**INADEQUATE FLUORIDE OR VITAMIN D INTAKE**

**PARTICIPANT TYPE**: INFANTS, CHILDREN

**HIGH RISK**: NO

**RISK DESCRIPTION:**
Routinely not providing dietary supplements recognized as essential by national public health policy when an infant/child’s diet alone cannot meet nutrient requirements

**FURTHER DEFINITION FOR INFANTS:**
- **Fluoride**: Infants who are 6 months of age or older who are ingesting less than 0.25 mg of fluoride daily when the water supply contains less than 0.3 parts per million (ppm) fluoride
- **Vitamin D**: Infants who are exclusively breastfed or who are ingesting less than 1 liter (1 quart or 32 ounces) per day of vitamin D-fortified formula and are not taking a supplement of 400 IU of vitamin D

**FURTHER DEFINITION FOR CHILDREN:**
- **Fluoride**:
  - Providing children under 36 months of age less than 0.25 mg of fluoride daily when the water supply contains less than 0.3 ppm fluoride
  - Providing children 36-60 months of age less than 0.50 mg of fluoride daily when the water supply contains less than 0.3 ppm fluoride
- **Vitamin D**: Not providing 400 IU of vitamin D if a child consumes less than 1 quart (32 ounces) of vitamin D fortified milk or formula

**Note**: Optimal fluoride levels range from 0.7 to 1.2 ppm.

**ASK ABOUT:**
- Fluoride status of primary water supply used for drinking and food preparation - The Centers for Disease Control and Prevention publishes the fluoride status of public water systems in each state at [https://nccd.cdc.gov/doh_mwf](https://nccd.cdc.gov/doh_mwf).
- Reliance on bottled water for drinking water and food preparation
- Where the infant/child spends most of their waking hours (i.e., where they consume drinking water and foods prepared with water) - For example, a child care provider’s water supply may have more impact on a child’s fluoride intake than the home water supply.
- Multivitamin and vitamin D supplement use and dose of vitamin D
- Typical intake of vitamin D-fortified formula or milk per day

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ASK ABOUT (CON’T):

• Barriers to obtaining appropriate supplementation such as health beliefs, religious beliefs, cultural practices, and finances

NUTRITION COUNSELING/EDUCATION TOPICS:

Fluoride:
• Bottled water may or may not contain an adequate amount of fluoride. It depends on the water supply used by the distributor. Encourage the caregiver to read the label carefully. If the bottled water contains fluoride, it may be lower than the recommended concentration.
• Some bottled waters marketed specifically for use by infants contain fluoride. Encourage the caregiver to read the label carefully.
• Adequate fluoride intake significantly reduces tooth decay.
• Encourage caregivers to administer the prescribed dosage of fluoride supplement.
• Water supplies containing too much fluoride (>2.0 ppm) can lead to enamel fluorosis, a mild discoloration of the teeth. However, the teeth will be resistant to decay. If the family decides to discontinue use of that water supply for drinking and food preparation, advise the caregiver to obtain a prescription for a fluoride supplement.
• The risk of enamel fluorosis is relatively small when compared to the high risk for tooth decay in WIC infants. Therefore, it is appropriate for WIC participants to use optimally fluoridated tap water to mix infant formula. Fluoridated water may be the only significant oral health preventive strategy these families receive.

Vitamin D:
• The American Academy of Pediatrics recommends vitamin D supplementation at 400 IU per day to prevent rickets and vitamin D deficiency in healthy infants and children.
• Since 1 quart of milk is in excess of the recommended 2 cups of milk per day for preschool children, most children will require a vitamin D supplement.
• If a physician has prescribed a vitamin supplement for the infant or child, verify that parent is clear about the dosage and how to measure it.

POSSIBLE REFERRALS:

• If the primary water supply used for drinking and food preparation is inadequately fluoridated, refer to their primary health care provider or dentist to obtain a prescription for a fluoride supplement.
• If the child is not receiving well child care or keeping appointments, refer the child (if on medical assistance) to Health Tracks (www.nd.gov/dhs/services/medicalserv/health-tracks), the local public health department, or primary care providers in the community.
POSSIBLE REFERRALS:

- If the infant has visible tooth decay, parent reports tooth decay or you suspect the infant could have early stages of tooth decay, refer to a local dental office, the local public health department (public health hygienists) or Health Tracks (if on medical assistance) for additional screening and referral. More information about oral health services in ND can be found at [www.ndhealth.gov/oralhealth](http://www.ndhealth.gov/oralhealth).
- If the fluoride content of the private water supply is unknown, recommend that a fluoride analysis be completed. Refer to local public health.
- If vitamin D supplementation is indicated, refer to the primary health care provider.