D.1 Key area A

D.1.1 Recognition of faltering growth (question A.1)

Item	Details
Area in the scope	Recognition of faltering growth, including defining growth thresholds for concern (including, early weight loss after birth).
Review question in the scope	What are the growth thresholds for enhanced monitoring or intervention for suspected or confirmed faltering growth in infants and preschool children?
Review question for the guideline	Are current definitions (thresholds) effectively identifying children with faltering growth who require interventions? In infants and children with growth concerns defined by one particular criterion (see below) what are the adverse outcomes compared to those who do not have that growth concern by that definition?
Objective	To determine how to recognise and define (diagnose) faltering growth.
Population and directness	Infants and children suspected of having faltering growth (including neonates with early weight loss) Exclude infants with complex, severe malnutrition in World Bank low and middle income group countries, and infants and children in intensive care settings.
Definition of criteria, i.e. thresholds	Criteria based on weight and length/height measures individually and in combination: <u>Children meeting the following criteria:</u> Low weight for age, for example: • weight below the 0.4 percentile, • weight below the 2nd percentile, • downward crossing of weight over two or more main percentile spaces • conditional weight gain (current weight compared with that predicted from previous weight) • low weight for length/height (according to WHO growth charts) • low BMI (< 2nd percentile UK-WHO) • discrepant family pattern: length low and low in relation to weight and parental length/weight (child's length and weight centiles compared to mid parental centile calculations) <u>Babies with excessive early weight loss</u> • 10 – 12.5 % weight loss at 5 days • greater than 12.5 % at 5 days
Comparison of definitions	Those who do not fulfil the specific growth criterion used (for example whose weight is above the chosen threshold).
Outcomes	Rate of adverse outcomes, such as • persisting slow growth • progression to stunted growth • impaired cognitive development (IQ) • specific morbidities and mortality • child protection instances / unrecognised underlying medical condition
Importance of	Critical outcomes for decision making:

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Item	Details
outcomes	• stunted growth • cognitive development
Setting	Any setting where a child is suspected of having faltering growth in World Bank high income group countries except intensive care settings.
Stratified, subgroup and adjusted analyses	Stratified analyses: Groups that will be reviewed and analysed separately: Infants and preschool children who: • were born prematurely • were born with intrauterine growth restriction (IUGR) • small for gestational age (SGA) • with a specific disorder known to cause faltering growth • early weight loss after birth Sub-group analyses, e.g. in the presence of heterogeneity, the following subgroups will be considered for sensitivity analysis: Population subgroups: • weight /length at first measurement (regression toward the mean) • severity of faltering growth Intervention subgroups (e.g. route of administration, drugs within drug classes, high/low dose): • type of growth chart Important confounders (when comparative observational studies are included for interventional reviews) – these may be similar to the subgroups above: • severity • age • interventions for faltering growth • length of follow-up
Language	English
Study design	• Prospective population based cohort studies (multivariable analysis, including the confounders listed above) • Minimum of 500 children in the population considered
Search strategy	Sources to be searched: Limits (e.g. date, study design): Supplementary search techniques: No supplementary search techniques were used. See appendix E for full search strategies.
Review strategy	Dual weeding of the literature search results will be performed on 10% of records because this is a prognostic review. Any disagreements will be resolved through discussion and consultation with senior staff where necessary. Appraisal of methodological quality: For prognostic studies predicting of future outcome (e.g. cognitive development or future growth) a prognostic checklist (e.g. CASP clinical prediction rule checklist) will be used. Methodological quality will be summarised using modified GRADE. Appropriate other checklists will be used if the studies are of a different type.
Equalities	Effective interventions to address should take into consideration parents' and carers' socioeconomic, cultural, religious and ethnic environment, and potential language barriers. Access to appropriate nutrition may also differ across socioeconomic groups. Certain groups may be at greater risk of developing

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Item	Details
	faltering growth, including preterm infants and children, infants and children with intrauterine growth restriction, those with learning-disabled parents or carers, asylum seekers, and looked-after children.
Notes/additional information	n/a

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