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Compliance with Tuberculosis Drug Regimens: Incentives and Enablers Offered by Public Health Departments

Robert J. Buchanan, PhD

Introduction

From 1952 to 1985, the annual incidence of tuberculosis in the United States fell from 56 cases to 9 cases per 100 000 population, or about a 5% decrease per year.¹ The consistent annual decline of the incidence of tuberculosis in the United States ended in the mid-1980s, increasing from 9.1 tuberculosis cases per 100 000 population in 1988 to 10.5 cases per 100 000 population in 1992.² This trend of increasing incidence was reversed in 1993, with the annual incidence of tuberculosis falling to 9.8 cases per 100 000 population that year and to 9.4 cases in 1994.³ The resurgence of tuberculosis in the late 1980s and early 1990s underscores the importance of developing and implementing effective approaches to control and treat this communicable disease. This paper describes the incentives and enablers implemented by state and local health departments in each of the 50 states and the District of Columbia to encourage tuberculosis patients to comply with tuberculosis drug regimens.

Methodology

As a means of identifying incentives and enablers, a questionnaire was mailed to the directors of the state health departments in each state and the District of Columbia during May 1995. (In almost all cases, the questionnaires were completed and returned by administrators of the states' tuberculosis control programs.) By August 1995, all 50 states and the District of Columbia had returned completed questionnaires. The

questionnaire provided the following list of incentives and enablers and requested that respondents circle any that apply: free meals, free clothing, free transportation to treatment, cash (if yes, the amount), and "other effective incentives (please describe)."

Tables summarizing the results of the survey were mailed to the health departments for verification and updates in October 1995.

Treatment Incentives and Enablers

An ad hoc committee of the Scientific Assembly on Microbiology Tuberculosis and Pulmonary Infections has suggested that the use of incentives and enablers can help encourage tuberculosis patients to comply with tuberculosis drug regimens.⁴ Among the incentives identified as successful are food and clothing, with bus tokens and baby-sitting services mentioned as enablers. Food

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Note. The conclusions presented in this paper are those of the author and do not necessarily reflect the views of the Health Care Financing Administration.

ABSTRACT

Objectives. This research examined incentives implemented by public health departments to encourage tuberculosis patients to comply with tuberculosis drug regimens.

Methods. A questionnaire addressing incentives was mailed to the directors of each state's health department during May 1995. All 50 states and the District of Columbia returned questionnaires.

Results. The survey results indicate that public health departments in almost all states are implementing the incentives advocated by tuberculosis experts.

Conclusions. The implementation of these incentives may help to explain why the incidence of tuberculosis resumed its long-term decline in the United States during 1993 after a decade of resurgence. (*Am J Public Health.* 1997;87: 2014-2017)

TABLE 1—Incentives to Tuberculosis Patients to Comply with Tuberculosis Drug Regimens: 1995

