APPENDIX G

FAMILY HEALTH OUTCOMES PROJECT
REVISED RISK FACTORS FOR THE
PUBLIC HEALTH INDICATOR TABLE

INFANT INDICATORS

Infant Mortality

Race/ethnicity -- Black, Puerto Rican, American Indian, Alaska Native
Prematurity / Disorders related to short gestation
Low birth weight
Congenital anomalies
Young maternal age
Low maternal education level: less than a high school education
Maternal tobacco use
Maternal alcohol, substance use/abuse
Poor maternal nutrition
Inadequate prenatal care
Unintended pregnancy
Maternal psychosocial problems
Maternal medical complications/chronic illness during pregnancy (including diabetes)
Pregnancy complications
Short pregnancy interval
Injury (including domestic violence)
Infection
Respiratory distress syndrome
Previous family history of SIDS

Fetal Death

Race/ethnicity -- Black
Maternal diabetes
Pregnancy complications
Maternal medical complications/chronic illness during pregnancy (including severe maternal infection)
Rh sensitization
Congenital anomalies
Intrauterine cocaine exposure
Maternal history of previous miscarriages

Newborn Screening, Treatment and Follow-up Care for Genetic Disorders
Inadequate newborn screening and/or treatment referral systems
Inadequate access to follow-up treatment/specialty care

Congenital/Birth Related Infection
Lack of adequate prenatal care/prenatal screening
Lack of family planning, pre-conception or prenatal counseling
Maternal STD exposure -- HIV, chlamydia, gonorrhea, syphilis, herpes (HPV),
Hepatitis B
Galactosemia (inherited disorder)
Sickle cell anemia
Inadequate immunizations

Immunization -- Vaccine Status
Lack of access to primary care -- including geographic barriers,
language/cultural barriers, lack of transportation, inadequate child care options,
restrictive hours of primary care service
Lack of a regular source of primary care
Missed opportunity -- Provider failure to offer immunization services due to lack
of time, inadequate reimbursement, lack of familiarity with current
recommendations, inadequate reminder systems
Race/ethnicity -- Black, Hispanic
Low income
Low parental education level: less than a high school education
Lack of health insurance
Lack of knowledge about required immunization and booster schedules
Lack of consistent day care/child care regulations regarding vaccination
requirements
Foster care status

Infants with Substance/Alcohol/Tobacco Exposure
Race/ethnicity -- White*, Black, Hispanic*, American Indian, Alaska Native
Young maternal age*
Low parental education level: less than a high school education*
Parental occupation -- working class, military*
Low income
Lack of adequate pre-conception, prenatal screening/counseling
Maternal substance addiction/family history of smoking/maternal postpartum relapse of smoking

* Identified tobacco exposure risk factor (only)

Infants Who Have/Have Not Attained Appropriate Growth

Inadequate nutrition
Chronic/infectious disease
Low birth weight
Maternal alcohol/tobacco/substance use/abuse during pregnancy
Fetal alcohol syndrome
Inadequate maternal weight gain during pregnancy
Inadequate health care/prenatal care/prenatal counseling
Race/ethnicity -- Black, Hispanic
Low income
Homelessness
Infants with disabilities/special needs
Iron deficiency (maternal and/or child)
Lack of breastfeeding/lack of use of iron fortified formulas

Access to Primary Care

Lack of insurance
Low income/inability to pay for care
Lack of knowledge about the value of preventive services
Lack of access to primary care -- including geographic barriers, language/cultural barriers, lack of transportation, inadequate child care options, restrictive hours of service
Lack of a regular source of primary care
Race/ethnicity -- Hispanic
Low parental education level: less than a high school education
Inadequate supply of providers
Missed opportunity -- Provider failure to offer services
Maternal psychosocial problems/substance abuse

Eligible Infants Receiving WIC Services

Lack of access to WIC clinics/services
Lack of provider education re appropriate referral patterns, WIC eligibility criteria, etc.
Injuries -- Intentional Injuries

Low income
Race/ethnicity - Black
Parental alcohol/substance abuse
Untreated parental mental health problems
Previous child abuse
Parental history of abuse as a child
Lack of victim awareness by health system
Access to weapons/inadequate firearm regulation

Injuries -- Unintentional Injuries

Low income
Race/ethnicity - Black, American Indians, Alaska Natives
Gender - males
Inadequate parental supervision/environmental precautions taken
Parental alcohol/substance abuse
Access to weapons/inadequate firearm regulation/enforcement
Lack of health care provider counseling/focus
Lack of knowledge about injury protection devices/countermeasures/regulations
Lack of consistent legislation/enforcement/use of protective devices (e.g.,
highway safety measures, car safety seats, safety belts, speed limits, etc.)

