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## MODELS FOR INFANCY GROWTH IN WEIGHT AND RECUMBENT LENGTH

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**ABSTRACT:** Five growth models were compared on serial weight data taken from 95 Congolese infants between birth and age 13 mo. The models considered were those of Count, Karlberg (the Infancy component), Kouchi and Reed (the four- and five-parameter versions).

The two best among them (the four-parameter Reed model and the Karlberg model containing three parameters) were also compared on weight and length data taken from 151 Senegalese infants.

Criteria of comparison were residual variance, age-specific residuals, velocity curves, mean intra-individual parameter error correlations and inter-individual parameter correlations.

Finally, as the objective of modelling was the estimation of quarterly weight and length increments, raw and estimated increments were compared using Wilcoxon's paired sample test. Coefficients of variation of the increments were also compared.

The Reed models provided the closest fit to all data, but their parameter correlations were very high as compared to those of the Karlberg parameters (especially the five-parameter version).

There was no systematic difference between estimated and raw weight increments, but the estimated Karlberg length increments differed significantly from the raw increments between ages 3 and 6 mo and between ages 9 et 12 mo.

In conclusion the four-parameter Reed model should be preferred in most applications on infancy growth, especially for growth in recumbent length.

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