

Health Assessment Screening for Minnesota Refugees

During 1979-1998, 53,559 primary refugees immigrated to Minnesota, including 1,833 refugees in 1998 alone. Refugees, as distinguished from other immigrants, are foreign-born persons fleeing their country of origin because of persecution or fear of persecution due to race, nationality, or social and political factors. This report summarizes the changing demographics of this population, recommendations for medical screening of refugees, and results of screening for specific communicable diseases.

Refugee Population

Minnesota's refugee population has become increasingly diverse during the past 20 years (Figure 1). Over 99% of 15,416 refugees who arrived during 1979-1982 were Southeast Asian. In contrast, of 8,012 refugees who arrived during 1995-1998, 27% were from Southeast Asia, 28% from Sub-Saharan Africa, and 43% from Eastern Europe. The largest numbers of refugees immigrating to Minnesota in 1998 were from the former Soviet Union (481 refugees), Bosnia (470), Somalia (281), Liberia (204), and Vietnam (134). Many secondary refugees (i.e., those joining their families and communities after initially arriving in other states) also have moved to Minnesota. Minnesota has the largest Hmong, Somali, and Liberian communities in the United States. Of all refugees who arrived in Minnesota since 1990, 87% initially settled in the seven-county Twin Cities metropolitan area. Increasing numbers of refugees are settling in counties throughout the state.

Domestic Health Assessment

The Minnesota Department of Health (MDH) Refugee Health Program collaborates with local health departments and health care providers to oversee domestic refugee health assessments and related follow-up. The objectives of this process are to identify and treat health problems that may interfere with the refugee's resettlement, to protect the health of the U.S. public, and to connect refugees with the health care system. Refugees should see a health-care provider for assessment 30-90 days after arriving in their resettlement area; however, many refugees experience delays in receiving this evaluation.

In May 1998, MDH convened a Refugee Health Assessment Advisory Group including representatives from local public health, clinical care, and community organizations working with refugees to review the refugee health assessment process and recommend improvements. The group revised the *Minnesota Initial Refugee Health Assessment Form* used statewide to record results of initial health examinations recommended for newly arrived refugees in Minnesota. The revisions include updated immunizations and enhanced screening for hepatitis B and parasitic infections.

Refugees may have various health problems including infectious diseases, malnutrition, anemia, and mental health concerns. This report focuses on recommendations for screening in four major infectious disease areas. Screening for other health issues (e.g., other infectious agents; anemia; vision,

hearing, or dental problems; mental health needs; prenatal care) also should be part of the clinical evaluation. These issues are addressed in the "*Health Guide for Refugees in Minnesota*" which is available on the MDH web site.

Tuberculosis (TB): The number of TB cases in Minnesota has increased from 131 cases in 1996 to 161 cases in 1998. Of TB cases reported in 1998, 115 (71%) were foreign-born; 47% and 30% of foreign-born TB cases occurred among persons from Sub-Saharan Africa or Southeast Asia, respectively. In the last 5 years, 37% of foreign-born TB cases were among persons who had been in the United States for 12 months or less.

All refugees should receive a Mantoux tuberculin skin test as part of their domestic health evaluation. A reaction of 10 mm or greater of induration is considered significant, regardless of history of bacille Calmette-Guerin (BCG) vaccination. A chest x-ray should be performed for patients with significant Mantoux reactions, those with Class A or Class B TB conditions identified overseas, and those with symptoms compatible with TB. Patients with an abnormal chest x-ray should be evaluated according to national guidelines. Those with a significant Mantoux reaction and normal chest x-ray may be eligible for **continued...**

Inside:

