

**AN ALTERNATIVE TO REGULATION IN THE CONTROL OF OCCUPATIONAL EXPOSURE TO
TUBERCULOSIS IN HOMELESS SHELTERS**

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Abstract

Five million U.S. workers are exposed to TB in the course of their work each year. The occupational risk of exposure to TB at homeless shelters is particularly acute. TB rates amongst the homeless to be 150 to 300 times the nationwide rate. The U.S. Occupational Safety and Health Administration (OSHA) responded to the risk to homeless shelter workers by proposing a regulation mandating that shelters take prescribed actions to identify shelter residents who represent a potential risk and to remove those residents from the homeless shelter environment. This article concludes that the risk of TB exposure within homeless shelter workers is best viewed as a public health problem rather than as exclusively a worker protection problem. Accordingly, in addition to seeking worker protections through regulatory controls, OSHA should seek to promote occupational health and safety through a public health response as well.

The U.S. Occupational Safety and Health Administration (OSHA) has proposed a health standard to control the occupational exposure to tuberculosis. OSHA estimates that more than five million U.S. workers are exposed to TB in the course of their work. The risk confronting these workers as a result of their contact with TB-infected individuals may be as high as ten times the risk to the general population.

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The occupational risk of exposure to TB at homeless shelters is particularly acute. Overall, 6.5% of the U.S. adult population is infected with TB (*i.e.*, carrying the tuberculosis bacillus, not manifesting active disease) and only ten percent of those infected develop the active disease. In contrast, within the homeless population, screening of selected clinics and shelters for the homeless has shown that the prevalence of TB infection ranges from 18 to 51 percent and the prevalence of clinically active disease ranges from 1.6 to 6.8 percent. The U.S. Center for Disease Control (CDC) estimates TB rates amongst the homeless to be 150 to 300 times the nationwide rate.

The risk posed by occupational exposure is not simply that a worker will develop active TB, but that, instead, a worker will become infected with TB. A TB infection unto itself, whether or not the worker ever develops active TB, is a significant impairment of health. Roughly ten percent of individuals who become infected with TB subsequently develop active TB. Even without the active disease, however, the drugs that must be ingested to treat the infection frequently result in serious adverse side effects. Finally, a person who is infected with TB bears the risk of active disease for the rest of his or her life. For all of these reasons, OSHA sought not simply to prevent the spread of active TB, but to prevent the spread of TB infection as well.

OSHA responded to the risk to homeless shelter workers by proposing a regulation mandating that shelters take prescribed actions to identify shelter residents who represent a potential risk and to remove those residents from the homeless shelter environment. Based upon a study of the internal operations of nine homeless shelters for OSHA,² this article concludes that the risk of TB exposure within homeless shelter workers is best viewed as a public health problem. Accordingly, in addition to seeking worker protections through regulatory controls, OSHA should seek to promote occupational health and safety through a public health response as well.

The discussion below contains two parts. Part 1 describes and evaluates OSHA's proposed regulatory response within an outcome-based planning framework. Part 2 proposes an alternative response that OSHA might take which, using an outcome-based performance planning model, would better reduce the occupational exposure of homeless shelter workers to TB.

1 EXPOSURE CONTROL

In 1997, OSHA proposed a workplace health and safety standard to control the occupational exposure of homeless shelter workers to TB. Under OSHA's proposed standard, homeless shelters would be expected to rely primarily on early identification and transfer procedures as the means to control occupational exposure. "In these work settings, employers will use the signs and symptoms of active TB, as well as any other available information, to identify individuals with suspected or confirmed infectious TB. These individuals will then be transferred to facilities with appropriate isolation capabilities." The requirements of the proposed OSHA standard for homeless shelter

² Roger Colton and Stephen Colton (1999). *Controlling the Occupational Exposure to Tuberculosis: Report on Site Visits to Nine Homeless Shelters*, Exhibit 179-1 Docket H-371, Occupation Safety and Health Administration: Washington D.C.

facilities are based upon this "identify and transfer" model.³

1.1 Reliance on Observation

The fundamental predicate for the identify and transfer model is the ability to identify suspected cases of active infectious TB. "The sooner this is done," OSHA said, "the less occupational exposure there will be and the less likely that TB will be transmitted." Moreover, prompt identification of an individual with suspected or confirmed infectious TB allows isolation before the disease is spread through the facility.

