



science and policy
for a healthy future

HORIZON2020 Programme
Contract No. 733032 HBM4EU

Annex 2.1.4 to D7.3

Interviewer Manual to the matrix-specific questionnaires (sampling of urine and blood)

WP 7

Task 7.3

D7.3

Version 2.0

7th November 2018

Table of contents

Authors and Acknowledgement.....	3
1 General information for the interviewer:	4
1.1 General questions regarding the sample itself	5
1.2 Residential environment and home exposures.....	7
1.3 Dietary habits.....	8
1.4 Lifestyles.....	10
1.5 Important when children are the target group.....	13
1.6 Important when toddlers or young children (up to 4 years) are the target group.....	13
1.7 Any other questions	13
1.8 Extra questions included in the questionnaire accompanying the blood sampling.....	14

Authors and Acknowledgement

Lead Author: Kim Pack (UBA)

Co-Authors:

Elaboration of specific questions or items to include the HBM4EU 1st priority substances:

1st priority substances	Name (Partner)
Phthalates	Kim Pack (UBA), Rosa Lange (UBA)
MOCA-Anilines:	Jouni Mikkola (FIOH)
PAHs	Hannu Kiviranta (THL); Panu Rantakokko (THL); Merja Korkalainen (THL); Päivi Ruokojärvi (THL);
Flame retardants	Hanns Moshhammer (MUW), Eva Schernhammer (MUW)
Cd, Cr and Bisphenols	Ivo Iavicoli (DPH), Maurizio Manno (DPH)
PFASs	Milena Cerna (CU), Þórhallur Ingi Halldórsson (UI)

Contributors:

Marina Lacasaña (EASP), Beatriz González-Alzaga (EASP), Marta Esteban López (ISCIII)

This document has been created for the HBM4EU project. HBM4EU has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 733032.

1 General information for the interviewer:

- ▶ For all questions requesting to enter a date, please make sure to enter 24:00 h for the "old" day and 0:00 h for the "new" day.
- ▶ Please keep in mind that most of the questions are aimed at the time before sampling. This is one of the aims of this questionnaire: to find out what the participant did directly prior to providing the sample.
Please check if the participant, when answering the questions, has this in mind. It can be helpful to keep reminding the participant gently that this question is directed at the time before sampling. If necessary, give an example like '24 hrs ago is not yesterday around this time now, but yesterday around the time you provided the sample.'
- ▶ Some questions are present in both blood and urine sampling questionnaires (different numbers are indicated in the table below). Questions with red background light red background only have to be asked if (a) urine sampling is not foreseen in the survey or if (b) blood and urine sampling did not happen at the same time (> 1 h between sampling of blood and sampling of urine).

In the questionnaire:

Questions with a white background are to be addressed to and answered by the participant.

Questions with a grey background are to be answered by the interviewer or the study centre and should not be addressed directly to the participant.

Questions with a light green background are to be asked only when first morning urine is collected.

Questions with a light red background **only have to be asked if (a) urine sampling is not foreseen** in the survey **or** if (b) blood and urine sampling did not happen at the same time (**> 1 h between sampling of blood and sampling of urine**).

1.1 General questions regarding the sample itself

QUESTIONS	JUSTIFICATION	INFORMATION FOR INTERVIEWERS
<p>U1. Has the [first morning] urine sample been delivered?</p> <p>B1. Has the blood sample been taken?</p>	<p>These questions all serve to provide background information on if and how the blood or urine sample has been obtained and handled in the participant's home.</p>	<p>To be answered by Interviewer: If this question is answered with no, the questionnaire does not have to be applied. Depending on the individual study design, a reschedule of a sampling date has to be appointed in this case.</p>
<p>U2. Was the urine sample collected in the provided container?</p>	<p>Asking the participant for the last time he or she urinated before providing the urine sample is important as a plausibility check (is the sample really the first morning urine?) and might be useful to explain other unusual characteristics of the sample.</p>	<p>To be answered by Interviewer: the sample should be discarded if another container than the provided one has been used to collect the sample.</p>
<p>U3. Is there a sampling label on the container?</p>		<p>To be answered by Interviewer: Check if there is a visible, readable label on the sample container containing information about date and time the sample was taken. Can be merged with U4 if only one label exists.</p>
<p>U4. Is there a label with the correct participant ID on the container?</p>		<p>To be answered by the interviewer: Check if there is a visible, readable label with the participant ID (cross-check with IDs noted down on questionnaires) on the container. Can be merged with U3 if only one label exists.</p>
<p>U5. When was the [morning] urine sample obtained?</p> <p>B2. When was the blood sample obtained?</p>		<p>To be answered by Interviewer: Check if the date and time has been noted down on the container and write it down in the questionnaire or ask the participant.</p>
<p>U6. Is it really the first urine after waking up?</p>		<p>Only to be asked when first morning urine is collected. If the time of the sampling is not in the hours of the morning, meaning up to a max. 12 pm, ask the participant(s) whether this time is correct and whether it is really the first urine after waking up.</p>
<p>U7. When was your last meal before urine sample collection?</p> <p>B3. When was your last meal before blood sample collection?</p>		<p>Note down the date and time the participant last ate (important: small snacks count as well!) before collecting the sample.</p>

