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Immigrants, Immigration Law, and Tuberculosis

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IMMIGRANTS, IMMIGRATION LAW, AND TUBERCULOSIS

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Current U.S. immigration law provides for the exclusion of all aliens who are "determined . . . to have a communicable disease of public health significance.[1] In addition to numerous sexually transmitted diseases such as infectious syphilis and gonorrhea, "communicable diseases of public health significance" include infectious tuberculosis and human immunodeficiency virus (HIV).[2]

The first portion of this Article provides a brief overview of the history and epidemiology of tuberculosis, as well as the diagnosis and management of the disease. The Article next reviews current information on tuberculosis in immigrant populations and proceeds to a discussion of U.S. immigration processes relating to the excludability of non-U.S. citizens due to tuberculosis. Finally, the Article concludes with various recommendations for addressing the inadequacies of current methods for addressing tuberculosis within immigrant communities.

I. TUBERCULOSIS

A. History and Epidemiology

Tuberculosis is not only an ancient disease, but is also one that has left its impact on civilizations throughout history. The following brief

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1. Immigration and Nationality Act, 8 U.S.C. § 1182(a)(1)(A)(i) (1994). This is one of many grounds of exclusion enumerated in the Immigration and Nationality Act (INA). 8 U.S.C. § 1182. All aliens seeking entry into the United States are subject to immigration inspection at the port of entry or border crossing where they are entering into the United States. At that time, the immigration inspector will determine if they are eligible for admission into the United States in the visa category claimed and whether they are subject to any grounds of exclusion. Most individuals will obtain visas at a consulate overseas prior to entry. The consular officer reviewing their application for a visa has also made a determination regarding their eligibility for that visa status and their excludability from the United States on one or more of the enumerated grounds of exclusion contained in the INA. For a discussion of admission and exclusion procedures, see Richard D. Steel, *Steel On Immigration Law 2d* §§ 13.01–.17 (1996).

2. 42 C.F.R. § 34.2(b) (1995).

anecdotes provide some insight into the influence that tuberculosis has had over time.

Examinations of mummies from Egypt have revealed evidence of tuberculosis infection as far back as 3400 B.C.[3] The Greeks referred to tuberculosis as *phthisis*, meaning "to consume" and "to waste away."[4] Later, in the seventeenth century, tuberculosis caused approximately twenty percent of all deaths in the British Isles. John Bunyan wrote in *The Life and Death of Mr. Badman* in 1680, "The captain of all these men of death that came against him to take him away, was the Consumption, for it was that that brought him down to the grave."[5] The disease was first referred to as tuberculosis by Johan Schoenlein in 1839, who derived the term from the Latin word *tubercula*, meaning a small lump. In 1913, V.A. Moore of Cornell University wrote of tuberculosis: "As a destroyer of man, tuberculosis has no equal; as a scourge of cattle, there is no other to compare it."[6]

Numerous individuals of fame have been infected with tuberculosis, including John Keats, Percy Bysshe Shelley, Paganini, Chopin, Robert Louis Stevenson, Emily and Charlotte Bronte,[7] and Eleanor Roosevelt.[8] Chopin said of his illness:

> I have been sick as a dog these last two weeks; I caught cold in spite of 18 degrees C. of heat, roses, oranges, palms, figs, and three most famous doctors of the island. One sniffed at what I spat up, the second tapped where I spat it from, the third poked around and listened how I spat it. One said I had already died, the second that I am dying, the third that I shall die . . . . I can scarcely keep them from bleeding me . . . . [A]ll this has affected the preludes and God knows when you will get them.[9]

Robert Louis Stevenson was similarly troubled by his illness, writing:

> I lie awake troubled by a hacking, exhausting cough and praying for sleep or morning, from the bottom of my little shaken body. For 14 years, I have not had a day's real health; I have written in bed

3. Sanford A. Rubin, *Tuberculosis: Captain of All These Men of Death*, 33 Radiologic Clinics N. Am. 619, 620 (1995).

4. *Id.* at 619.

5. *Id.*

6. *Id.*

7. *Id.* at 636–38.

8. Eleanor Roosevelt, *Eleanor Roosevelt's My Day* 316 (David Elmblidge ed., 1991).

9. Rubin, *supra* note 3, at 637.

> and out of it, written in hemorrhages, written in sickness, written torn by coughing, written when my head swam for weakness.[10]

In 1990, an estimated 7.5 million individuals were infected with tuberculosis worldwide.[11] In that same year, approximately 2.5 million deaths worldwide resulted from this disease.[12] Absent improved measures for the control of tuberculosis, it is projected that approximately ninety million new cases of tuberculosis and thirty million deaths from the disease will occur between 1990 and 1999.[13] The industrialized countries of the world, including the United States, had been experiencing a decrease in the incidence of tuberculosis until the mid-1980s, at which time the annual incidence began to increase.[14] As an example, the case rate in the United States was estimated at 10.5 per 100,000 persons in 1992, compared to a case rate of 9.3 per 100,000 persons in 1985. This represents a thirteen percent increase.[15]

As in the past, tuberculosis remains a disease of urban poor minorities.[16] Increases in the number of cases in the United States between 1985 and 1992 were concentrated in specific communities of color, in individuals aged twenty-five through forty-four, in males, and in individuals born outside the United States.[17] In fact, individuals born outside the United States accounted for sixty percent of the total increase

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10. *Id.*

11. Mario C. Raviglione et al., *Global Epidemiology of Tuberculosis: Morbidity and Mortality of a Worldwide Epidemic*, 273 JAMA 220, 220 (1995).

12. Raviglione, *supra* note 11; Mario C. Raviglione et al., *Secular Trends of Tuberculosis in Western Europe*, 71 Bull. World Health Org. 297 (1993).

