Birth Defects and the Maternal Child Health Pyramid

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Types of Spina Bifida

* From the Association for Spina Bifida and Hydrocephalus (www.asbah.org/whatissb.html)

Direct Health Services

* Delivered one-on-one between health professional and patient.
* Includes primary care physicians, nurses, social workers, medical geneticists, genetic counselors.
* Basic services include ordinary medical care, inpatient and outpatient services, allied health services, lab testing, pharmaceuticals.

Derived from the Maternal Child Health Bureau Title V Information System Glossary (www.mchb.hrsa.gov)

Enabling Services

* Services that allow or provide access to the benefits of basic medical care.
* Includes transportation, health education, family support services, case management.

Derived from the Maternal Child Health Bureau Title V Information System Glossary (www.mchb.hrsa.gov)

Spina Bifida

* Neural tube defect.
* 1500-2000 children born in U.S. each year with spina bifida.
* Approximately 40 children with spina bifida born yearly in Virginia.
* Problems include some degree of paralysis or muscle weakness below area of opening, bladder and bowel control issues, and hydrocephalus.
* Caused by mix of environmental and genetic factors.

* From the Association for Spina Bifida and Hydrocephalus (www.asbah.org/whatissb.html)

* From the Maternal and Child Health Bureau (www.mchb.hrsa.gov)
Population-Based Services

- Preventive interventions and personal health services developed for the entire population rather than for individuals in one-on-one situations.
- Everyone needs and receives the same intervention.

*Derived from the Maternal Child Health Bureau Title V Information System Glossary (www.mchb.hrsa.gov/)

Folic Acid Recommendations

- The CDC recommended in 1991 that high risk women plan pregnancies and consume 4,000 micrograms (4 mg) of folic acid daily from the time they begin trying to get pregnant through the first trimester of pregnancy.
- The U.S. Public Health Service recommended in 1992 that all women of childbearing age consume 400 micrograms (0.4 mg) of folic acid daily.

Sources of Folic Acid

- Improved dietary habits:
  - Dark leafy green vegetables: 120-160 micrograms/100g
  - Other vegetables: 40-100 micrograms/100g
  - Fruits (particularly citrus): 50-100 micrograms/100g
  - Beans (legumes): 50-300 micrograms/100g
  - Whole grains: 60-120 micrograms/100g
  - Breakfast cereals: 100 or 400 micrograms/100 g
- Fortification of the U.S. food supply
  - FDA mandated enriched cereal-grain products be fortified with 140 micrograms of folic acid per 100g of flour in 1998 (voluntary from 1996-1998).
- Daily use of folic acid supplements

Healthy People 2010

- Objective 16-15. Reduce the occurrence of spina bifida and other neural tube defects.
  - Target: 3 new cases per 10,000 live births.
  - Baseline: 6 new cases of spina bifida or another NTD per 10,000 live births occurred in 1996.

*From Healthy People 2010 (www.healthypeople.gov/documentHTML/Volume2/16MICH.htm)

Folic Acid is Important Early in Pregnancy

From Preventing Neural Tube Birth Defects: A Prevention Model and Resource Guide
Produced by the Centers for Disease Control, 2002

Healthy People 2010

- Objective 16-16. Increase the proportion of pregnancies begun with an optimum folic acid level.
  - 16-16a. Consumption of at least 400 micrograms of folic acid each day from fortified foods or dietary supplements by non-pregnant women aged 15 to 44.
    - 1991-1994 baseline: 21%
    - 2010 target: 80%
  - 16-16b. Median RBC folate level among non-pregnant women aged 15 to 44.
    - 1991-1994 baseline: 160 ng/ml
    - 2010 target: 220 ng/ml

*From Healthy People 2010 (www.healthypeople.gov/documentHTML/Volume2/16MICH.htm)
Barriers to Folic Acid Consumption

- Psychosocial
- Socioeconomic
- Cultural
- Financial
- Familial behaviors and attitudes
- Individual beliefs and attitudes

*Developed from www.folicacid.net

The Role of the Public Health Official in Folic Acid Efforts

- Distribute folic acid brochures and information.
- Include folic acid education as a component in programs for women.
- Encourage consumption of food sources of folic acid.
- Develop a “folic acid awareness week”.

*Developed from www.folicacid.net

Folic Acid Awareness

- 1995
  - 52% of reproductive women aware of the term folic acid.
  - 25% took a vitamin supplement containing folic acid daily.

- 2002
  - 80% of reproductive women aware of the term folic acid.
  - 20% knew that folic acid could prevent birth defects.
  - 31% took a vitamin supplement containing folic acid daily.


Neural Tube Defect Rates from 1991-2001

*Prepared by the National Center for Health Statistics (www.cdc.gov/nchs/products/pubs/pubd/hestats/spine_anen.htm)

Infrastructure Building

- Activities directed at improving and maintaining individual health status by providing support for development and maintenance of health services, standards, training, data, and planning systems.

- Examples include needs assessment, evaluation, planning, policy development, quality assurance, monitoring.

*Derived from the Maternal Child Health Bureau Title V Information System Glossary (www.mchb.hrsa.gov)