QUESTIONS	JUSTIFICATION	INFORMATION FOR INTERVIEWERS
U8. When did you last urinate before urine sample collection?		Note down the date and time the participant last urinated before collecting the sample.
U9. According to your information, the last visit to the toilet was at least 4 hours before sampling!		Only to be stated when first morning urine is collected. Check for plausibility by comparing with answer provided under U6.
U10. How was the sample stored at home before collection?		It is important to know if the sample has been cooled or not during the time between sampling and interviewer appointment.
U11. Is the morning urine sample complete? Complete means that all morning urine was collected for the urine sample!		U11 should only be included if the study is foreseen to use containers big enough to collect all morning urine. Only to be asked when first morning urine is collected.

1.2 Residential environment and home exposures

QUESTIONS	JUSTIFICATION	ASSOCIATED SUBSTANCE GROUP(S)	INFORMATION FOR INTERVIEWERS
<p>U12. Have you been outdoors (walking, cycling, etc.) next to a street with constant traffic during the 24 hours prior to sampling?</p> <p>U12a. How long in total have you been outdoors (walking, cycling, etc.) next to a street with constant traffic during the 24 hours prior to sampling?</p>	Traffic is a potential source of PAHs.	PAHs	Please note that constant traffic means cars continuously circulating.
<p>U13. Have you inhaled smoke from the following energy sources inside your home during the 24 hrs prior to sampling?</p>	Combustion processes are a potential source of PAHs.	PAHs	?

1.3 Dietary habits

QUESTIONS	JUSTIFICATION	ASSOCIATED SUBSTANCE GROUP(S)	INFORMATION FOR INTERVIEWERS
<p>U14/B9. Before providing the sample, when did you last eat any food belonging to the following food groups?</p>	<p>For some substance groups, it is important to learn when the last possibility for exposure with this substance group took place, i.a. when the participant last ate a potentially contaminated food item. Food items can be a source of exposure for different and various substances. Food items have been grouped according to the groups found in the basic questionnaire.</p>	<p>Phthalates & substitutes: Fish and seafood, Meat, Dairy products and eggs, Cereals, Fats, Vegetables, Fruit, Hazelnut spread, ice cream, jelly candies, Fast food, Ready meals (in plastic packaging) Bisphenols: Canned food Chromium: Fresh fish, white meat, bread and Cereal products, vegetables and fruit (e.g., basil, black pepper, broccoli, Corn on the cob, garlic, green beans, potatoes), snacks. Cadmium: Fresh fish, crustaceans and shellfish, bread and cereal products, offal, vegetables and fruit (e.g., carrots, fresh tomatoes, leafy vegetables such as lettuce, spinach, onions, potatoes, soybeans, sunflower seeds) and snacks like peanuts PAHs: Smoked food, Grilled food, Fried food, Toasted bread Flame retardants: fish and seafood, meat, dairy products and eggs, fats PFAS (measured in blood): Eggs, Popcorn (microwaved/home-made)</p>	<p>Important: Please keep reminding the participant that this question is directed at the time before sampling. If necessary, give an example like '24 hrs ago in this question is not yesterday around this time now, but yesterday around the time you provided the sample.' If the participant names food items, but not groups kindly ask if they could sort the items into one of the groups.</p>
<p>U15./B10. During the past 24 hrs prior to sampling, did you drink beverages from any of the following materials?</p>	<p>Some materials used for food and drink contact are prepared using 1st priority substances in the process. Drinking from a container that is contaminated</p>	<p>Bisphenols: plastic bottle, can, plastic mug or glass</p>	<p>All beverages are asked for including water, hot drinks, alcoholic drinks, juices, lemonades, etc.</p>