13. P.J. Dolin et al., *Global Tuberculosis Incidence and Mortality During 1990–2000*, 72 Bull. World Health Org. 213, 213 (1994); Raviglione, *supra* note 11; *see also* Centers for Disease Control & Prevention, *Estimates of Future Global Tuberculosis Morbidity and Mortality*, 271 JAMA 739 (1994).

14. T.M.S. Barkham et al., *Tuberculosis in Inner London: Evidence for an Increase in Young Adults and Immigrants*, 115 Epidemiology Infect. 133 (1995); N. Bhatti et al., *Increasing Incidence of Tuberculosis in England and Wales: A Study of the Likely Causes*, 310 British Med. J. 967 (1995); Michael F. Cantwell et al., *Epidemiology of Tuberculosis in the United States, 1985 Through 1992*, 272 JAMA 535 (1994); Richard Menzies et al., *Factors Associated with Tuberculin Reactivity Among the Foreign-Born in Montreal*, 146 Am. Rev. Respiratory Disease 752 (1992); Matthew T. McKenna et al., *The Epidemiology of Tuberculosis Among Foreign-Born Persons in the United States, 1986 to 1993*, 332 New Eng. J. Med. 1071 (1995); Mahamed Nisar et al., *Experience of Tuberculosis in Immigrants From South East Asia—Implications for the Imminent Lease Back of Hong Kong*, 85 Respiratory Med. 219 (1991); J.S. Wang et al., *Tuberculosis in Recent Asian Immigrants to British Columbia, Canada: 1982–1985*, 72 Tubercle 277 (1991).

15. Cantwell et al., *supra* note 14, at 536.

16. Josephine Gittler, *Controlling Resurgent Tuberculosis: Public Health Agencies, Public Policy and Law*, 19 J. Health Pol. Pol'y & L. 107, 114 (1994).

17. Cantwell et al., *supra* note 14.

in cases from 1986 through 1992 and particularly affected Asians, Hispanics, females, and individuals other than those aged twenty-five to forty-four.[18]

B. Transmission, Diagnosis, and Management

Pulmonary tuberculosis results from exposure to the bacilli *Mycobacterium tuberculosis* in airborne droplet nuclei, produced through the coughing, sneezing, or singing of individuals who have pulmonary or laryngeal tuberculosis.[19] Individuals who are exposed may become infected, but that infection may not be evident for quite some time. Approximately ninety to ninety-five percent of the individuals who are infected develop latent tuberculosis after the initial, early lung lesions heal.[20] Individuals with latent infection remain at risk of a reactivation of the disease. Approximately five percent of individuals with competent immune systems will develop active disease. However, as many as fifty percent of immunocompromised individuals exposed to tuberculosis will develop active disease. The risk of contracting tuberculosis increases with an increase in the frequency and duration of exposure to an individual with active disease.[21]

Exogenous reinfection or endogenous reactivation of a latent focus may give rise to progressive pulmonary tuberculosis. If left untreated, approximately fifty percent of individuals will die within five years.[22] Individuals with advanced disease may experience fatigue, fever, night sweats, cough, chest pain, hemoptysis, and hoarseness.[23]

Extrapulmonary tuberculosis, which is much less common than pulmonary tuberculosis, results from exposure to cattle infected with tuberculosis through the ingestion of unpasteurized dairy products.[24] It may affect any organ or tissue, including lymph nodes, kidneys, bones, skin, eyes, and intestines.[25] In the United States, extrapulmonary tuberculosis occurs in approximately sixteen percent of tuberculosis

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18. *Id.*

19. *Control of Communicable Diseases Manual* 488 (Abram S. Benenson ed., 16th ed. 1995) [hereinafter Benenson].

20. *Id.* at 488.

21. *Id.*

22. *Id.* at 489.

23. *Id.*; Clement W. Fox & Ronald B. George, *Current Concepts in the Management and Prevention of Tuberculosis in Adults,* 144 J. La. State Med. Soc'y 363, 364 (1992).

24. Benenson, *supra* note 19, at 491.

25. *Id.* at 488–89.

cases. However, it may occur in as many as sixty or seventy percent of patients with AIDS. Extrapulmonary tuberculosis also occurs more frequently among immigrants to the United States than among U.S. born individuals. A recent examination of seventeen cases of abdominal tuberculosis among patients of a New York hospital identified two distinct patient populations who were infected: thirteen individuals had immigrated to the United States from developing countries and five individuals were infected with HIV, one of whom was also an immigrant.[26] Extrapulmonary tuberculosis is generally not communicable.[27]

Initial screening for tuberculosis is accomplished by use of a tuberculin skin test. Five tuberculin units are injected intradermally on the volar surface of the forearm. The test is read forty-eight to seventy-two hours after it is administered.[28] An induration of ten millimeters or greater is used as an indication of a positive result in individuals with medical risk factors for tuberculosis, such as diabetes, alcoholism, or drug abuse; in individuals residing in areas with a high prevalence of tuberculosis; in persons with unstable housing situations; in residents of institutions, such as prisons and long term care facilities; and in children under the age of four. A skin test will be considered positive at fifteen millimeters if the patient has none of these risk factors and is from an area with a low prevalence of tuberculosis.[29] A lower cutoff is used, however, to determine positivity in persons who are infected with HIV, in individuals with chest x-rays that suggest previously healed tuberculosis, and in individuals who have household contacts with infectious tuberculosis.[30] Individuals may display a negative skin test result, despite exposure to *Mycobacterium tuberculosis*, if they are immunocompromised by disease, malnutrition, or drugs. A positive result on the skin test means that the individual has been exposed to tuberculosis, but does not necessarily signify active infection. Further

26. Amber A. Guth & Unsup Kim, *The Reappearance of Abdominal Tuberculosis*, 172 Surgery, Gynecology & Obstetrics 432, 432 (1991). Israel has also reported an increase in extrapulmonary tuberculosis, which has been attributed to recently arrived immigrants from developing countries. S. Oren et al., *Extrapulmonary Tuberculosis: Five Case Reports*, 27 Israel J. Med. Sci. 390 , 390 (1991). For a discussion of intestinal tuberculosis, see John B. Marshall, *Tuberculosis of the Gastrointestinal Tract and Peritoneum*, 88 Am. J. Gastroenterology 989 (1993).