Do State or Local Health Departments in Your State Use the Following Incentives to Encourage Tuberculosis Patients to Comply with Tuberculosis Drug Regimens?						
	Free Meals?	Free Clothing?	Free Transportation to Treatment?	Free Baby-sitting or Day Care?	Cash (amount)	Other Effective Incentives?
Alabama ^a	Yes	Yes	Yes	Yes	Yes (varies)	None mentioned
Alaska	Yes	Yes	Yes	No answer	No	Housing and gas vouchers
Arizona	Yes	Yes	Yes	No answer	No answer	Groceries, food coupons, hygiene packets
Arkansas	No	No	Yes, if needed	No	Yes (\$2.50)	"Tender loving care"
California	Yes	... ^b	... ^b	... ^b	... ^b	... ^b
Colorado	No	No	No	No	No answer	None mentioned
Connecticut	Yes	Yes	Yes	No	Yes (< \$5)	Yes
Delaware	Yes	No	No	No	No	Temporary housing
District of Columbia	Yes	No	Yes	No	No	None mentioned
Florida	Yes (food coupons and nutrition supplements)	No	Yes (bus tokens)	No	Yes (varies), in a few areas	Grocery store vouchers
Georgia	Yes	Yes	Yes	No	No	No
Hawaii	No	No	Yes	No	No	Social services support
Idaho	Yes	No	No	No	No	No
Illinois	Yes	Yes	Yes	No	No	None mentioned
Indiana	Yes	Yes	Yes	No	No	None mentioned
Iowa	Yes	No	Yes	No	No	No
Kansas ^c
Kentucky	Yes	Yes	Yes	No	No	Housing for homeless tuberculosis patients, patient advocacy and assistance in accessing social services
Louisiana	Yes	Yes	Yes	No	Yes (varies)	Other incentives may be used to motivate patients
Maine	Yes	Yes	Yes	Yes	Yes (\$150 max) ^d	None mentioned
Maryland	Yes ^e	Yes ^e	Yes ^e	No	No	No
Massachusetts	Yes	Yes	Yes	No	Yes (varies with client needs and patient contract)	"Incentive program is designed and tailored to meet whatever can be identified as the patient's greatest need. It is individualized, and many, many different types of incentives are possible"
Michigan	Yes	Yes	Yes	No	Yes (varies)	Personal items, such as soap, etc.
Minnesota	Yes	No	Yes	No	Yes (\$1 for screening at homeless shelters)	"Some incentives offered on a local basis; not able to answer on a statewide level"
Mississippi	Yes (as needed)	Yes (as needed)	Yes	No	Yes, for transportation/fuel (\$0.10/mile)	May pay someone to bring patient to clinic; depends on distance and available transportation
Missouri	Yes	Yes	Yes	No	No	None mentioned
Montana	Yes (as needed)	Yes (as needed)	Yes (as needed)	Unknown	No	Yes ^f
Nebraska	Yes (at times)	No	Yes	No	No	None mentioned
Nevada	Yes	No	Yes	No	No	Yes ^g

(Continued)

coupons and cash have also been suggested as incentives to encourage compliance with drug regimens.^{5,6} The survey of the directors of the state health departments asked

whether state or local health departments offered tuberculosis patients incentives to comply with drug regimens.

As Table 1 illustrates, public health

departments in most states offered free meals, free clothing, and free transportation to treatment as incentives or enablers to encourage tuberculosis patients to comply

TABLE 1—Continued

	Free Meals?	Free Clothing?	Free Transportation to Treatment?	Free Baby-sitting or Day Care?	Cash (amount)	Other Effective Incentives?
New Hampshire	Yes	No	No	No	No	None mentioned
New Jersey	Yes ^h	Yes ^h	Yes ^h	No	No	Food vouchers, food supplements (Sustecal) ^h
New Mexico	No	No	No	No	No	No
New York	Yes	Yes	Yes	No answer	No	Individualized needs identified for the patient
North Carolina	Yes	Yes	Yes	Yes	Yes (meals or cabs)	"Individualized, per patient need"
North Dakota	Yes	No	Yes	Uncertain	No	Toys or treats for children
Ohio	Yes	Yes	Yes	Yes	Yes (\$40/month)	Individualized needs identified for the patient
Oklahoma	No	No	Yes	No	No	"Threat of court-ordered confinement if noncompliant with treatment (active cases only)"
Oregon	Yes	Yes	Yes	Yes	Yes (\$10 to \$20/week)	Tickets to sporting events, diaper service, sports equipment, vouchers for fast food, bus passes, etc.
Pennsylvania	Yes	Yes	Yes	Yes	No	"We try to provide whatever it takes to assure patient compliance with therapy"
Rhode Island	Yes	Yes	Yes	No	Yes (\$5/dose ^e)	"Almost anything you can imagine"
South Carolina	Yes	Yes	Yes	Yes	Yes (varies)	"Whatever it takes to motivate the patient"
South Dakota	No	No	No	No	No	No
Tennessee	Yes	Yes	Yes	No	No	"Everything from birthday cards to car batteries"
Texas	No answer	No answer	Yes	No answer	No answer	Rent assistance, medical equipment (oxygen concentrator)
Utah	Yes	Yes	Yes	No	Yes (\$10/week)	Aluminum cans, housing, bus tokens/passes, clothing, and sleeping bags
Vermont	Not available	Not available	Not available	Not available	Not available	Not available
Virginia	Yes	Yes	Yes	No	No	"Housing in exchange for compliance with DOT for homeless tuberculosis patients"
Washington	Yes	Yes	Yes	No	No	"Things for children of patients"
West Virginia	No	No	No	No	No	No
Wisconsin	No	Yes (only in Milwaukee)	Yes	No	No	Individual patient need ^d
Wyoming	No	No	No	No	No	No