Hospital Discharges for Ambulatory Care Sensitive Diagnoses

Low income
Lack of access to primary care
CHILD INDICATORS

Immunization -- Vaccine Status

Lack of access to primary care -- including geographic barriers, language/cultural barriers, lack of transportation, inadequate child care options, restrictive hours of service
Lack of a regular source of primary care
Missed opportunity -- Provider failure to offer immunization services due to lack of time, inadequate reimbursement, lack of familiarity with current recommendations, inadequate reminder systems
Race/ethnicity -- Black, Hispanic
Low income
Low parental education level: less than a high school education
Lack of health insurance
Lack of knowledge about required immunization and booster schedules
Lack of consistent day care/child care regulations regarding vaccination requirements
Foster care status

Child Substance, Alcohol and Tobacco Use/Abuse/Exposure

Second-hand smoke exposure in the home*
Parental alcohol/substance addiction/parental smoking history/maternal postpartum relapse of smoking
Race/ethnicity -- Black, Hispanic*, American Indian, Alaska Native, Southeast Asian*
Parental occupation: working class, military
Low parental education level: less than a high school education
Low income
Lack of adequate substance abuse education/screening/counseling in schools, health care settings
Lack of tobacco/substance use prevention focus among health care providers
Advertising/media exposure
Homeless/runaway youth status
School dropout/truancy
Lack of parental supervision
Community/peer norms
Lack of enforcement of substance use minimum age laws
Place of residence -- urban, inner city**

* Identified tobacco exposure risk factor (only)
** Identified alcohol/substance exposure risk factor (only)
Children Who Have/Have Not Attained Appropriate Growth

Inadequate nutrition
Lack of awareness about proper nutrition
Inadequate nutrition assessment/screening/counseling/referral by health care providers
Chronic/infectious disease
Low birth weight
Fetal alcohol syndrome/maternal substance use/abuse during pregnancy
Inadequate health care
Race/ethnicity -- Hispanic, Asian, Southeast Asian, Pacific Islander
Low income
Homelessness
Children with disabilities/special needs
Chronic iron deficiency
Lack of breastfeeding/lack of use of iron fortified formulas
Inadequate school lunch/child care food services

Access to Primary Care

Lack of insurance
Low income
Lack of knowledge about the value of preventive services
Lack of access to primary care -- including geographic barriers, language/cultural barriers, lack of transportation, inadequate child care options, restrictive hours of service
Lack of a regular source of primary care
Race/ethnicity -- Hispanic
Low parental education level: less than a high school education
Inadequate supply of providers
Missed opportunity -- Provider failure to offer services
Maternal psychosocial problems/substance abuse

Oral Health

a) Children with dental examination
Low income
Lack of access to routine dental care
Inadequate insurance coverage

b) Children with early childhood caries, including baby bottle tooth decay
Feeding practices that promote baby bottle tooth decay
Lack of access to routine dental care/dental counseling
Race/ethnicity -- American Indian, Alaska Native

c) Children with untreated dental caries
d) Children with protective sealants on permanent molar teeth

Age - 6 to 8 years
Low parental education level: less than a high school education
Parental occupation: migrant workers
Race/ethnicity -- Hispanic, Black, American Indian, Alaska Native
Geographic barriers to access
Cultural/social norms
Lack of community water flouridation

Injuries -- Intentional Injuries

Low income
Race/ethnicity - Black
Gender - male
Place of residence -- urban
Parental alcohol/substance abuse
Untreated mental health problems -- parental and/or child
Previous child abuse
Parental history of abuse as a child
Lack of victim awareness by health system
Access to weapons/inadequate firearm regulation
Cultural norms for parental discipline

Injuries -- Unintentional Injuries

Low income
Race/ethnicity - Black, American Indians, Alaska Natives
Gender - males
Inadequate parental supervision/environmental precautions taken
Parental alcohol/substance abuse
Access to weapons/inadequate firearm regulation/enforcement
Lack of health care provider counseling/focus
Lack of use of use of sports/recreation protective gear, bike helmets, etc.
Lack of knowledge about injury protection devices/countermeasures/regulations
Lack of consistent legislation/enforcement/use of protective devices (e.g.,
highway safety measures, car safety seats, safety belts, speed limits, etc.)
Low Hgb/Hct

Low income
Age -- 1 to 5 years
Race/ethnicity -- Black, Alaska Native
Genetics -- family history of anemia
Poor nutrition -- inadequate dietary iron intake/cultural practices
Lack of education about dietary requirements
Inflammatory conditions/infections
Chronic disease

Hospital Discharges for Ambulatory Care Sensitive Diagnoses

Low income
Lack of access to primary care
ADOLESCENT INDICATORS

Immunization -- Vaccine Status

Lack of access to primary care -- including geographic barriers, language/cultural barriers, lack of transportation, inadequate child care options, restrictive hours of service
Lack of a regular source of primary care
Missed opportunity -- Provider failure to offer immunization services due to lack of time, inadequate reimbursement, lack of familiarity with current recommendations, inadequate reminder systems
Race/ethnicity -- Black, Hispanic
Low income
Low parental education level: less than a high school education
Lack of health insurance
Lack of knowledge about required immunization and booster schedules
Foster care status