27. Benenson, *supra* note 19, at 491.

28. Fox & George, *supra* note 23, at 367.

29. *Id.* at 368.

30. *Id.*

diagnostic procedures are necessary to determine if the individual has active disease.[31]

Active disease is indicated by the presence of acid-fast bacilli in stained sputum smears or other body fluids, clinical findings, or chest x-rays. Diagnosis based on sputum smears generally requires three samples from consecutive mornings.[32] Tuberculosis is theoretically communicable for as long as viable tubercule bacilli are discharged in the sputum. The extent to which the tuberculosis is communicable, however, depends on a number of factors including the number of bacilli discharged, the virulence of the bacilli, the adequacy of ventilation in the place of exposure, the exposure of the bacilli to sun or to ultraviolet light, and opportunities for areosolization.[33]

All states in the United States require that cases of active tuberculosis be reported to a local public health authority.[34] In the United States, an initial combination therapy consisting of four drugs, INH, rifampin, pyrazinamide and ethambutol, or streptomycin, is recommended for patients with active disease, if they are from a locale in which there is more than a four percent prevalence of resistance to INH. A specific drug regimen is initiated after the results of drug susceptibility tests are obtained. Cure of tuberculosis is dependent on completion of the therapy.[35] Objective assurances of patient adherence to the prescribed regimen is achieved through urine testing for INH levels and observation of urine color, as RMP will turn urine and other body secretions orange. Other signs of adherence include general improvement of the patient's condition, including weight gain and radiographic improvement after two to three months. Sputum smears are generally negative after two months of treatment.[36]

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31. Benenson, *supra* note 19, at 489; Fox & George, *supra* note 23, at 367–68.

32. Fox & George, *supra* note 23, at 364.

33. Benenson, *supra* note 19, at 491.

34. *Id.* at 495.

35. *Id.* at 496; Fox & George, *supra* note 23, at 364.

36. Fox & George, *supra* note 23, at 364. It is unclear how much compliance with the proposed regimen is enough. For a discussion of this issue in the context of antibiotics, see John Urquhart, *Ascertaining How Much Compliance Is Enough with Outpatient Antibiotic Regimens*, 68 Postgraduate Med. J. S49 (Supp. 3 1992). Numerous strategies have been devised in an attempt to increase patient adherence to the prescribed regimen, including alternative health education strategies, an increased emphasis on patient follow-up by field staff, automated telephone reminders for clinic appointments, the implementation of directly observed therapy, and consideration of the local culture in the design of tuberculosis prevention and treatment programs. *See, e.g.*, *Approaches to Improving Adherence to Antituberculosis Therapy—South Carolina and New York*, 1986–1991, 42 Morbidity & Mortality Wkly. Rep. 74 (1993); L.P. Ormerod & R.J. Prescott, *Inter-relations*

Patients whose sputum does not convert after three to four months are considered "primary drug failures."[37] This may be attributable to drug resistance of the particular strain of tuberculosis, immunodeficiency, or nonadherence to the prescribed treatment regimen. Directly observed therapy (DOT), in which the patient's ingestion of the prescribed medications is directly observed by a healthcare worker, may be used in situations where patients refuse to take the prescribed course of treatment.[38]

Despite treatment, patients may experience a relapse following an initial response to the medication. This relapse may be due to a voluntary or involuntary interruption of treatment, often resulting from the instability of the patient's particular living situation such as homelessness or drug abuse.[39]

Individuals who are infected with tuberculosis but who do not have active disease are generally referred for preventive therapy. Preventive therapy seeks to prevent tuberculosis from progressing to active disease. Preventive therapy consists of a regimen of medication, usually isoniazid (INH), for six months in most patients and for twelve months in individuals infected with HIV and those whose x-rays are consistent with a history of tuberculosis.[40]

Some individuals may have what is known as MDR-TB. This term refers to tuberculosis infection that is resistant to two or more drugs.[41] Secondary, or acquired, multidrug resistance occurs in patients whose tuberculosis was initially amenable to treatment but has become drug resistant during the course of treatment.[42] Such secondary resistance may result from a patient's irregular adherence to the prescribed regimen. This nonadherence may be unintentional and due to the circumstances of

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Between Relapses, Drug Regimens and Compliance with Treatment in Tuberculosis, 85 Respiratory Med. 239 (1991); Arthur J. Rubel & Linda C. Garro, *Social and Cultural Factors in the Successful Control of Tuberculosis*, 107 Pub. Health Rep. 626 (1992); L. Salleras Sanmarti et al., *Evaluation of the Efficacy of Health Education on the Compliance with Antituberculosis Chemoprophylaxis in Children. A Randomized Clinical Trial*, 74 Tubercle & Lung Disease 28 (1993); Elizabeth Decker Tanke & Von O. Leirer, *Automated Telephone Reminders in Tuberculosis Care*, 32 Med. Care 380 (1994). For a review of both strategies to measure adherence and the role of socio-cultural factors in patient adherence, see Esther Sumartojo, *When Tuberculosis Treatment Fails: A Social Behavioral Account of Patient Adherence*, 147 Am. Rev. Respiratory Disease 1311 (1993).

37. Fox & George, *supra* note. 23, at 364.

38. *Id.*

39. *Id.* at 365.

