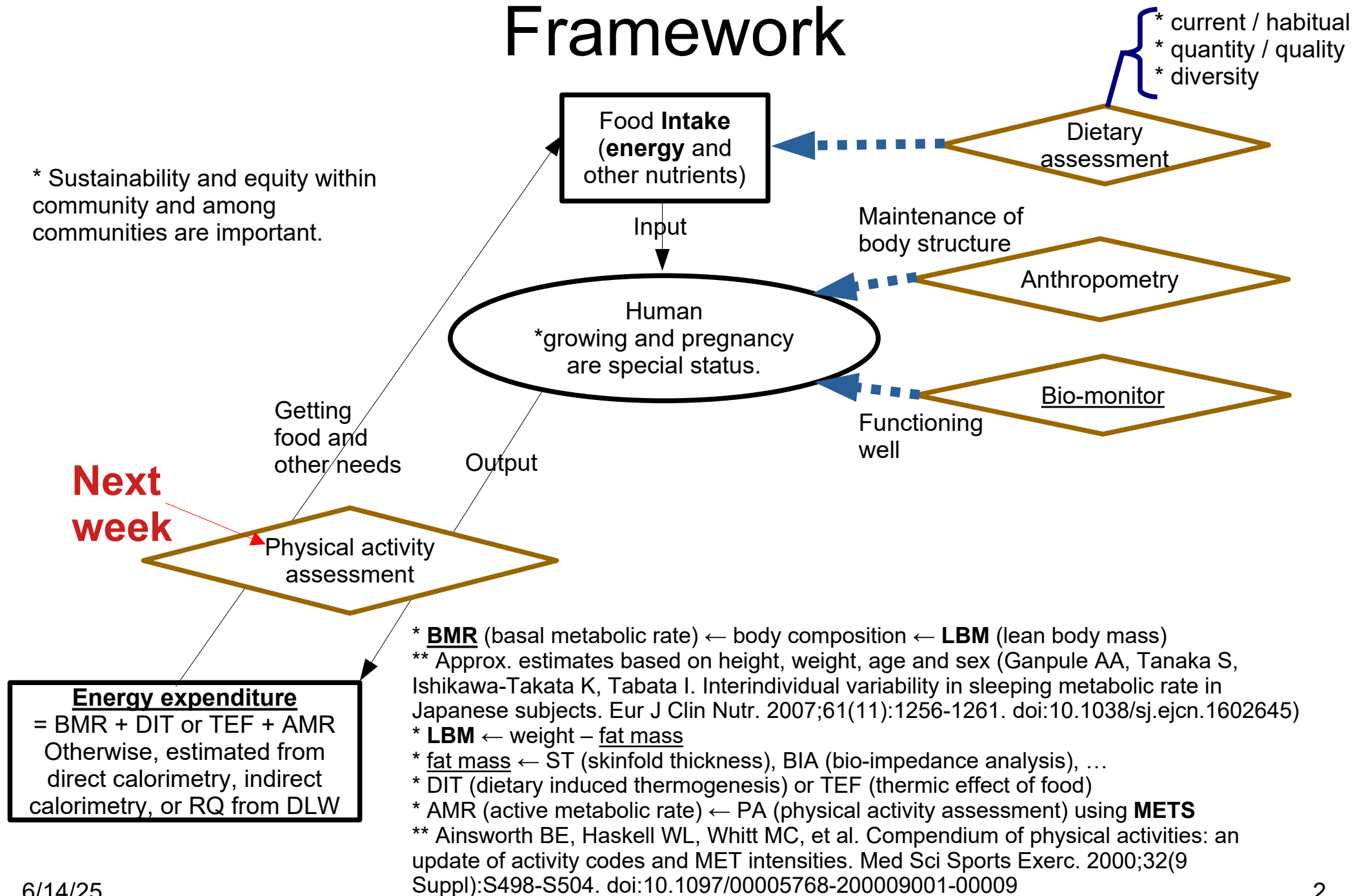


Community Nutritional Assessment (1)