Update: Perinatal Hepatitis B Prevention in Minnesota .. 42

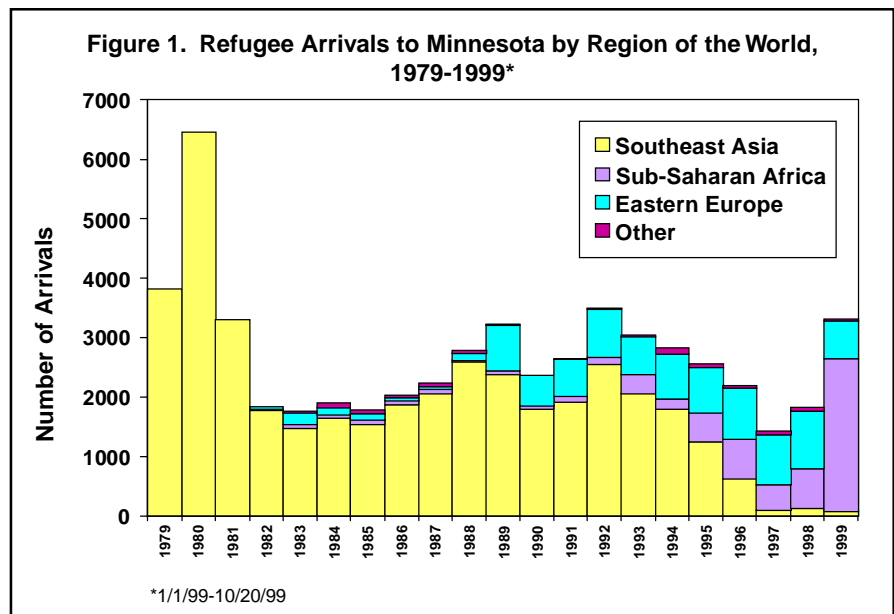
chemoprophylaxis.

Of 1,445 refugees who received domestic TB screening in 1998, 38% had a positive tuberculin skin test, with highest infection rates among those from Eastern Europe (47%) and Sub-Saharan Africa (41%).

Parasitic Infections: Refugees may have various intestinal parasitic infections. In 1998, 29% of refugees screened in Minnesota had at least one intestinal parasite, with highest rates among African refugees (46%). For their initial health evaluation, refugees should submit three stool specimens obtained more than 24 hours apart. Persons infected with *Strongyloides*, hookworms or whipworms should submit one stool specimen 2-3 weeks after completing therapy to assess response to treatment. If indicated, clinicians should also test for bacterial enteric pathogens and treat appropriately. A complete blood count with differential should be obtained. If eosinophilia is present, parasitic infection should be considered. The revised refugee health assessment form allows clinicians to document parasitic infections such as amebiasis and schistosomiasis.

Clinicians should have a high index of suspicion for malaria, particularly for refugees from tropical and subtropical areas who have fever of unknown origin or other characteristic symptoms. Asymptomatic parasitemia can occur among residents of malarious areas. If malaria is suspected, a smear of peripheral blood should be examined for parasites. Accurate diagnosis depends on the quality of the blood film and the technique of laboratory personnel. Because treatment varies by species of *Plasmodium*, diagnosis should be confirmed by experienced personnel.

Hepatitis B: Serologic testing for



hepatitis B virus (HBV) infection should assess hepatitis B surface antigen (HBsAg), hepatitis B surface antibody (anti-HBs), and hepatitis B core antibody (anti-HBc). Of refugee health assessments completed in 1998, 6% indicated a positive HBsAg test, with highest rates among refugees from Southeast Asia (12%) and Africa (9%).

Since chronic HBV infection can progress to liver failure, cirrhosis, or hepatocellular carcinoma, screening all refugees and referring HBsAg-positive persons for follow-up is critical. Household and other close contacts of HBsAg-positive persons also should be screened, and susceptible persons should receive HBV vaccine. Without appropriate prophylaxis (i.e., HBV vaccine and immune globulin), up to 90% of those infants infected perinatally will become chronic carriers.

Immunizations: Documented immunization status is critical for refugees of all ages. Of 1,445 refugees screened in 1998, 963 (67%) had no documentation of immunizations. Even after the domestic health assessment, 154

refugees still lacked adequate documentation. To ensure age-appropriate immunization, vaccination is indicated for those who lack evidence of immunity. The revised refugee health form enables clinicians to record immunization dates for all age-appropriate vaccinations or evidence of immunity against HBV, polio, diphtheria-pertussis-tetanus, *Haemophilus influenzae* type b (Hib), varicella, measles, mumps, rubella, influenza, and pneumococcal disease.

Language and Cultural Issues

The Refugee Health Assessment Advisory Group identified receipt of affordable, linguistically and culturally appropriate health care as a major concern. To ensure accurate assessment and appropriate treatment, interpreters are essential for non-English speaking refugees.

Additional Resources

For additional information about the MDH Refugee Health Program, visit our web site: <http://www.health.state.mn.us/divs/dpc/adps/refugee/refugee.htm> or call (612) 676-5237.