40. *Id.*

41. Gittler, *supra* note 16, at 111.

42. *Id.*

the patient's life, such as homelessness or a lack of public or private medical insurance to cover the costs of the treatment; the inaccessibility of service sites due to lack of transportation or convenient hours; or poor communication between the healthcare provider and the patient. The transmission of MDR-TB to others results in primary, or initial, multidrug resistance in the previously nontuberculous person.[43]

Multidrug resistant tuberculosis is extremely difficult and expensive to treat. It has been estimated that the duration of treatment in such cases requires a regimen of eighteen to twenty-four months, in contrast to the six months required to treat nonresistant infections.[44] Treatment costs for resistant infections may be as high as $150,000. This does not include the approximately $6000 necessary to pay for appropriate drugs.[45] Additionally, those with MDR-TB may remain infectious to others for a protracted period of time.[46]

Tuberculosis, HIV infection, and drug abuse are closely related.[47] Drug abusers are not only at high risk for contracting tuberculosis, but they are also at high risk for both drug resistant tuberculosis and HIV. Their susceptibility to HIV infection is due to the shared use of non-sterile injection paraphernalia and/or unprotected sexual contact with other individuals who may themselves be infected with HIV as a result of either unprotected intercourse with others or the shared use of non-sterile injection paraphernalia.[48] Most of the cases of tuberculosis among AIDS patients result from the reactivation of latent tuberculosis infection. In individuals who are infected with both tuberculosis and HIV, the

43. *Id.* It is not possible to estimate the number of MDR-TB patients worldwide because few countries maintain reliable surveillance systems for multidrug resistance. Raviglione, *supra* note 11, at 224. In addition, few countries maintain a monitoring system for cure and death rates. Solomon R. Benatar, *Prospects for Global Health: Lessons from Tuberculosis*, 50 Thorax 487, 488 (1995).

44. Gittler, *supra* note 16, at 111 (citing National MDR-TB Task Force, Centers for Disease Control & Prevention, *National Action Plan To Combat Multidrug Resistant Tuberculosis* (1992)). The 1990 to 1992 investigation of MDR-TB outbreaks by the Centers for Disease Control and Prevention illustrates the difficulty of effectively treating this disease. Outbreaks were investigated in eight hospitals and a state correctional system. As of November 1992, 297 cases of MDR-TB had been identified. Approximately 70% of these individuals died. The median interval from time of diagnosis to time of death was 4 to 16 weeks. Raviglione, *supra* note 11, at 224.

45. Gittler, *supra* note 16, at 111 (citing Institute of Medicine, *Emerging Infections: Microbial Threats and Health in the United States* (J. Lederberg et al. eds., 1992).

46. T.R. Frieden et al., *The Emergence of Drug-Resistant Tuberculosis in New York City*, 328 New Eng. J. Med. 521, 527 (1993).

47. Gittler, *supra* note 16, at 115.

48. *Id.*

diagnosis of tuberculosis generally precedes or coincides with the diagnosis of HIV.[49]

II. TUBERCULOSIS AND IMMIGRANT POPULATIONS

Border controls, commonly used to limit migration between countries, are not always effective in barring the entry of individuals, and are clearly ineffective in limiting the transmission of disease. An individual traveling between several countries may unknowingly become infected or infect others with either tuberculosis or any number of other infectious diseases. Consequently, it is unrealistic to view the issue of tuberculosis among immigrants in the context of only the United States, without regard to the trends affecting other nations; what happens there may well happen here. Furthermore, an understanding of the immigration process as it relates to tuberculosis is facilitated by an understanding of the populations who immigrate and the forces that motivate them to do so.

Many international immigrants migrate for economic reasons, expecting to find better jobs, higher wages, and better living conditions in the location to which they move. The decision to move may be an individual one, or may stem from a family's decision that one or more of its members should migrate, in the hope that those members will receive higher earnings and contribute a portion of them to their non-migrating family members.[50] Many of these individuals immigrating leave countries with higher prevalence rates of tuberculosis than the United States. Consequently, these individuals have a greater chance of contracting tuberculosis.[51]

In contrast to those individuals who migrate for economic reasons, refugees flee their home countries in order to avoid persecution, often stemming from political, religious, or ethnic differences.[52] These individuals may have been confined in prison in the country of origin or

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49. Gerald Friedland & Robert Klein, *Tuberculosis and Other Bacterial Infections*, in *Aids: Etiology, Diagnosis, Treatment & Prevention* 180, 181 (Vincent T. DeVita, Jr. et al. eds., 3d ed. 1992).

50. *Migration, Population Growth, and Development*, 11 Population Rep. M-245, M-245 (1983).

51. David W. Haas & Roger M. Des Prez, *Tuberculosis and Acquired Immunodeficiency Syndrome: A Historical Perspective in Recent Developments*, 96 Am. J. Med. 439 (1994); Ida M. Onorato et al., *Prevalence of Human Immunodeficiency Virus Infection Among Patients Attending Tuberculosis Clinics in the United States*, 165 J. Infectious Disease 87 (1992). *See generally* C. Raina McIntyre et al., *The Epidemiology of Tuberculosis in Victoria*, 159 Med. J. Australia 672, 675–76 (1993); Raviglione, *supra* note 12, at 302–03 (discussing impact of foreign residents on tuberculosis in Western Europe).

52. *Migration, Population Growth, and Development*, *supra* note 50, at M-252.

in refugee camps while in route to their destination, or transported with others under cramped and unhygienic conditions.[53] Such closed and/or crowded conditions may increase an individual's risk of becoming infected.[54]

The slowing of the decrease in morbidity rates from tuberculosis in the United States, Canada, Great Britain, and New Zealand has been attributed to immigration from countries with significantly greater incidence rates of tuberculosis. In the United States, from 1986 to 1989, the average annual rate of tuberculosis among foreign born individuals was 27.1 per 100,000 persons. Thereafter from 1990 to 1993, the rate of tuberculosis increased to 33.6 cases per 100,000 persons.[55] In contrast, from 1986 to 1993, the U.S. population experienced 8.1 cases of tuberculosis per 100,000 persons.[56] During this seven year period, tuberculosis among foreign born individuals was the highest among those who had been in the United States for less than five years. Of those individuals, the highest rates were recorded from individuals born in Asia, not including individuals from India, Japan, mainland China or the countries of the foreign Soviet Union. In particular, 92.2 percent of the former born individuals who contracted tuberculosis came from the Philippines, Vietnam, South Korea, Cambodia, and Laos.[57] This high rate among recent immigrants has been attributed to several factors: the admission of immigrants with active, but noninfectious disease into the United States; the insensitivity of sputum smears in detecting clinically active disease; the lack of federal procedures for follow-up with individuals granted entry into the United States who have chest x-rays indicative of tuberculosis but negative sputum smears; the decreased risk of tuberculosis with the lengthening of time after infection; and the entry into the United States each year of millions of temporary visitors and undocumented individuals without tuberculosis screening.[58]

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53. Michael J. Toole & Ronald J. Waldman, *Refugees and Displaced Persons*, 270 JAMA 600 (1993).