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Framework



Dietary Intake Research

- Sources
 - <https://www.nutritools.org/tools>
 - <https://openknowledge.fao.org/server/api/core/bitstreams/3dc75cfc-9128-4f29-9d76-8d1f792078f0/content>
 - <https://www.measurement-toolkit.org/> (DAPA toolkit)
- Dietary Diversity
 - FAO's DD (2012) <https://www.fao.org/4/i1983e/i1983e00.htm>
 - Minimum DD For Women (2021) <https://doi.org/10.4060/cb3434en>
 - FDSK-11 (2008) <http://yumik-fn.sakura.ne.jp/whats-fn/>
- FFQ (Food Frequency Questionnaire) <https://doi.org/10.1136/bmjopen-2021-058831>
<https://www.birmingham.ac.uk/Documents/college-les/gees/inflame/consortium/atcs/food-frequency-question-b-rantsaeter.pdf>
 - NHANES (USA) <https://epi.grants.cancer.gov/diet/usualintakes/ffq.html>
 - BDHQ/DHQ (Japan) <http://www.nutrep.m.u-tokyo.ac.jp/dhq/summary.html> (in Japanese)
<https://webpark1505.sakura.ne.jp/english/dhq/dhq.html>
- 24 hours dietary recall
<https://www.measurement-toolkit.org/diet/subjective-methods/24-hour-dietary-recall>
 - ASA24 <https://epi.grants.cancer.gov/asa24/>
 - (For research) <https://asa24.nci.nih.gov/researchersite/>
 - (Demonstration) <https://asa24.nci.nih.gov/demo/>
- Food diary
 - Weighed diary <https://www.measurement-toolkit.org/diet/subjective-methods/weighed-food-diaries>
 - Estimated diary <https://www.measurement-toolkit.org/diet/subjective-methods/estimated-food-diaries>
- Technology-assisted methods <https://www.measurement-toolkit.org/diet/subjective-methods/technology-assisted>
- Direct observation <https://www.measurement-toolkit.org/diet/objective-methods/direct-observation>
- Duplicated diets <https://www.measurement-toolkit.org/diet/objective-methods/duplicate-diets>

Anthropometry

- Sources
 - <https://www.measurement-toolkit.org/anthropometry/introduction/anthropometry>
 - <https://www.fao.org/4/y4249e/y4249e0b.htm>
 - <https://wwwn.cdc.gov/nchs/data/nhanes/2021-2023/manuals/2021-Anthropometry-Procedures-Manual-508.pdf>
 - <https://www.fantaproject.org/tools/anthropometry-guide>
- Direct measurements
 - Height: Using stadiometer (eg. Seca 213)
https://www.seca.com/en_ee/products/all-products/product-details/seca213.html
 - Weight: Using digital scale (eg. Withings Body+)
<https://www.withings.com/jp/en/body-plus>
 - Mid-Upper Arm Circumference: Using tape measure
 - Skinfold thickness: Using skinfold caliper (eg. Harpenden <http://www.harpenden-skinfold.com/>)
 - Waist circumference: Using tape measure (eg. Seca 201/203)
https://www.seca.com/en_ee/products/all-products/product-details/seca201.html
 - Hip circumference: Using tape measure (eg. Seca 201/203)
- Calculated indices
 - BMI = Weight (kg) / (Height • Height) (m²)
 - Z scores based on **the standards (below)**: (Values – Standard) / SD of Standard
http://conflict.lshtm.ac.uk/page_125.htm
HAZ (for stunting), WAZ (for underweight), WHZ (for wasting)
<https://www.cdc.gov/nccdphp/dnpa/growthcharts/resources/growthchart.pdf>
 - CDC https://www.cdc.gov/nchs/data/series/sr_11/sr11_246.pdf
 - WHO <https://www.who.int/tools/child-growth-standards/standards>
 - Waist-to-hip ratio = Waist circumference / Hip circumference

Biomonitoring

- Measure nutrients and its metabolites in biological specimen
 - <https://www.cdc.gov/biomonitoring/videos/Biomonitoring-teaches-about-nutrition.html>
 - <https://www.measurement-toolkit.org/diet/objective-methods/biomarkers>
 - <https://www.biomedcentral.com/collections/bfnr>
 - <https://academic.oup.com/jn/article/133/3/873S/4688049>
 - <https://dx.doi.org/10.3390%2Fnu11051092>
 - <http://www.ph.ucla.edu/epi/faculty/zhang/courses/epi242/reading%20week%204-2d.pdf>
- Blood
 - <https://magazine.baze.com/blood-testing/>
 - https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.63.11_Suppl.28
- Urine (non-invasive, frequently used for salt and iodine intake)
 - <https://doi.org/10.3164/jcbn.16-50>
 - <https://doi.org/10.1017/S136898002000097X>
 - <https://doi.org/10.1038/ejcn.2013.62>
- Feces for gut microbiota
 - <https://doi.org/10.1093/jn/nxaa285>
 - <https://doi.org/10.1136/bmj.k2179>
- Stable isotope in hair and nail
 - <https://doi.org/10.1073/pnas.1914087117>
 - <https://doi.org/10.1371/journal.pone.0184921>