Update: Perinatal Hepatitis B Prevention in Minnesota

Since 1991, the Minnesota Department of Health (MDH) has conducted a perinatal hepatitis B virus (HBV) prevention program that tracks infants born to hepatitis B surface antigen (HBsAg)-positive mothers in order to ensure that these infants receive adequate prophylaxis, including

hepatitis B immune globulin (HBIG), HBV vaccine, and post-vaccination serologic testing. This report describes follow-up results for infants born to HBsAg-positive mothers in 1998. The results of a 1997 survey of birthing hospitals' policies and practices for prevention of perinatal HBV transmis-

sion also are described.

Infants Born to HBsAg-positive Mothers

In 1998, MDH received 313 reports of births to HBsAg-positive women, compared to 199 in 1991. The moth-continued...

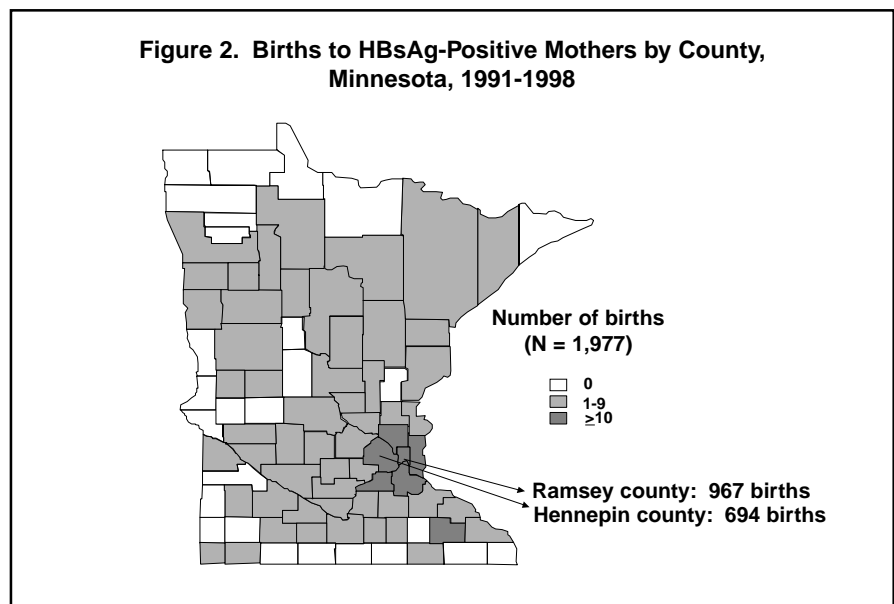
ers' ages ranged from 11 to 48 years (mean, 26 years). Of HBsAg-positive mothers, 74% were Southeast Asian, 10% were black, 5% were Caucasian, 4% were Hispanic, and 6% were of unknown or other race/ethnicity. Of 1,977 births to HBsAg-positive mothers reported during 1991-1998, the largest number were from Ramsey (49%) or Hennepin (35%) counties. Since 1991, 53 non-metropolitan counties have reported at least one HBsAg-positive mother (Figure 2).

Of 313 infants born to HBsAg-positive mothers in 1998, additional information was not available for nine. Of the remaining 304 mother/infant pairs, 280 (92%) infants received HBIG and the first dose of HBV vaccine within 1 day of birth. Ninety-five percent of infants received the second dose of vaccine by 4 months of age, and 74% completed the three-dose vaccine series by 8 months of age. Follow-up serologic testing for hepatitis B surface antibody (anti-HBs) has been completed for 133 (44%) infants; all developed a protective antibody response. Adherence to the vaccine series did not differ significantly by race/ethnicity or mother's age. Metropolitan area residents were 3.5 times more likely than those in Greater Minnesota to complete the three-dose series within 8 months ($p < 0.001$).

Survey of Birthing Hospitals

In 1997, MDH surveyed all birthing hospitals in Minnesota to determine their policies and practices for preventing perinatal transmission of HBV. Of 115 hospitals surveyed, 113 (98%) responded. Only 43 (38%) hospitals reported routinely screening women for HBsAg if their status was unknown upon admission for delivery. Only 41 (36%) hospitals reported policies for routinely administering HBIG and HBV vaccine within 12 hours of birth to all infants born to HBsAg-positive mothers. Most (58%) hospitals stated that decisions concerning prophylaxis vary depending upon the physician's order. Policies concerning prophylaxis for infants born to mothers with unknown HBsAg status also were variable; 53% of hospitals reported that prophylaxis decisions depend upon the physician's order.