54. Haas & Des Prez, *supra* note 51, at 443.

55. McKenna et al., *supra* note 14, at 1071–72.

56. *Id.*

57. *Id.* at 1074–75.

58. *Id.* Unlike individuals applying for admission to the United States as immigrants, non-immigrants are those who come to the United States temporarily. In order to qualify as a nonimmigrant, an individual must establish his or her eligibility for classification into one of the categories of non-immigrants enumerated by law including, but not limited to, students, visitors for pleasure, diplomats, journalists, and professional athletes. 8 U.S.C. § 1184 (1994).

Aliens who are "undocumented" include those who have entered the United States illegally and those who have entered legally but have subsequently violated the conditions of their immigration

III. IMMIGRATION LAW AND TUBERCULOSIS TESTING

A. The Medical Examination for Tuberculosis

Immigration law requires that all immigrant visa applicants and all applicants for a fiancé/fiancee visa undergo a mental and physical examination as part of the application process for admission into the United States.[59] If an individual applies for a visa from within the United States, a process known as adjustment of status, a medical examination will be conducted by a civil surgeon, a physician designated by the Immigration and Naturalization Service.[60] However, for visa applications filed abroad, examinations are performed by panel physicians who are approved by consular officers.[61]

Applicants for adjustment of status are required to have an INS Form I-693 (Medical Examination of Aliens Seeking Adjustment of Status) completed by the civil surgeon who conducts his or her medical examination. The physician will complete the form after the examination and will normally return it to the applicant in a sealed envelope to be filed with INS. A similar process is used at the consulates overseas. There, the applicant for a visa will receive instructions for the medical examination, as well as a list of panel physicians in the area. The physician will return the completed form to the applicant following the completion of the examination.[62]

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status. Illegal entry encompasses numerous and varied circumstances, including entry without inspection and entry based on fraud or misrepresentation. 8 U.S.C. § 1251(a)(1)(B), (G) (1994). Violation of legal status includes a variety of offenses, including "overstaying" one's visa and working without authorization. 8 U.S.C. § 1251(a)(1)(C) (1994). McGinnis has defined "undocumented alien" more broadly to include those "who do not have actual possession of proper entry papers due to loss or theft of their entry visa as well as aliens who are eligible for permanent residence status but have not applied for this status." Laurie McGinnis, Note, *Undocumented Aliens' Right to Medicaid After* Plyler v. Doe, 7 Fordham Int'l L.J. 83, 83 n.3 (1984) (quoting Victor M. Lopez, Note, *Equal Protection for Undocumented Aliens*, 5 Chicano L. Rev. 29, 29 n.1 (1982) (quoting Letter from Mexican American Legal Defense Fund and Education Fund to Hon. Evelle J. Younger (Sept. 15, 1978))); *see also* Sana Loue, *Access to Health Care and the Undocumented Alien*, 13 J. Legal Med. 271, 273 n.11 (1992).

59. 8 U.S.C. § 1202(a) (1994) (delineating application requirements for immigrant visa); 22 C.F.R. § 42.66 (1996) (outlining exam process for applicants outside the United States); 8 C.F.R. § 234.2 (1996) (outlining exam process for applicants inside United States).

60. 8 C.F.R. § 234.2. For a discussion of adjustment of status requirements and procedures, see Steel, *supra* note 1, §§ 7.01–7.03.

61. 22 C.F.R. § 42.66.

62. Sana Loue, *Immigration Law and Health: Patients and Providers* § 9.01 (1995).

All applicants for adjustment of status who are two years old or older are required to have a tuberculin skin test to determine whether they are infected with *Mycobacterium tuberculosis*.[63] However, children under two years of age will be required to have a tuberculin skin test if there is evidence that they had contact with an individual known to have tuberculosis or if there is another reason to suspect that the infant has tuberculosis.[64] These skin tests must be performed using purified protein derivative (PPD) given by the Mantoux technique.[65] If after forty-eight to seventy-two hours, the skin reaction is greater than or equal to five millimeters then the civil surgeon is instructed to regard the test results as evidence of tuberculosis infection. In most cases, a chest x-ray will be required as well. Pregnant women with no symptoms of tuberculosis may request a waiver.[66] Symptomatic pregnant women, however, must receive a chest x-ray. If the chest x-ray reveals evidence of tuberculosis, sputum smears must also be obtained.[67]

The civil surgeon must refer any applicant to the local health department for further evaluation if his or her chest x-ray is suggestive of tuberculosis.[68] This evaluation normally includes sputum smears. Following evaluation by the local health department, the applicant must return to the civil surgeon with a copy of that evaluation. Applicants who have a positive skin test for tuberculosis but a normal chest x-ray are referred to the local health department for the initiation of preventive therapy.[69]

Whether an individual is rendered excludable due to a positive result on the skin test or the chest x-ray will depend on the stage of the tuberculosis. An individual will be diagnosed with "active tuberculosis" if there is clinical, laboratory, or radiologic evidence of current disease

63. *See* INS Form I-693 *reprinted in* Loue, *supra* note 62.

