In Pursuit of Tuberculosis Control

Civil Liberty vs Public Health

In 1987, based on a steady annual decline in the number of tuberculosis (TB) cases in the United States, the Advisory Council for the Elimination of Tuberculosis was established. At that time, it was considered a realistic expectation that TB would be eliminated by the year 2010. In 1993, TB was declared a global health emergency by the World Health Organization. Currently, the eradication of TB is no longer considered a feasible target.

Numerous factors contributed to the resurgence of TB. While more than 90% of the global incidence of and mortality from Mycobacterium tuberculosis infection occurs in the developing world, the rising incidence of this disease and the emergence of multidrug-resistant TB (MDRTB) led to renewed interest in TB on the part of health-care workers, consumers, and policy makers worldwide. Subsequently, some limited success has been achieved in reestablishing control of TB.

The resurgence of this disease illustrates the failure of public health policies during the 1970s and 1980s and led to a reappraisal of the medical, legal, and ethical implications of disease control measures considered necessary for this disease. Directly observed treatment (DOT) programs, initially advocated in 1958, combined with the principles of intermittent therapy, utilized as early as 1961, are currently considered the standard of care for TB treatment, at least for areas with TB treatment completion rates below 90%. The ensuing expansion of DOT programs in the United States has not occurred without controversy and subsequent compromise. The call for a policy of universal DOT is supported by the following: high rates of treatment failure; the associated morbidity, mortality, and cost of treating MDRTB; the inability of professionals to distinguish compliant patients from noncompliant patients in advance; the attempt to avoid discrimination based on race, socioeconomic conditions, or other factors that providers may believe will affect compliance; and the likelihood that the application of universal DOT as a standard of care would serve to reduce the potential stigma of this treatment. These arguments have all been challenged by opponents who characterized universal DOT as a waste of limited resources (ie, wasting funds on individuals who would be compliant with therapy), an unethical intrusion upon autonomy, and a violation of the constitutional requirement that the least restrictive alternative be used. Currently, DOT is viewed as a service, and the general consensus appears to be in support of a policy of offering it to all patients, but of mandating it only in cases of documented nonadherence to prescribed therapy.

While DOT may continue to engender controversy, it is indisputably an effective treatment policy that results in a decrease in the number of reported TB cases, and in the incidence of multidrug-resistant cases. However, as illustrated in the article by Burman and colleagues in this issue of CHEST (see page 57), the use of DOT does not, in and of itself, ensure adherence to a prescribed regimen; the use of more restrictive measures may be required.

Short-term incarceration has been used for the management of noncompliance by the Denver Metro Tuberculosis Clinic, which for decades has employed a consistent approach to the treatment of tuberculosis, emphasizing DOT and enforcing local and state public health laws for control of contagious cases. Many components of the Denver treatment program are considered essential to expedite patients’ access to and utilization of treatment (ie, free treatment, extended hours, facilitators, assignment to a nurse-clinician, etc.). In addition, patients are notified at treatment initiation of the Tuberculosis Clinic’s legal obligation to ensure effective quarantine of infectious patients, indicating that chemical quarantine (chemotherapy) can be substituted for physical quarantine. Despite what is apparently a well-established, supported, and functional TB treatment program, nearly 5% of the patient population was nonadherent to outpatient treatment and required...
incarceration. An additional 5% of patients lost to follow-up were considered potential candidates for incarceration. While an admittedly small minority of the total, this subset of patients has the potential to disproportionately affect the epidemiology of TB.

As with DOT, the detention of infectious patients is neither a new concept, nor is it without controversy. Initial public health strategies emphasized education, isolation, and quarantine; so that transmission of the disease might be limited, patients with tuberculosis were isolated in sanitoria to receive treatment. With the advent of effective chemotherapy in the early 1950s, ambulatory management became the standard of care, and by the late 1970s, most tuberculosis sanitoria had been closed or converted to other uses. The legitimacy of limiting an individual’s autonomy to prevent harm to another is well-recognized, and while infectious TB patients have been the focus of most control measures, the need to treat patients beyond the period of infectiousness, until cure, has been acknowledged. However, civil liberties advocates continue to distinguish between infectious TB patients and non-compliant patients who are not contagious, a distinction that is spurious when one is attempting to control TB.

The nature of the interventions required, or desirable, to achieve the goal of treatment until cure is not clearly defined. It has been suggested that before committing TB patients to inpatient treatment, states should adopt step-by-step interventions, beginning with DOT and supplemented with incentives and enablers. Policies that address the need for local municipalities to provide shelter and psychiatric or drug and alcohol abuse treatment require ongoing evaluation and development, as does the use of inducements, enablers, and ultimately court orders and incarceration. However, practical approaches should prevail. Priority should be given to less restrictive treatment alternatives when they are available and there is a reasonable expectation that they will be successful, but public health goals should not be hindered excessively by requiring a patient to fail sequentially an inflexible hierarchy of preset alternative measures.

While the burden of TB is not uniform across the United States, the information conveyed by Burman and colleagues is important to all clinicians and public health providers. First and foremost, it serves as a reminder that TB is an ongoing public health menace, despite evidence that the incidence of disease is again waning and that the attention afforded this disease and the number of publications regarding this topic are decreasing. When TB is a hot topic, public awareness and direct federal support for TB funding is increased. With a declining incidence of this disease in the United States, there is a significant risk that complacency will again overtake us, that funding for health care agencies will decline, and that the foundations for another resurgence of TB will be set. In the United States, the provision of increased federal resources for state and local TB control is credited as a major factor for the recent and substantial decline of reported TB cases. The challenge will be to maintain adequate funding in the face of a decreasing number of cases and to maintain direct federal support for targeted TB funding. Additionally, while continued debate over the use of public health control measures is expected, and even welcome, it is imperative to remember that for a small percentage of TB patients, nonrestrictive measures may prove unsuccessful in ensuring adherence to treatment plans; we should not shy away from the use of restrictive measures if necessary. The program outlined by Burman and coworkers may serve as a model for other TB programs, with the successful treatment achieved in 90% of incarcerated patients clearly illustrating both the need for and efficacy of restrictive measures.

The suggestion that DOT would expedite TB control was supported strongly by Dr. John Sharbaro in the 1970s but not incorporated into general policy until the 1990s. The current information regarding the need for and efficacy of incarceration emanates from the ongoing clinical experience in the same area. Hopefully, we will adhere to the recommendation of Burman and colleagues that clinicians and public health control programs not avoid their legal obligation to protect the public without waiting for the next cycle of TB resurgence to compel us.

Linda S. Efferen, MD, FCCP
Brooklyn, NY

Assistant Professor of Medicine; Acting Chief, Division of Pulmonary and Critical Care Medicine, Department of Medicine, State University of New York Health Science Center at Brooklyn.

REFERENCES
8 Snider GL. Tuberculosis then and now: a personal perspective on the last 50 years. Ann Intern Med 1997; 126:237-43
10 Reichman LB. How to ensure the continued resurgence of tuberculosis. Lancet 1996; 347:175-77