Only 45 (40%) hospitals had a written policy for preventing perinatal HBV



infection. Birthing hospitals with a policy were more likely both to give HBV vaccine and HBIG to an infant born to a HBsAg-positive mother ($p < 0.001$) and to give HBV vaccine to an infant born to a mother with unknown HBsAg status ($p < 0.05$). Hospitals without a written policy were more likely to report that prophylaxis would vary by physician's order for infants born to HBsAg-positive mothers ($p < 0.001$). None of these associations varied significantly by location of the hospital (i.e., metropolitan versus rural).

Birthing hospitals also were surveyed about protocols for transferring vaccination information to the infant's health care provider. Twenty-nine (26%) hospitals had no such protocol. Of hospitals with a protocol, 46% reported including vaccine history in the infant's discharge summary.

Comment

The great majority of infants born to HBsAg-positive mothers in Minnesota initially received recommended prophylaxis at birth, although only 74% received the full three-dose series of vaccine by 8 months of age. Many hospitals do not have standardized policies for screening women for HBV at delivery or for preventing perinatal HBV transmission. Other studies indicate that the efficacy of prophylaxis beginning at birth is 85-95%. Without HBIG and HBV vaccine, up to 90% of infants born to HBsAg-positive mothers become chronic carriers of HBV with potential for subsequent liver failure,

cirrhosis, or hepatocellular carcinoma.

The survey results underscore the importance of a standardized policy for HBV screening and prophylaxis in birthing hospitals. Failure to identify a HBsAg-positive mother can result in missed opportunities for vaccinating high-risk infants. The survey also documents the need for standardized documentation of both the mother's HBsAg status and prophylaxis in the infant's discharge summary to ensure timely administration of additional doses of HBV vaccine and appropriate follow-up serologic testing.

Recommendations from the Advisory Committee on Immunization Practices, the American Academy of Family Physicians, the American College of Obstetrics and Gynecology, and the American Academy of Pediatrics include the following:

- Screen all women early in pregnancy for HBsAg. Perform additional HBsAg serologic testing later in pregnancy for women at high risk for HBV infection or those with clinical symptoms suggestive of acute hepatitis. Document the mother's HBV infection status in her prenatal record, hospital chart, immunization record card, and on the newborn's discharge summary.
- Administer HBIG and HBV vaccine within 12 hours of birth to all infants born to HBsAg-positive mothers. Administer additional doses of HBV

continued...

- vaccine at 1 and 6 months of age.
- Perform a stat HBsAg screening test for all women admitted for delivery with unknown HBsAg status. While test results are pending, administer HBV vaccine to the infant within 12 hours of birth. If the mother is HBsAg-positive, her infant should receive HBIG as soon as possible within 7 days of birth.
 - Perform post-vaccination serologic testing for HBsAg and anti-HBs for infants born to HBsAg-positive mothers 3 to 9 months after

completion of the vaccine series; determine whether additional vaccine is needed or evaluate treatment options if the infant is HBsAg-positive. Administer additional doses of vaccine to infants who do not respond to the initial series; 30-50% of initial non-responders who receive another series of three vaccine doses will develop anti-HBs.

- Screen all household or sexual contacts of HBsAg-positive mothers for anti-HBs and HBsAg. Vaccinate

susceptible contacts. Vaccine for contacts of all ages is available through the Minnesota Vaccines for Children (MnVFC) program.

Contact MDH's Immunization Hotline at (800) 657-3970 with questions about perinatal hepatitis B prevention. For general information about hepatitis B, contact the MDH Acute Disease Epidemiology Section at (612) 676-5414 or visit the MDH web site at www.health.state.mn.us/divs/dpc/adps/adps.htm.

**Jan K. Malcolm
Commissioner of Health**

Division of Disease Prevention and Control

Martin LaVenture, M.P.H. Acting Division Director
 Kirk Smith, D.V.M., Ph.D. Editor
 Wendy Mills, M.P.H. Assistant Editor
 Sheril Arndt Production Editor
 Richard N. Danila, Ph.D., M.P.H. Acting State Epidemiologist

**CHANGING YOUR
ADDRESS?**

**Please correct the address
below and send it to:
DCN MAILING LIST
Minnesota Dept. of Health
717 Delaware Street SE
Minneapolis, MN 55414**

The *Disease Control Newsletter* is available on the MDH Acute Disease Epidemiology Section web site at www.health.state.mn.us/divs/dpc/ades/pub.htm