64. Loue, *supra* note 62.

65. United States Department of Health and Human Services, Public Health Service, Centers For Disease Control, *Technical Instructions for Medical Examination of Aliens in the United States* II-3 (June 1991) [hereinafter *Technical Instructions*] *reprinted in* Loue, *supra* note 62, at app. A1-1 to A1-8.

66. Letter from Public Health Service, Centers for Disease Control to Civil Surgeons (July 13, 1992) [hereinafter PHS Letter] *reprinted in* Loue, *supra* note 62, at app. A1-9.

67. *Id.*

68. *Technical Instructions*, *supra* note 65, at app. A1-12 to A1-13.

69. U. S. Dept. Health & Human Servs., Pub. Health Serv., Centers for Disease Control, *Training Supplement for Civil Surgeons* (June 1991) [hereinafter *Training Supplement*] *reprinted in* Loue, *supra* note 62, at app. A1-24.

process, either pulmonary or extrapulmonary, caused by *Mycobacterium tuberculosis*.[70]

Only individuals who demonstrate infectious tuberculosis will be considered excludable.[71] Infectious tuberculosis is demonstrated by an abnormal chest x-ray that is consistent with pulmonary tuberculosis and a sputum smear that is positive for acid-fast bacilli. An individual will be considered noninfectious if he or she has an abnormal chest x-ray consistent with pulmonary tuberculosis and sputum smears, obtained on three consecutive days, that are negative for acid-fast bacilli.[72]

In order to determine which applicants may proceed with immigration, civil surgeons must designate whether the applicant has a "Class A" or "Class B" diagnosis of tuberculosis.[73] A Class A diagnosis or condition renders that individual excludable from the United States. Individuals with a Class B classification will not be excluded.[74]

A normal chest x-ray, with no abnormalities, is classified by the civil surgeon as "normal."[75] Individuals will be classified as "Class A tuberculosis, infectious" if they have an abnormal chest x-ray or a series of abnormal chest x-rays that are suggestive of current pulmonary tuberculosis and one or more sputum smears that are positive for acid-fast bacilli.[76] In contrast, individuals will be classified as Class A with infectious tuberculosis that is noncommunicable for travel purposes if they (1) have an abnormal chest x-ray or a series of abnormal chest x-rays that are indicative of active tuberculosis; (2) have a history of one or more sputum smears that are positive for acid-fast bacilli; (3) are currently on recommended treatment; and (4) have had sputum smears on three consecutive days which were negative for acid-fast bacilli.[77]

There are several different categories of individuals classifiable as Class B.[78] Class B1 consists of individuals who have clinically active tuberculosis, but are not infectious. These individuals have had an abnormal chest x-ray or series of chest x-rays that are suggestive of active tuberculosis, but have had sputum smears on three consecutive

70. *Technical Instructions*, *supra* note 65, at app. A1-12.

71. *Id.* at app. A1-24.

72. *Id.* at app. A1-14.

73. *Id.*

74. *See Training Supplement*, *supra* note 69, at app. A1-25.

75. *Id.*

76. *Technical Instructions*, *supra* note 65, at app. A1-14.

77. *Id.*

78. *Id.*

days that were negative for acid-fast bacilli.[79] Class B1-diagnosed individuals are those with extrapulmonary tuberculosis that is clinically active but not infectious to others. These individuals are diagnosed by x-ray. Class B2 applies to those whose tuberculosis is not clinically active, as indicated by an abnormal chest x-ray or series of chest x-rays that are suggestive of clinically inactive tuberculosis. This could be indicated by fibrosis, scarring, or pleural thickening on the x-ray.[80] Class B2-diagnosed individuals are not required to provide sputum smears.[81] Individuals who have completed a recommended course of anti-tuberculous therapy are also classified as Class B2 if their chest x-rays are stable.[82] Class B3 encompasses those individuals who have had an abnormal chest x-ray or series of abnormal chest x-rays that are consistent with old or healed tuberculosis, as demonstrated by a calcified hilar lymph node, calcified primary complex, or calcified granuloma.[83] Class B also applies to other chest conditions in which the abnormal chest x-ray is not consistent with a diagnosis of tuberculosis.[84]

Individuals in the United States with Class A status must obtain an appointment with a local physician or health department for further evaluation and for the initiation of anti-tuberculous treatment, if appropriate.[85] Until treatment is complete, medical clearances for immigration are generally unavailable. Completion of treatment often requires nine months.[86] Even then, the applicant must present documentation of the treatment to a civil surgeon in order to receive clearance.[87]

Instructions for the panel physicians conducting examinations outside of the United States are similar, but also include directions for recommended treatment. As of February 1992, panel physicians were advised to treat individuals with infectious pulmonary tuberculosis, who were not suspected of having drug resistant tuberculosis, with a multidrug regimen for a period of six months. Individuals with drug resistant tuberculosis are treated for longer periods of time.

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79. *Id.*

80. *Training Supplement*, *supra* note 69, at app. A1-25.

81. *Technical Instructions*, *supra* note 65, at app. A1-14.

82. *Id.*

83. *Training Supplement*, *supra* note 69, at app. A1-25.

84. *Id.*

85. *Cf. Technical Instructions*, *supra* note 65, at app. A1-12.