Under the "identify and transfer" model, an employer must collect the information he or she needs to make the determination. This might be done through having an employee administer a medical history questionnaire to individuals seeking services from the facility. Another way to obtain information to make this determination is by having an employee observe the individual to ascertain his or her health status, looking for the signs and asking about symptoms included in the OSHA definition that may indicate infectious TB.

OSHA noted that several factors limit the usefulness of administering a "medical history questionnaire" in a homeless shelter. Homeless clients may withhold information in a questionnaire because they believe that such information may persuade the shelter to refuse to admit them. In addition, homeless persons might be unable to answer screening questions, learn how to lie in response to such questions, or choose to remain on the street rather than be transferred to a hospital. Because of these factors, OSHA said, homeless shelters "may have to place greater reliance on observation of the residents for the cluster of signs and symptoms associated with infectious TB."

This conclusion carries much significance. Many homeless shelter representatives believe, for example, that the observation procedure would result in the identification of most of the homeless as suspect cases during winter months. This occurs because of the difficulty in distinguishing symptoms of TB from *pneumocystis carinii* pneumonia or other opportunistic infections. The result is that some persons *not* having the disease will be wrongly identified while others having the disease will not be identified.

Perhaps even more significantly, it is likely that suspected cases of TB will not be identified during a homeless shelter's check-in process, but rather during the normal day-to-day operation of the shelter. Identification of suspected TB by observation will *not* be a discrete event, in other words, where "something" happens and the shelter then suspects a resident of having TB. Instead, identification will be a judgment made on the basis of a cumulative list of observations. The proposed OSHA standard recognized that a determination cannot always be made "immediately." The expectation was simply that the determination will be made "as soon as reasonably practical."

1.2 The Identify and Transfer Process.

³ In contrast to this "identify and transfer" approach is an "admit and treat" approach.

Under the proposed OSHA standard, homeless shelters would be required to develop processes to implement the "identify and transfer" model of TB control. Given the need for an accumulation of observations over time to identify a suspect case, those procedures would need to include several elements.

First, a description of how the shelter plans to identify suspected infectious TB cases would be needed. This plan must specify the necessary observations of clinical symptoms of TB that must be made. These clinical symptoms are specified by OSHA, and, in the absence of a positive medical determination of the presence or absence of the disease, include "to have a persistent cough lasting 3 or more weeks *and* two or more symptoms of TB, e.g., bloody sputum, night sweats, anorexia, weight loss and fever." (emphasis added).

The plan must also specify the times and places where observations of the signs and symptoms of TB can be made. For example, one wouldn't observe "night sweats" during intake. One missed meal does not represent anorexia. And "weight loss" clearly has a time element associated with it; one does not observe weight loss in one day (or even a few days).

Second, having identified the times and places where necessary observations can be made, there would be a need to identify the individuals who are in a position to make those observations. If, however, a person is in direct contact with a client, and thus in a position to observe a client for the symptoms of active infectious TB, they are also at risk of exposure. Once the persons who are in a position to make relevant observations are identified, they must be assigned the responsibility to make observations and provided appropriate training.

Third, there must then be a procedure for accumulating observations. A decision on whether or not an individual is a suspected case can not generally be based on a single observation, but rather on cumulative observations that are considered together. These observations would be spread both over time and over people. The likelihood that a single worker would happen to make all the necessary observations upon which to base a determination that an individual is a suspected case would seem to be near zero. Accordingly, the proposed OSHA standard necessarily implied some process for workers to "compare notes."

