



science and policy
for a healthy future

Measurement of health outcomes : Anthropometric measurements

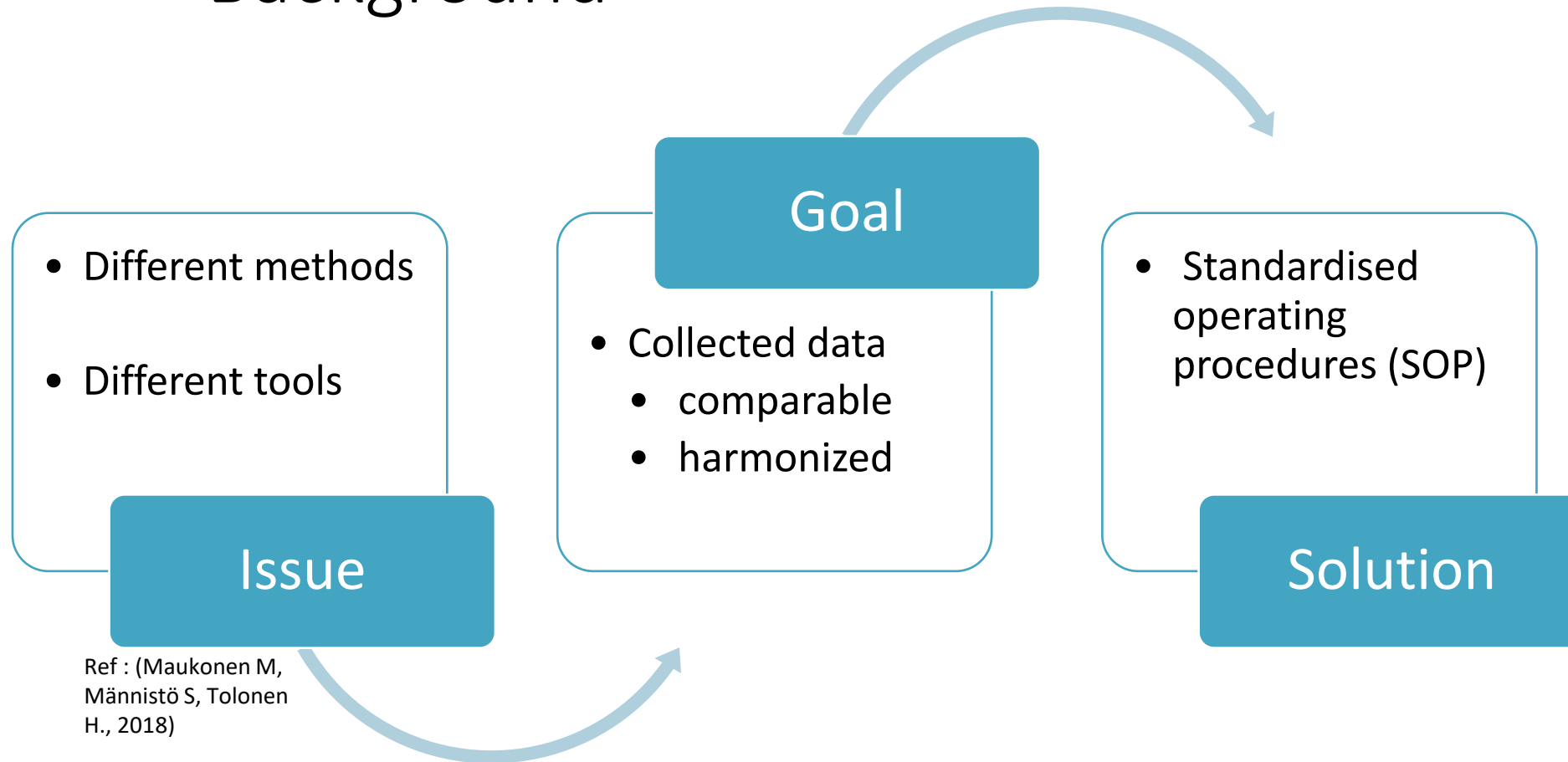
*Workshop : Obtaining health information for HBM studies from
different sources*

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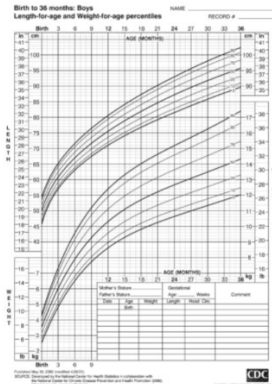
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Background