86. Loue, *supra* note 62.

87. *Id.*

Any individuals classified as having a Class A medical condition can appeal the issuance of a Class A medical certificate to a medical board convened by the Surgeon General. The board must consist of three medical officers, one of whom has experience in the diagnosis and treatment of tuberculosis. The decision of the majority of the board prevails.[88]

At the time of this appeal, the applicant may be represented by counsel, may cross-examine witnesses called by the board, and may present at least one expert medical witness.[89] The board is required to review all records submitted by the applicant and witnesses, including any clinically relevant studies, physician statements made after the original physical examination that relate to the applicant's physical condition, and the results of independent physical examinations, which the board may have performed at its option.[90]

The board must base its conclusions on the evidence that was presented and made a part of the record and its physical examination of the applicant, if one was conducted. The board is required to specifically affirm, reject, or modify the conclusions of the medical officers who conducted the original examination of the applicant and issue a notification that specifically delineates the absence or presence of a Class A or Class B medical condition.[91]

Unlike applicants for admission as immigrants, most non-immigrants are not required to undergo a physical examination as a prerequisite to admission. However, like immigrants, individuals arriving as non-immigrants are subject to inspection at the port of entry through which they arrive.[92] An immigration inspector who believes that an entering nonimmigrant is infected with a "communicable disease of public health significance," such as infectious tuberculosis, may refer that individual to the Public Health Service for further examination.[93] In practice, however, many individuals seeking entry in the United States fail to enter through official channels. Consequently, by virtue of their manner of entry, such

88. Loue, *supra* note 62 (citing Fed. Reg. 25,004 (1991); 8 U.S.C.§ 1224 (1994)).

89. Loue, *supra* note 62.

90. 56 Fed. Reg. 25,004.

91. 56 Fed. Reg. 25,004.

92. 8 U.S.C. § 1225 (1996).

93. 8 C.F.R. § 212.4(b) (1990); Memorandum from Commissioner for the Immigration and Naturalization Service to All Regional Commissioners, All District Directors, and All Officers in Charge (Sept. 18, 1990), *reprinted in* 67 Interpreter Releases 1089, app. I, at 1100–03 (1990).

individuals avoid any medical inspection thereby increasing the risk that persons with active disease may enter the United States.

B. Waivers of Excludability

A waiver of excludability for communicable diseases of public health significance is available to an individual who is the spouse or unmarried son or daughter of a U.S. citizen or lawfully admitted permanent resident, or an alien who has been issued an immigrant visa, or an alien who has a son or daughter who is a U.S. citizen or lawfully admitted permanent resident, or who has been issued an immigrant visa.[94] Family relationships are not, however, sufficient to obtain a waiver of excludability for tuberculosis. The Immigration and Naturalization Service processes all requests for waivers. It will not consider waiver applications by individuals with active tuberculosis until they have undergone the recommended treatment. Applicants diagnosed with active disease must demonstrate negative sputum smear examinations for acid-fast bacilli on three consecutive days and agree to report to a physician or public health facility for a follow-up visit upon arriving at their intended destination in the United States.[95]

C. HIV Infection

Individuals infected with HIV are also eligible for a waiver of excludability. However, if they are dually infected with tuberculosis and HIV, they must obtain waivers for both diseases.[96] Individuals who seek waivers for HIV infection face many obstacles. In addition to evidence of the familial relationship, an individual with HIV infection must also demonstrate that he or she is not likely to become a public charge, which in itself is a basis for exclusion.[97] This may be extremely difficult for the individual to demonstrate, as the lifetime cost of treating an individual with HIV infection is estimated at $119,000.[98] Most individuals immigrating to the United States do not have sufficient financial resources to guarantee payment of that amount and are unlikely at the

94. 8 U.S.C. § 1182(g)(1) (1994).

95. Immigration and Naturalization Service, IMMACT Wire No. 65, File CO-1803-C (Aug. 7, 1991), *reproduced in* 68 Interpreter Releases 1039, 1040 (1991). For a discussion of the required forms and procedures, see Loue, *supra* note 62, at §§ 10–13.05.

96. 8 U.S.C. § 1182(a)(1); *see supra* note 1.

97. 8 U.S.C. § 1182(a)(4).

98. Fred J. Hellinger, *The Lifetime Cost of Treating a Person with HIV*, 270 JAMA 474 (1993).

time of entry to be covered by U.S.-based health insurance. Moreover, HIV-infected individuals are unlikely to remain employed or self-supporting as their HIV disease progresses and their physical status worsens.[99]

Individuals who have contracted HIV infection through the shared use of non-sterile injection equipment for the injection of drugs may also be excludable from the United States as drug abusers or addicts[100] in addition to their excludability for active tuberculosis and HIV infection. Because there are no waivers available for drug abusers and addicts,[101] such individuals will be ineligible for a visa and barred from lawful entry into the United States.

IV. ACCESS TO TREATMENT FOLLOWING ADMISSION

Individuals who enter the United States lawfully may be entitled to public health services through local departments of public health, to emergency medical care under state or local publicly financed healthcare programs and, in some cases, to non-emergency care under local or state programs. Additionally, many lawfully admitted aliens may have private health insurance, often obtained through employment-based health plans.

Such is not the case with individuals who have entered the United States unlawfully. Many undocumented individuals are unable to afford the cost of private health care and do not have employment-based health insurance coverage due to the nature of their employment. Not only are undocumented individuals barred from receiving most publicly financed healthcare services, but they fear seeking out those benefits to which they are entitled.[102] One healthcare provider has remarked:

> The illegal immigrant most often is fearful of coming to public notice, lives in poverty and substandard, overcrowded and unhygienic living conditions and often if not always, is economically depressed. All these factors predict not only high disease levels, but also delayed diagnosis and treatment of those

99. Edward H. Yelin et al., *The Impact of HIV-Related Illness on Employment*, 81 Am. J. Pub. Health 79, 80 (1991).

100. 8 U.S.C. § 1182(a)(1)(A)(iv); *see supra* note 1.

101. 8 U.S.C. § 1182(g).