Finally, there must be a designation of a person who ultimately decides that the accumulated observations tip the scale to a determination that a person is a suspected case of active infectious TB. This implies a process for presenting the observations to that decisionmaker as well as a process for weighing and evaluating the observations.

In sum, an "identify and transfer" model of TB control in homeless shelters, which relies heavily on observations of the clinical symptoms of TB, implicitly assumes the development of an identification procedure. This procedure would consist of three steps:

1. Identifying what workers are in a position to make necessary observations, assigning those workers that responsibility, and providing them appropriate training;

2. Developing a procedure for accumulating observations that will likely be spread both over time and over people but that, in combination one with the others, will serve as the basis for deciding whether an individual is a suspected case; and
3. Designating a decisionmaker to whom the accumulated observations will be presented; in whom both the responsibility and the authority will be vested to decide whether or not a client is a suspected case subject to segregation and transfer; and by whom the final decision will be made.

2 OUTCOME-BASED PLANNING PROCESSES AND A HOMELESS SHELTER TB CONTROL PROGRAM.

2.1 *The Standard Planning Model.*

What OSHA advanced in its proposed 1997 standard regarding the control of occupational exposure to tuberculosis in homeless shelters was, in its essence, a TB control program. "A 'program' may be any activity, project, function, or policy that has an identifiable purpose or set of objectives."⁴ Basic planning principles dictate that certain steps occur in the planning and implementation of *any* program. The planning steps involved in program design include:

1. **Articulating the program goal:** The program goal is the ultimate end-in-view resulting from the program.
2. **Establishing one or more program objective(s):** Program objectives are to be both attainable and measurable. It is against program objectives that program performance is subsequently measured.
3. **Identifying the strategy to accomplishing the objective(s):** The strategy of a program is the overall direction in which the program intends to move. The strategy is important in that it is disconnected from tactics.
4. **Identifying one or more tactics through which to implement the strategy:** Program tactics are the specific action steps through which a strategy is implemented. A program likely will have multiple tactics to implement the strategy.
5. **Measuring program performance:**⁵ Measuring the performance involves

⁴ U.S. General Accounting Office, *Performance Measurement and Evaluation: Definitions and Relationships, Glossary*, at 1 (April 1998).

⁵ "Performance measures may address the type or level of program activities conducted (process), the direct products and services delivered by a program (outputs), and/or the results of those products and services (outcomes)." *Performance Measurement and Evaluation, supra.*

measuring outcomes.⁶ Measuring outcomes is different from measuring outputs or activities. Neither output measures nor activity measures contribute to a determination of whether the program objective is being met. Accomplishment of an objective can only be measured through an analysis of program outcomes.

6. **Evaluating program performance in light of the program objectives:** Program performance should be measured relative to the program objectives⁷ through a feedback loop. The feedback loop provides the planner with the ability to determine if the objective was met, and if not, what changes need to be made to improve performance.⁸

Appendix 1 presents an illustration of the standard model implementing performance-based planning.

2.2 OSHA's TB Control Program and the Standard Planning Model

The development of the OSHA TB control program can be reviewed in light of this standard planning model. The purpose at this point is not to evaluate the OSHA planning process, but rather simply to identify it.

1. **Program goal:** OSHA's homeless shelter TB prevention goal is established by statute. The goal of OSHA is to protect American workers against the occupational exposure to health and safety problems.
2. **Program objective(s):** OSHA's objective is articulated in the preamble to its proposed regulation. According to OSHA: "the objective of this proposal is to reduce the risk of occupational exposure to *M. tuberculosis* in exposed working populations. . ."
3. **Program strategy:** OSHA's strategy is to reduce the occupational exposure of homeless shelter workers to TB by exercising its regulatory powers over employers. In adopting this strategy, OSHA accepts the incidence of TB in the homeless population as a given. OSHA then tries to minimize worker exposure to this TB by regulating the activities of the homeless shelter in the shelter's capacity as employer.
4. **Program tactics:** OSHA's tactical approach is to address the occupational exposure of homeless workers through the "identify and transfer" procedures described above.
5. **Program performance:** OSHA's "performance" measurement focuses on outputs