Note. Data were derived from a 1995 survey of state health departments. DOT = directly observed therapy.

^aThe American Lung Association provides an incentive fund to the state-operated Tuberculosis Control Program that pays for the incentives.

^bMay be offered by local health department; varies with jurisdiction.

^cIncentives are offered on a local basis; not able to answer on a statewide level."

^dDOT on selected, high-risk patients.

^eParticularly in the larger jurisdictions.

^fCounty health departments use a variety of incentives/enablers that are tailored to fit the needs of the patient; many times these change throughout the course of therapy (books, food, support groups)."

^gFood, coffee, fruit, and condoms are available in the TB clinic waiting room in Las Vegas. Patients also are assisted with residential care if they are homeless."

^hVaries in each clinic.

ⁱUsed as a last resort, but it does work for the most recalcitrant patients.

^jCounty health departments use a variety of incentives/enablers that are tailored to fit the needs of the patient; these incentives/enablers may change throughout the course of therapy."

with tuberculosis drug regimens. Most states reported that their public health departments did not provide free baby-sitting or day care and did not provide cash payments to encourage compliance with drug regimens. Among other incentives mentioned by the state health departments as effective were housing and gas vouchers, grocery store vouchers, housing for homeless tuberculosis patients, patient advocacy and assistance with social services, personal items and toiletries, toys or treats for children, tickets for sporting events, diaper services, medical equipment, and "everything from birthday cards to batteries." A number of states responded that their public health departments used a variety of incentives and enablers designed to meet the individual needs of tuberculosis patients so as to encourage compliance with drug therapies. As the Department of Public Health in Massachusetts replied, the incentive program is "designed and tailored to meet whatever can be identified as the patient's greatest need. It is individualized, and many, many different types of incentives are possible."

Discussion

The results of the survey conducted for this study indicate that public health departments in almost all states are implementing the incentives and enablers that experts advocate to encourage tuberculosis patients to comply with drug regimens in efforts to control this disease. The implementation of these incentives, along with public health screening and treatment programs (such as nursing case management, tuberculosis out-

reach workers, and directly observed therapy programs⁷⁻¹⁰), helps explain why the incidence of tuberculosis resumed its long-term decline in the United States in 1993 after a decade of resurgence.

The resurgence of tuberculosis during the 1980s is attributable, at least in part, to inadequate public funding for tuberculosis control by the federal, state, and local governments.² In 1981, Congress created a categorical grant program to state and local governments for tuberculosis control with section 317 of the Public Health Service Act.¹¹ However, this grant program was not funded at authorized levels until 1992. For example, the program was authorized at \$9 million in federal fiscal year 1982, but only \$1 million was appropriated; in federal fiscal year 1991, \$36 million was authorized, but only \$9 109 000 was appropriated. During federal fiscal years 1992 and 1993, \$15 321 000 and \$73 630 000 were appropriated, respectively, with authorization in both years set at such sums as necessary.² The resurgence of tuberculosis in the United States during the 1980s illustrates that tuberculosis is a constant threat to the nation's health. Adequate funding for tuberculosis screening and treatment programs, as well as for incentives and enablers to comply with tuberculosis treatment, is essential to combat this constant public health threat. □

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