Adolescent Substance, Alcohol and Tobacco Use/Abuse/Exposure

Second-hand smoke exposure in the home*
Parental history of smoking, alcohol, substance use/abuse
Race/ethnicity -- Black, Hispanic*, American Indian, Alaska Native, Southeast Asian*
Parental occupation: working class, military
Low parental education level: less than a high school education
Low income
Place of residence -- urban**
Lack of adequate substance abuse education/screening/counseling in schools, health care settings
Lack of tobacco/substance use prevention orientation among health care providers
Advertising/media exposure
Homeless/runaway youth status
School dropout/truancy
Lack of enforcement of substance use minimum age laws

* Identified tobacco exposure risk factor (only)
** Identified alcohol/substance exposure risk factor (only)

Smokeless Tobacco Use (only)
Gender -- males
Race/ethnicity -- White, American Indian/Alaska Native

Sexually Transmitted Diseases

Age -- 15 to 19 years
Multiple sexual partners
High risk partners (e.g., IV drug users)
High risk/unsafe sexual practices (e.g., anal intercourse)
Substance use/abuse (esp. IV drug use)
Male homosexuals
Low income
Homeless/runaway youth
Race/ethnicity -- Black
Lack of barrier contraceptive/condom use
Lack of access to STD treatment services/counseling
Lack of compliance with STD treatment regimens
Lack of knowledge/education about STDs, transmission prevention
Lack of consistent/routine STD screening, treatment referral practices
Impaired immune system

Teen Births

Low income
Low maternal education level: less than a high school education
Race/ethnicity -- Black, Hispanic
Lack of effective contraceptive use/family planning practices
Lack of education/counseling regarding family planning/contraceptive use
Previous teen pregnancy
Initiation of sexual activity at a young age -- Risk factors for initiation of sexual activity at a young age include:
Delinquent behavior
Tobacco/alcohol/substance use
Poor academic performance
Poor communication with parents
Peer pressure
Lack of a traditional religious/moral orientation

Access to Primary Care

Lack of insurance
Low income
Lack of knowledge about the value of preventive services
Lack of access to primary care -- including geographic barriers, language/cultural barriers, lack of transportation, inadequate child care options, restrictive hours of service
Lack of a regular source of primary care
Race/ethnicity -- Hispanic
Low parental education level: less than a high school education
Inadequate supply of providers
Missed opportunity -- Provider failure to offer services

Oral Health

a) Adolescents with dental examination
Low income
Lack of access to routine dental care
Inadequate insurance coverage

b) Adolescents with untreated dental caries

c) Adolescents with protective sealants on permanent molar teeth
Age - 12 to 14 years
Low parental education level: less than a high school education
Occupation: migrant workers/families
Race/ethnicity -- Hispanic, Black, American Indian, Alaska Native
Geographic barriers to access
Cultural/social/psychological norms
Lack of community water fluoridation

Injuries -- Intentional Injuries

Low income
Race/ethnicity - Black, Hispanic
Gender - male
Age -- 19 to 24 years
Place of residence -- urban
Alcohol/substance abuse (parent and/or adolescent)
Untreated mental health problems (parent and/or adolescent)
Parental history of abuse as a child
History of abuse/battering (child, spousal)
Separated or divorced status
Lack of available space/shelter for battered women
Lack of victim awareness by health system
Access to weapons/inadequate firearm regulation
Suicide

Gender -- male
Race/ethnicity -- White, American Indian
Substance abuse
Untreated mental health problem
Loss of family member(s) or romantic partner
Victim of physical abuse
Difficulties at school

Injuries -- Unintentional Injuries

Low income
Race/ethnicity - Black, American Indian, Alaska Native
Gender - male
Inadequate parental supervision/environmental precautions taken
Alcohol/substance use/abuse
Access to weapons/inadequate firearm regulation/enforcement
Lack of health care provider counseling/focus
Lack of use of use of sports/recreation protective gear, bike helmets, etc.
Lack of knowledge about injury protection devices/countermeasures/regulations
Lack of consistent legislation/enforcement/use of protective devices (e.g.,
highway safety measures, car safety seats, safety belts, speed limits, etc.)
Mental health/developmental disability

Low Hgb/Hct

Low income
Women of childbearing age (15 and above) -- especially pregnant women and
women with menstrual disorders
Genetics -- family history of anemia
Race/ethnicity -- Black, Alaska Native
Poor nutrition -- inadequate dietary iron intake/cultural and peer practices
Lack of education about dietary requirements or iron supplementation
requirements for women during pregnancy
Inflammatory conditions/infections
Chronic disease

Hospital Discharges for Ambulatory Care Sensitive Diagnoses

Low income
Lack of access to primary care
WOMEN’S INDICATORS

First Trimester Onset of Prenatal Care

Low income
Young maternal age/teen pregnancy
Low maternal education level: less than a high school education
Race/ethnicity -- Black, Hispanic, American Indian/Alaska Native
High parity
Maternal substance abuse
Lack of health insurance
Lack of obstetric providers

Adequacy of Prenatal Care

See risk factors under First Trimester Onset of Prenatal Care (above).