⁶ "Performance measurement focuses on whether a program has achieved its objectives, expressed as measurable performance standards." *Performance Measurement and Evaluation, supra.*

⁷ "Performance measurement is the ongoing monitoring and reporting of program accomplishments, particularly progress towards preestablished goals." *Performance Measurement and Evaluation, supra.*

⁸ "A program evaluation's typically more in-depth examination of program performance and context allows for an overall assessment of whether the program works and identification of adjustments that may improve its results." *Performance Measurement and Evaluation, supra.*

and activities, rather than on outcomes. OSHA's performance measurement is limited to outputs (*i.e.*, identified cases of suspected TB) and activities (*i.e.*, compliance with OSHA regulations).

6. **Program evaluation:** The operation of OSHA's TB program is "evaluated" through regulatory compliance audits. OSHA states: ". . .During an inspection, an OSHA compliance officer will review the adequacy of the procedures, and although a citation would not be issued solely on the basis of failure to identify an individual with suspected infectious TB. . .failure to identify a number of individuals. . .would be good evidence that the procedures or their implementation need to be investigated and could result in a citation."

Table 1 presents the six steps of the planning process and summarizes OSHA's decisions with respect to each such step.

2.3 Evaluating OSHA TB Control Strategy and Tactics.

The strategic and tactical decisions implicit in the OSHA TB control program for homeless shelters can be evaluated in light of anticipated outcomes. Rather than determining regulatory compliance, which by nature focuses on activities (*i.e.*, do homeless shelters *do* what the regulations require them to do), an outcome analysis seeks to determine whether the OSHA regulation can or will *accomplish* what it purports to accomplish (*i.e.*, to reduce the risk of homeless shelter worker occupational exposure to TB).

2.3.1 OSHA's TB Control Strategy

OSHA's strategy for the control of the occupational exposure of homeless shelter workers to tuberculosis, standing alone, will not "reduce the risk of occupational exposure to *M. tuberculosis* in exposed working populations." OSHA's strategy to control the risk TB of exposure in homeless shelters is to accept the incidence of TB within the homeless population as a given and to control the exposure of homeless shelter workers to that TB through regulation of the employer. Ultimately, however, trying to reduce occupational exposure to TB amongst homeless shelter workers, without reducing the incidence of TB within the homeless population, will be ineffective.

Three alternative strategies to controlling TB in homeless shelters are available to OSHA. The first involves the exclusively regulatory approach adopted by OSHA. The second strategy is to rely exclusively on a strategy to reduce the incidence of TB amongst homeless shelter workers by reducing the overall incidence of TB in the homeless population generally. The third strategy combines the first two into a coordinated whole. The *real* issue facing workers in homeless shelters is not that homeless shelter workers have a unique exposure to TB, but rather that a high overall incidence of TB exists within the homeless population served by shelters. Accordingly, the need to collaborate with other agencies to develop a holistic approach to TB prevention and control is not only desirable, but essential, to meet OSHA's stated objective ("to reduce the risk of occupational

exposure" in homeless shelter workers).

2.3.2 OSHA's TB Control Tactics

OSHA's proposed reliance on the "identify and transfer" component of the "administrative control" procedures as the primary tactic for controlling worker exposure to aerosolized *M. tuberculosis* bacteria cannot accomplish the objective of reducing "the risk of occupational exposure to *M. tuberculosis* in exposed working populations" for homeless shelter workers. In particular, the "identify and transfer" model is not systematically able to prevent the spread of aerosolized *M. tuberculosis* bacteria throughout a homeless shelter. The identify and transfer model relies on an observation process that, while perhaps "prompt" (using OSHA's definition of "prompt": "as soon as reasonably practical"), is not timely enough to prevent the spread of TB throughout a shelter.