Introduction – Anthropometric measures

- used to produce children's growth charts



- used as an indicator of the person's nutritional status and general health

Height

Weight

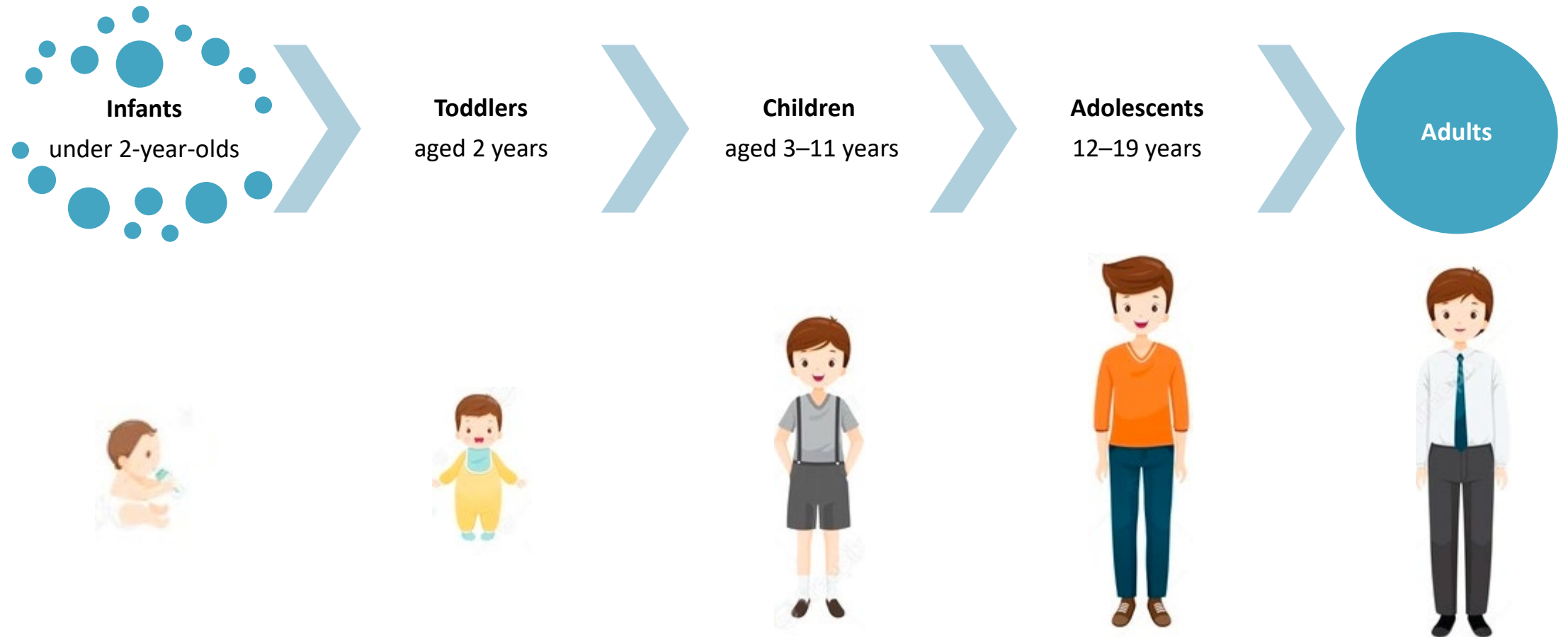
BMI

- Risk indicator of disease in adults
- Recommended for children and adolescents

SOP - Equipment

- Measurement depends on:
 - the age category of children and thereby the measurement method used
 - the level of importance of measurement tool
 - the place where the measurement is performed

Age categories



SOP – Height

- Setting up
 - Before measures :
 - Place the measurement device on a hard and flat surface
 - Check the horizontal placement or/and vertical placement using carpenter's level
 - After measures :
 - Read the measurement to the nearest tenth of a centimetre (0.1 cm).

SOP – Height - Recumbent length measurement

Specific procedure for infants



1 – Remove the participant's clothes.

2 - Lay the participant on the infantometer

3 - Position the head of the participant in the Frankfort horizontal plane

4 - Align the participant's legs

5 - Slide the foot piece to rest firmly at the child's heels.



SOP – Height - Standing height measurement

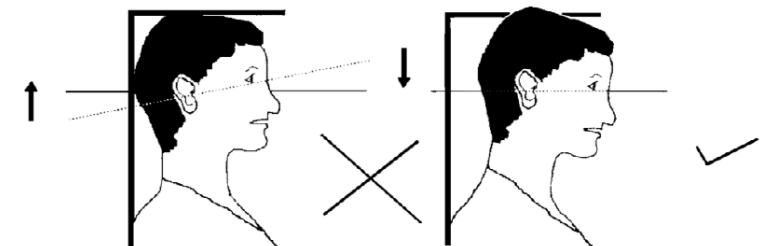
- Common steps procedure :

1 - Ask the participant to remove his/her clothes.

