Determining the distribution of the energy requirement

1. Optimal BMI (20-25 kg/m^2)
2. Weight backcalculation
3. BMR calculation (Mifflin-StJeor)
4. Minimum BMR (kcal/day)
5. Energy Requirement Calculation
6. Themogenic effect of food

Determining the distribution of energy intake

1. Mean energy intake (kcal/day)
2. SD Prediction
3. SD energy intake
4. Ensemble distribution generation
5. Distribution of energy intake
6. 100 simulations of joint intake-energy requirement distribution
7. POU Calculation

Copula estimation

Determining the joint distribution of energy intake and energy requirement

Prevalence of undernourishment by location, age, sex, year

Legend
- **Input**
- **Process**
- **Result**
- **GBD Output**
Prevalence of Undernourishment – All Ages

Central Europe, Eastern Europe, and Central Asia
High-income
Latin America and Caribbean
North Africa and Middle East

South Asia
Southeast Asia, East Asia, and Oceania
Sub-Saharan Africa

Absolute % Chg

- 0%–9%
- 10%–29%
- 30%+

HTI (30.3)
CAF (44.3)
MDG (31.0)
ZMB (32.3)
ZWE (31.5)
LBR (33.4)
Prevalence of Undernourishment – All Ages

Central Europe, Eastern Europe, and Central Asia
High-income
Latin America and Caribbean
North Africa and Middle East

South Asia
Southeast Asia, East Asia, and Oceania
Sub-Saharan Africa

Absolute % Chg
0%–9%
10%–29%
30%+
Prevalence of Undernourishment – All Ages

FAO

Optimal energy copula mifflin (V4)

Central Europe, Eastern Europe, and Central Asia
High-income
Latin America and Caribbean
North Africa and Middle East
South Asia
Southeast Asia, East Asia, and Oceania
Sub-Saharan Africa

Absolute % Chg

0%−9%
10%−29%
30%+

0.0 0.2 0.4 0.6

CAF (33.0)
LBR (30.4)
Prevalence of Undernourishment – All Ages