Homeless shelter workers might be placed at risk of occupational exposure to TB in a variety of ways. TB infection is usually acquired by inhalation of airborne particles carrying the aerosolized *M. tuberculosis*. Because of the airborne nature of the infection, there need not be direct contact with an individual having active TB in order to face an occupational exposure. People who "share air" with individuals with active TB run the risk of acquiring infection. According to OSHA, the available evidence clearly demonstrates that the transmission of TB represents an occupational hazard in work settings where employees can reasonably be anticipated to have contact with either (1) individuals with infectious TB, *or* (2) air that may reasonably be anticipated to contain aerosolized *M. tuberculosis*, as a part of their job duties.

Air may contain droplet nuclei if a person with active TB has been present, particularly if that person has been talking, coughing, sneezing, or singing. The occurrence of group activities in homeless shelters will likely create such situations. An orientation, for example, assuming it is done on a group basis, will not only expose each staff and resident attending the orientation, but may well introduce droplet nuclei into the room where the orientation occurs. It is not unreasonable to expect this room to be a larger room that is also used for other congregate activities such as meals or chapel services.

Congregate facilities in homeless shelters present situations where persons will be engaged in precisely the activities that produce droplet nuclei. If a shelter provides meals, there will be conversation. If a shelter provides chapel services --some even require attendance-- there will be singing. If a shelter provides a common room where clients watch television, play cards, or otherwise interact with each other, there will be talking. If a shelter provides morning or evening showers, there will be coughing. In each of these situations, not only will the individuals present in the room (both staff and other residents) be exposed to potential TB infection, but anyone who subsequently enters the room will be exposed to the droplet nuclei in the air as well. If the room serves multiple purposes for the homeless shelter, the risk of wide-spread exposure expands. If these activities occur in settings involving small, overcrowded rooms with poor ventilation, the risk is heightened even further for those who share the airspace with the individual(s) with infectious TB.

In sum, occupational exposure to TB may occur in a variety of settings. It need not involve direct client contact; contact with air that contains droplet nuclei is sufficient to cause occupational exposure. It need not be prolonged; brief or intermittent exposure to individuals or to air containing aerosolized *M. tuberculosis* is sufficient to place a worker at risk. It need not involve presence in the precise room where an individual with infectious TB is, if the facility's air circulation system (*e.g.*, air conditioning, heating) recycles air throughout the facility or if the worker enters a room where a person with infectious TB has been, with suspended droplet nuclei remaining. The "shared air" exposure is potentially significant in a homeless shelter. If a case of active infectious TB is not identified "at the door," potentially the entire staff and resident population of a homeless shelter is subject to exposure.

2.4 *An Alternative TB Control Paradigm for OSHA*

A new strategy that can effectively help to control the occupational exposure of homeless shelter workers to tuberculosis involves a combination of a worker-based strategy and a public health strategy. The pursuit of the public health component to a combined strategy involves more than simply encouraging partnerships between homeless shelters and various public health agencies. The public health component to a combined strategy as meant by this article involves a very specific need for concerted, cross-cutting action by various federal agencies.

OSHA has approached the problem of tuberculosis in homeless shelters exclusively through its capacity as a regulator. Such an approach is understandable given OSHA's traditional role as an entity primarily charged with developing regulatory schemes. As OSHA has noted in a variety of circumstances, regulation allows the agency to impose enforceable requirements adherence to which can be determined in a compliance audit.

2.4.1 A New TB Control Strategy for Homeless Shelters.

As the federal agency charged with protecting the safety and health of American workers, however, OSHA has a variety of roles available to it. In addition to being a regulator, a second role OSHA has available to it is as a federal agency enabled to seek appropriate joint federal action when necessary to develop and implement holistic responses to cross-cutting inter-agency problems.