	with a certain substance group can be a source of exposure to this substance group.	Phthalates: Plastic bottle, can, plastic mug or glass, polystyrene, cardboard	This question is just aiming at the material of the container the beverage was in.
U16./B12. Before providing the sample, when did you last drink any beverages belonging to the following list?	For some substance groups, it is important to learn when the last possibility for exposure with this substance group took place, i.e. when the participant last drank a potentially contaminated beverage. Beverages can be a source of exposure for different and various substances.	Chromium: barley coffee, beer, fruit (grape and orange juice), red wine, whole milk. Cadmium: Sakè , vegetable (tomato) juice.	Important: Please keep reminding the participant that this question is directed at the time before sampling. If necessary, give an example like '24 hrs ago is not yesterday around this time now, but yesterday around the time you provided the sample.' If the participant names food items, but not groups kindly ask if they could sort the items into one of the groups. Barley coffee is also known as Caffè d'orzo.
U17. Did you eat fast food in the past 24 hrs prior to sampling? U17a. How was the fast food packed that you ate during the past 24 hrs prior to sampling?	Fast foods are pre-prepared meals that can come into contact with 1 st priority substances during the preparation process and through the packaging.	Phthalates & substitutes Bisphenols	Fast foods processed foods that are easily prepared and served quickly in snack bars and restaurants, typically packed to be 'to-go'. If the participant selects yes, please note that participants can select multiple type of food contact materials, most of them considered as possible sources of prioritized substances. However, other food contact materials such as aluminum or glass are possible.

1.4 Lifestyles

QUESTIONS	JUSTIFICATION	ASSOCIATED SUBSTANCE GROUP(S)	INFORMATION FOR INTERVIEWERS
<p>U18. Have you been exposed to tobacco smoke during the 24 hrs prior to sampling?</p> <p>U18a. How many cigarettes during the 24 hrs prior to sampling?</p> <p>U18b. How long have you been exposed to second hand smoking during the 24 hrs prior to sampling?</p>	<p>Exposure to tobacco smoke by smoking and passive exposure to tobacco smoke is a source of exposure to PAHs and anilines.</p>	<p>PAHs, Anilines & MOCA</p>	<p>The question aims at both active smoking and passive smoking (= exposure to second hand smoke). Passive smoking means that the participant was exposed to tobacco smoke but was not smoking herself/himself. Participants who have smoked are asked U18a. Participants who have been exposed to second hand smoke are asked U18b.</p>
<p>U19. Have you used snuff during the 24 hrs prior to sampling?</p> <p>U19a. How many loadings during the 24 hrs prior to sampling?</p>	<p>Snuffing is a source of PAHs.</p>	<p>PAHs</p>	<p>This refers to a variety of smokeless tobacco products delivered through oral mucosa or nasal cavity.</p>

<p>U20./B13. During the past 48 hrs prior to sampling, when did you last participate in any of the following activities?</p> <p>U20a./B13a. Did you wear personal protection equipment (e.g. a facemask) during one or more of the above-mentioned activities?</p>	<p>Many activities include contact with materials or substances that can include 1st priority substances.</p>	<p>Phthalates & substitutes: Home repairs/maintenance and construction activities, plastic handling Bisphenols: Surface treatment, Cleaning and reparation products, Home repairs/maintenance and construction activities, Plastic handling Chromium: Surface treatment, Cleaning and reparation, Home repairs/maintenance and construction activities, Gardening, Handling metals, Use of dyes and inks, Application of pesticides Cadmium: Surface treatment, Gardening, Handling metals, Use of dyes and inks Anilines & MOCA: Cleaning and reparation, Home repairs/maintenance and construction activities, Use of dyes and inks, Application of pesticides PAHs: Contact with smoke from outdoor open fire PFAS: Surface treatment (specifically surface protection agents for textiles etc.)</p>	<p>It is important that the participant understands this question aims at investigating all activities (e.g. housework, DIY activities, hobbies) that could cause a non-occupational exposure to the substance. It would be advisable for the interviewer to provide examples for each of the activities (e.g. Construction/building or renovating/redecoration activities: exchanging flooring or wallpaper, use of paints, glues and adhesives; Gardening activities: use of pesticides; Wood processing: restoration of wood furniture, cutting and smoothing wood; etc.)</p>
--	--	--	--