Sexually Transmitted Diseases

Women of childbearing age -- 15 to 44 years
Multiple sexual partners
High risk partners (e.g., IV drug users)
High risk/unsafe sexual practices (e.g., anal intercourse)
Low income
Race/ethnicity -- Black
Lack of barrier contraceptive/condom use
Lack of access to STD treatment services/counseling
Lack of compliance with STD treatment regimens
Lack of knowledge/education about STDs and transmission prevention
Lack of consistent/routine STD screening, treatment referral practices
Substance use/abuse (esp. IV drug use)
Impaired immune system

Low Birth Weight

Young and old maternal age
Low income
Low maternal education level: Less than a high school education
Race/ethnicity -- Black, Puerto Rican, Southeast Asian
High parity
Short pregnancy interval
Multiple gestation
Unintended pregnancy
History of low birth weight
Poor reproductive history
Prior preterm birth
Late entry into prenatal care
Lack of comprehensive prenatal care
Low pre-pregnancy weight
Tobacco use during pregnancy
Alcohol/substance abuse during pregnancy
Low pregnancy weight gain
Placenta previa
Premature rupture of the membrane
Stress during pregnancy
Strenuous exertion during pregnancy

Adequacy of Prenatal Screening, Treatment and Follow-up Care for Fetal/Genetic Disorders
Late initiation of prenatal care
Lack of uniform prenatal screening
Lack of knowledge about screening services/requirements
Missed opportunity for prenatal screening/counseling/referral
Cultural and/or religious beliefs

Eligible Pregnant, Postpartum and Breastfeeding Women Receiving WIC Services
Lack of access to WIC clinics/services
Lack of provider education re appropriate referral patterns, WIC eligibility criteria, etc.

Low Hgb/Hct
Low income
Women of childbearing age -- especially pregnant women, women with menstrual disorders
Genetics -- family history of anemia
Race/ethnicity -- Black, Alaska Native
Poor nutrition -- inadequate dietary iron intake/cultural practices
Lack of education about dietary requirements or special iron supplementation requirements for women during pregnancy
Inflammatory conditions/infections
Chronic disease

Maternal Alcohol/Substance Use/Abuse
Race/ethnicity -- Black, American Indian, Alaska Native
Low income
Low maternal education level: less than a high school education
Place of residence -- urban
Lack of access to pre-conception/prenatal substance abuse screening/counseling
Lack of substance use prevention focus among health care providers

Cigarette Smoking by Pregnant Women
Young maternal age/teenage pregnancy
Race/ethnicity -- White, Black, Hispanic, American Indian, Alaska Native
Occupation: working class, military
Low maternal education level: less than a high school education
Low income
Lack of adequate pre-conception/prenatal counseling
History of smoking/maternal postpartum relapse of smoking

Preterm Delivery

Appropriate Maternal Weight Gain During Pregnancy
Young maternal age
Inadequate diet/nutritional intake
Low pre-pregnancy weight
Low income
Race/ethnicity -- Black
History of tobacco use and/or substance abuse
Chronic illness
Strenuous physical exertion during pregnancy

Unintended Births
Low income
Young maternal age
Unmarried status
Lack of access to family planning services/counseling
Lack of effective contraceptive use
Race/ethnicity -- Black

Women Who Breastfeed Their Infants

Young maternal age
Low education level: less than a high school education
Low income
Race/ethnicity -- Black, Hispanic, American Indian, Alaska Native
Cultural/regional norms
Contraindications to breastfeeding: substance use/abuse, HIV-positive status, radioactive medication use
Women who work in environments that do not facilitate child care or breastfeeding

Cervical Cancer Screening/Occurrence

Low income*
Lack of health insurance*
Lack of access to primary care/preventive screening services*
Low education level: less than a high school education*
Age -- older women
Race/ethnicity -- Black, Hispanic, American Indian, Alaska Native, Asian/Pacific Islander
History of STDs: esp. HPV/genital herpes/genital warts
History of tobacco use
Nutrition -- high fat diet
Early initiation of sexual activity

* Screening risk factor (primarily)

Hospital Discharges for Ambulatory Care Sensitive Diagnoses

Low income
Lack of access to primary care