Switzerland lacks important data for efficient and sustainable decision-making regarding</p>

<p>substances of concern and whether local/regional/national.</p> <ul style="list-style-type: none"> • Give example of cases and specific studies 	<p>chemical contaminations. Notably, reference levels for the general population are lacking, so that the consequences of elevated levels are not quantifiable. Recent examples are the local findings of elevated dioxin concentrations in soils in the city of Lausanne due to long-phased-out waste incineration technologies (https://www.swissinfo.ch/eng/high-levels-of-dioxin-found-in-lausanne-soils/47019036). Those elevated concentrations were already suspected, since Switzerland was one of the first countries to start waste incineration instead of waste disposal, and therefore has a general legacy of elevated levels of dioxins. However, the dimension of the problem is still unclear, because the direct link to human exposure and to health outcomes is currently not possible. Another example is the contamination of soil with metals of concern, such as mercury, lead or arsenic. In the case of a mercury contamination in the region of Viège, Switzerland, discovered in 2015, a specific study had been commissioned by the competent regional authority that also included HBM (link: Microsoft Word - Modèle dossier CP DE (vs.ch)). However, due to the lack of Swiss reference values, the results had to be compared to HBM-data from Germany and Italy, causing lower reliability and less value for decision-making.</p>
<ul style="list-style-type: none"> • Description of HBM programme if it exists e.g. implementation of a HBM module into HES or relevant other activities funded by the government. 	<p>The first step towards a national study was a pilot phase with representative sampling in two different parts of the country. The goal is to create a longitudinal health cohort with an HBM component that may either be longitudinal or cross-sectional. Thus, the pilot phase for the Swiss Health Study comprises a health module with health questionnaire and basic health exams, and an exposure component with HBM and exposure questionnaires. As far as possible, the pilot phase aimed to be compatible with HBM4EU (which started later), e.g. some general questions in the pilot questionnaire could be taken over from draft HBM4EU questionnaires due to the involvement of the HBM4EU grant signatory (Swiss TPH) in both projects. In addition, the grant signatory in HBM4EU, the Swiss TPH, conducted a study on pesticides in an adult general population sample in the framework of the aligned studies.</p>
<ul style="list-style-type: none"> • Describe which ministries (Environment, Health etc.)/policy makers and stakeholders involved/steering/financing the HBM programme. 	<p>The main supporter of the pilot study is the Swiss FOPH. Other Swiss agencies such as the Federal Food Safety and Veterinary Office (FSVO) and the Federal Office for the environment (FOEN) also contributed financially. The involved researchers at Unisanté, Swiss TPH and ISPM Bern contribute in-kind. In the pilot study, a special focus</p>

<ul style="list-style-type: none"> • Give examples - specific chemicals or outcomes. 	<p>was on HBM for metals, glyphosate and PFAS. First results are expected by 2022.</p>
<ul style="list-style-type: none"> • Steps/processes needed or used to get the attention of policy makers. 	<p>As also described in recent literature (Fiddecke et al., 2021 A phased approach...), the pilot phase is essential for such a population-based study that relies heavily on the implication of policy and citizens. During the pilot phase, trust among the population has to be built up (in our case by a regular newsletter, news on our website, and a participatory approach involving focus groups). To get the attention of political decision-makers, the need for good quality health data is raised in answers to political interventions. A report to the Swiss Executive body will be presented in Spring 2022 to support a national cohort.</p>
<ul style="list-style-type: none"> • Describe barriers e.g. funding; challenges e.g. participant recruitment; opportunities e.g. enhancing cross government working and linking of env data with exposure measurements currently at play in your country with regards to HBM. • Have any of these barriers been addressed by HBM4EU? If yes - describe. 	<p>Indeed, a great challenge is to establish a permanent funding scheme along with a sustainable governance structure. In Switzerland, this means that a broad consensus among federal and regional authorities has to be reached, and the financial decision-makers convinced of the necessity of such a study. In the latter respect, a strong support by the population is important. In HBM4EU, the importance of citizen involvement has been recognized, e.g. by the encouragement of national hubs and their activities, and further by the launching of citizen-surveys. However, on the long run, appropriate dissemination ways for such surveys have to be explored to ensure a better representativeness of the population in these surveys. Finally, the role and involvement of different research institutions in a large cohort must be assessed.</p>
<ul style="list-style-type: none"> • Other players who would be beneficial in raising awareness and working together to promote HBM 	<p>The link between environmental monitoring and HBM has to be strengthened by collaboration with environmental monitoring networks. First steps in this direction have been taken in PARC. Other important players may be health and consumer associations.</p>
<p><u>Future plans -</u></p> <ul style="list-style-type: none"> • Are there plans to use HBM data in the future for policy or awareness - give clear examples. Will the data from HBM4EU be used? 	<p>Switzerland is on its way to a national study on health and biosurveillance, which hopefully will be launched in 2023 based on the results of the pilot phase. There is an urgent need to establish reference values for the general population on chemicals of concern, notably metals, dioxins and other persistent legacy chemicals, and selected pesticides. Another important aim is to establish a biobank and database that can be used in health-related research, and thus serve in the discovery of health-environment relationships, most important stressors and the identification of respective intervention measures.</p>