102. For a discussion of aliens' access to health care, see Loue, *supra* note 62, §§13.01–14.05.

diseases, and when they are communicable, spread to other persons.[103]

Recent legislation is likely to exacerbate this situation. California's Proposition 187, passed on November 8, 1994, would bar undocumented aliens from receiving most government-funded public health services.[104] Under this initiative, healthcare professionals are required under to verify the legal status of anyone they suspect of being in the United States without proper authorization, and to report to the Immigration and Naturalization Service those individuals who are unable to provide evidence of lawful presence in the United States.[105] San Francisco's Department of Public Health has expressed its concern that the implementation of these provisions would be deleterious to efforts to control the transmission of infectious tuberculosis and HIV infection.[106] A recent study of 313 consecutive patients with active tuberculosis at ninety-five different facilities provides some support for this view.[107] The researchers in that study found that six percent of those needing treatment believed that going to a physician might lead to difficulties with the immigration authorities.[108] Those who held these beliefs were four times as likely as the other patients to delay seeking care for more than two months, during which time the transmission of the tuberculosis to others was likely to occur.[109] An average of ten domestic and workplace contacts were potentially exposed to tuberculosis during this period of delay. The researchers concluded that "[a]ny legislation that increases undocumented immigrants' fear that healthcare professionals will report them to immigration authorities may exacerbate the current tuberculosis epidemic."[110]

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103. *Availability of Health Care Services to Undocumented Persons: Hearing Before the House Subcomm. on Health & the Env't of the Comm. on Energy & Commerce*, 97th Cong., 1st Sess. 225 (1981) (statement of Shirley L. Fannin, M.D., Chief, Acute Communicable Disease Control, Dept. of Health Servs., L.A. County, California). *See generally* Sally Guttmacher, *Immigrant Workers: Health, Law and Public Policy*, 9 J. Health Pol. Pol'y & L. 503, 506–08 (1984).

104. *Illegal Aliens—Public Services, Verification, and Reporting*, 1994 Cal. Legis. Serv., Prop. 187 (West).

105. *Id.*

106. *Proposition 187: Resistance Grows*, New Mission News, Dec. 1994, reprinted in 3 RACEFILE, 32 (Jan.–Feb. 1995).

107. Steven Asch et al., *Does Fear of Immigration Authorities Deter Tuberculosis Patients From Seeking Care?* 161 West. J. Med. 373 (1994).

108. *Id.* at 375.

109. *Id.*

110. *Id.* at 373.

Similar legislation has been proposed in other states[111] and at the federal level.[112] Moreover, newly passed legislation will likely impact the ability of undocumented individuals to obtain care for communicable diseases, and may prevent legal immigrants from doing so.[113]

V. CONCLUSION

Tuberculosis demands increasing attention, at both national and local levels, as a public health issue. The detection and treatment of active cases of tuberculosis remains crucial to the control of the infection. Legislative measures, such as California's Proposition 187, which directly or inadvertently result in a delay of diagnosis and treatment within immigrant communities must be discouraged.

Increased efforts must be made to reach entering visitors and immigrants who may have infectious tuberculosis. This cannot, however, be accomplished through an expansion of the current screening program. The screening of all entrants to the United States would be a logistical and fiscal nightmare. First, an inadequate amount of time may have elapsed between an individual's exposure to tuberculosis and the development of a tuberculin reaction for screening to be effective.[114] Second, the reaction may be suppressed in individuals who are immunosuppressed or who are malnourished.[115] Third, to be truly effective, all individuals entering the United States from high incidence areas, including U.S. citizens and permanent residents, would require tuberculosis screening. Fourth, individuals entering the United States illegally would clearly not be available for tuberculosis screening.

Efforts should be made instead to reach out to communities at higher risk of tuberculosis, including immigrant communities, by providing individuals with information about the disease and referrals for diagnosis and treatment. Numerous prerequisites must, however, be fulfilled in order to increase the likelihood that this effort will have a beneficial impact. First, significant research is needed to understand how various immigrant communities perceive tuberculosis and how these perceptions

111. A coalition in Florida has proposed similar legislation. 72 Interpreter Releases 868–70 (1995).

112. *See generally* 72 Interpreter Releases 1365, app. at 1382-83 (1995) (analyzing Personal Responsibility Act, H.R. 4, 104th Cong., 1st Sess. (1995) and Senate Welfare Bill, H.R. 4, 104th Cong., 1st Sess. (1995)).

113. *See id.*

114. Benenson, *supra* note 19, at 491.

115. *Id.* at 489.

impact decisions to seek and comply with recommended treatment. Is this a disease that people easily recognize, or are its symptoms confused with those of other infections, thereby delaying diagnosis and care? At what point during the course of symptoms are people most likely to seek medical attention? For those who would require medical follow-up, what barriers are there to adherence to a medication regimen? Is there a preferred mechanism for outreach to specific communities, such as school or workplace presentations? Second, where barriers do exist, such as language or a lack of insurance or public funding, mechanisms must be developed by which to overcome them. Third, these outreach efforts cannot be wed to strategies designed to detect and deport individuals who are undocumented.

These outreach efforts need not be confined to already established communities. Rather, information can be provided to all applicants for all types of visas at the consular posts, advising them to pay special attention for certain symptoms of tuberculosis. Similar information can be provided to individuals upon entry to the United States, together with the currently required forms that they must complete, and to all individuals seeking services at their local office of the Immigration and Naturalization Service. For those individuals already in the United States, we must be willing to make screening and treatment available to individuals who respond to these advisories.

This focus on tuberculosis within immigrant communities and among visitors to the United States carries with it the potential for significant harm. The naive use of data pertaining to immigrants and tuberculosis could potentially result in the stigmatizing and stereotyping of all foreigners generally, or various groups specifically, in much the same way that Haitians were initially identified and labeled as a "risk group" for HIV infection.[116] Such an interpretation would not only impede efforts to reach communities and individuals that may be impacted by tuberculosis and that have heretofore been excluded from widespread prevention efforts due to language, cultural sensibilities, and program priorities, but would also adversely impact on efforts to control the transmission of tuberculosis.

116. Nina G. et al., *Risky Business: The Cultural Construction of AIDS Risk Groups*, 38 Social Sci. & Med. 1337, 1339 (1994); Merrill Singer, *The Politics of AIDS*, 38 Social Sci. & Med. 1321, 1322–23 (1994).