U21./B14. When did you last use any of the following personal care products in the past 48 hours prior to sampling?	Personal care products and cosmetics are widely used. Complete information on the use of these products is needed to achieve a proper characterization of the exposure in humans.	Phthalates & substitutes: cosmetics, body care products Anilines & MOCA: Hair products PFAS: Cosmetics and sun cream (sunscreen)	Hair products include for example shampoo, hair spray, perming products, hair dye or bleach. Cosmetics for example include make-up, but also nail polish and nail polish remover. Body care products for example include body lotion, shower gel and deodorant.
U22. Did you take any of the following types of medication during the past 24 hrs prior to sampling?	Coatings of pills and capsules can be a source of exposure for phthalates and substitutes. Anilines could be used as raw materials of various pharmaceuticals and medication could be a source of exposure to anilines. Paracetamol, as a single active drug, is a major metabolite of aniline.	Phthalates & substitutes Anilines & MOCA: paracetamol	Only paracetamol (in any form) as well as medication in pill or capsule shape is relevant here.
U23. During the past 24 hrs prior to sampling, did you undergo one or more of the following medical treatments?	Medical equipment (e.g. plastic tubes used for dialysis) can contain substances of interest.	Phthalates & substitutes Anilines & MOCA	Dialysis is a treatment method for loss of kidney function. This question aims to clarify contact with (e.g. polyurethane) medical devices/plastics.
U24. In the past 24 hrs prior to sampling, did you put things made out of plastic material (e.g. pens, toys) in your mouth to chew on?	Products made out of plastic can often include plasticisers like phthalates and substitutes. Chewing or sucking on these products can be the reason for oral uptake of these substances.	Phthalates & substitutes	-

1.5 Important when children are the target group

QUESTIONS	JUSTIFICATION	ASSOCIATED SUBSTANCE GROUP(S)	INFORMATION FOR INTERVIEWERS
[U25. How long did your child spend on the floor (e.g. playing, crawling) during the 24 hrs prior to sampling?]	Young children, due to their body height or inability to walk upright as well as due to their child-specific behaviour ('mouthing') come in contact with house dust which can be a source of exposure for various substances.	Phthalates & substitutes	This question is only asked when toddlers or young children are participating.

1.6 Important when toddlers or young children (up to 4 years) are the target group

QUESTIONS	JUSTIFICATION	ASSOCIATED SUBSTANCE GROUP(S)	INFORMATION FOR INTERVIEWERS
[U26. Did your child use a pacifier within the last 24 hrs prior to sampling? U26a. How long in total did the child use a pacifier?]	Products made out of plastic can often include plasticisers like phthalates and substitutes. Chewing or sucking on these products can be the reason for oral uptake of these substances.	Phthalates & substitutes	This question is only asked when toddlers or young children are participating.
[U27./B15. Did you use any of the following toddler foods during the 24 hrs prior to sampling?]	Toddler foods can be a source of exposure for Bisphenols.	Bisphenols	This question is only asked when toddlers or young children are participating.

1.7 Any other questions

QUESTIONS	JUSTIFICATION	ASSOCIATED SUBSTANCE GROUP(S)	INFORMATION FOR INTERVIEWERS
U28./B16. Were there any peculiarities with the sample or participant's answers?	This question serves to document anything worth documentation.	-	If you noticed anything in specific (e.g. the sample has been handled a certain way) please note it down here.

1.8 Extra questions included in the questionnaire accompanying the blood sampling

QUESTIONS	JUSTIFICATION	ASSOCIATED SUBSTANCE GROUP(S)	INFORMATION FOR INTERVIEWERS
B4. What total amount was sampled?	-	-	Enter here the gross volume of blood taken in millilitres.
B5. If the gross volume was taken in sub-samples: How many sub-samples were taken?	-	-	Enter here the number of tubes and volume of blood in each tube in millilitres.
B11. When was the last time you ate dishes from communal catering such as from a canteen, dining hall or cafeteria (e.g. at nursery, school or at work/training pace) prior to providing the [morning] urine sample?	Communal catering can be a source of exposure for bisphenols.	Bisphenols	-