2 - Place his/her feet flat on the centre of the base plate

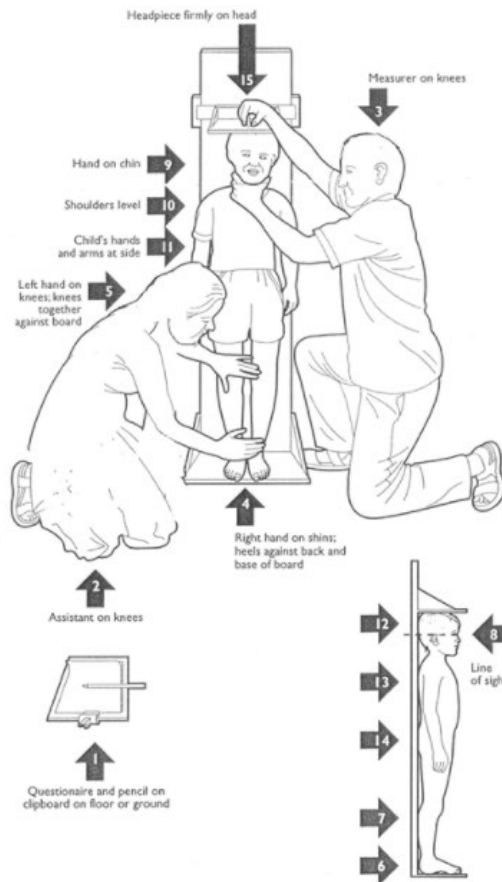
3 - Place the measuring arm just above the participant's head

4- Assist the participant to the proper head position



SOP – Height - Standing height measurement

- Specific steps for toddlers and children



5 - Grasp gently the head in your hands

6 - Keep eyes focused ahead, breathe in deeply and stretch to full height.

7 - Hold the participant's head, stretching it to its maximum height.

8 - Step off the stadiometer without ducking his/her head.

SOP – Weight

- Setting up
 - Before measures :
 - Hard and flat surface
 - Check the horizontal placement : carpenter's level.
 - Check the compliance
 - After measures :
 - Read and record the measured weight to the nearest 0.01 kg

SOP – Weight

Before
the
measure

Infants: Remove the participant's clothing and the nappy.

Others: In underwear and his/her bladder empty

For a balanced beam scale: Place both sliding beam weights directly over their respective zeroes



With the help of parents for infants

Lay the participant on his/her back or sitting on the tray of the scale

For a digital scale:

- Make sure that the participant is not touching anything but the scale tray.

For a balanced beam scale:

- Participant is positioned at the center of the platform
- Move the large counterweight
- Slowly push the small counterweight across the beam until it is balanced.

SOP – Weight for infants

Tared Weighing

Ask the parent to stand in the middle of the scale

Digital scale:

- With the parent still on the scale and his/her weight displayed.
- Scale display returns to “zero”.
- Weigh the adult and participant together.

Balanced beam scale:

- Weigh the parent alone
- Weigh the parent with the participant.

→ The difference between the two measures will be used to determine the weight of the participant.



Quality assurance

- The quality assurance of measurement includes:
 - The quality of equipment : regularly checked and calibrated
 - The use of a standardised measurement protocol and staff training
 - The audit visits during fieldwork and evaluation of measurement data



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Thank You

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SOP – Height - Standing height measurement

- Specific steps for adolescents and adults:

5 - Ask the participant to keep eyes focused ahead, breathe in deeply and stretch to full height.

6 - The head plate should touch the skull but not press down too hard.

7 - Check standing position of the participant (straight in the middle of the stadiometer) and lower the headpiece of the stadiometer or the sliding part of the measuring rod so that the hair of the participant is pressed flat.

8 - Still holding the participant's head relieve traction and allow the participant to stand relaxed and breathe out. The participant should be able to step off the stadiometer without ducking their head.

SOP - Weight

Before to
step onto
the scale

For a digital scale: switch on the scale and wait for the start-up procedure to end until the display reads 0.0.

Ask the
participant
to step
onto the
scale

For a digital scale: ask the participant to stand on the scale with feet together in the centre and heels against the back edge of the scale, the arms hanging loosely at the sides and the head facing forward. Ensure that the participant stays still, keeps looking ahead and not looking down at weight reading.

For a balanced beam scale: Make sure the participant is positioned at the centre of the platform and his/her arms are along his/her side. Move the large counterweight until you find the first notch where the beam falls, then move the weight back one notch. Slowly push the small counterweight across the beam until it is balanced

At home

- If the measurement is performed at the participant's home
 - Follow the protocol and use appropriate equipment;
 - Check carefully the position of the device and the participant
 - the calibration of the measuring device should be checked upon installation and at regular intervals, following a predefined protocol;
 - Record any deviation from the protocol.

Quality assurance

- The quality assurance of measurement includes:
 - The quality of equipment : regularly checked and calibrated
 - Check the accuracy of the measurement devices using standardised length rods or/and the stadiometer head piece
 - Check the good quality assurance and the well-maintained of the measurement equipment
 - The use of a standardised measurement protocol and staff training
 - The audit visits during fieldwork and evaluation of measurement data