In the situation of controlling TB in homeless shelters, the agencies which would have coincident interests in the incidence of TB in homeless shelters would include, but not be limited to the Department of Housing and Urban Development (which is a major funder of homeless programs); the Department of Health and Human Services (which is a major funder of homeless programs); the Department of Justice (which is charged with enforcing, amongst other things, fair housing and anti-discrimination statutes);⁹ and the Center for Disease Control. This listing is not intended to be

⁹ There thus appears to be a serious operational conflict between the proposed OSHA "identify and transfer" model and the statutory duties placed upon homeless shelters by the Fair Housing Act and Americans with Disabilities Act (ADA) statutes. Given the applicability of FHAA and ADA to homeless shelters, in combination with the status of TB as a "disability," a shelter is *required by law* to allow a person with TB to "participate in and benefit from the . . . services,

comprehensive.

A third role for OSHA is to serve as the federal agency charged with being the spokesperson for American workers. TB unquestionably presents a disproportionate threat to homeless shelter workers. Because of this threat, OSHA can (and should) act as the advocate for homeless shelter workers before agencies developing programs to serve the homeless. Those agencies, of course, experience the same shortcomings OSHA does. HUD's institutional mission, for example, is to deliver housing services to the homeless. HUD's mission does not include the oversight of worker health and safety in the shelters it funds.

Identifying other cross-cutting programs is one aspect of performance-based, or outcome-based, management. Performance measurement is increasingly being applied to public programs today. Perhaps the best known requirements are those found in the Government Performance and Results Act of 1993 (GPRA). GPRA was enacted in response to "the need to shift the focus of government decisionmaking and accountability away from a preoccupation with the activities that are undertaken. . .to a focus on the results of those activities."¹⁰

One purpose of GPRA is to encourage federal agencies to coordinate efforts with other agencies having related strategic or performance goals is a specific purpose behind GPRA.¹¹ The U.S. General Accounting Office has said that "the focus of an agency's performance plan should be on the agency's performance goals and how it intends to achieve them. However, these performance goals should reflect the crosscutting nature of programs when applicable." GAO has stated:

A focus on results, as envisioned by the Results Act, implies that federal programs contributing to the same or similar results should be closely coordinated to ensure that goals are consistent and that, where appropriate, program efforts are mutually reinforcing. This suggests that federal agencies should look beyond their organizational boundaries and coordinate with other agencies to ensure that their efforts are aligned.¹²

Consistent with a strategy of addressing occupational exposure to TB as a public health issue in addition to treating it as a worker protection issue, OSHA should seek the convening of, and should participate in, an inter-agency work group charged with developing an inter-agency response to the threat of TB in homeless shelters. The work group should consist of appropriate regulatory, program, and enforcement agencies having jurisdiction over homeless persons or funding programs

facilities. . .and accommodations. . .equal to that afforded non-disabled individuals." This issue is discussed in detail in *Site Visits to Homeless Shelters*, supra note 1.

¹⁰ James Hinchman (Acting Comptroller General). (June 24, 1997). *Managing for Results: The Statutory Framework for Improving Federal Management and Effectiveness*, at 1, Testimony before U.S. Senate Committee on Appropriations and Committee on Governmental Affairs (GAO/T-GGD/AIMD-97-144).

¹¹ U.S. General Accounting Office (1998). *The Results Act: An Evaluator's Guide to Assessing Agency Annual Performance Plans*, at 30, Superintendent of Documents: Washington D.C.

¹² U.S. General Accounting Office (1997). *Managing for Results: The Statutory Framework for Improving Federal Management and Effectiveness*, at 4 - 5, Superintendent of Documents: Washington D.C.

for homeless services.

This inter-agency work group should be provided with an agenda that directly addresses barriers to the effective control of TB within homeless shelters (as a means toward worker protection as well as a means of public health protection). Illustrations of possible action items to be presented to the work group pursuant to each part of a five-part agenda include:

1. **The work group should arbitrate (or decide on an arbitration process) for conflicts between institutional missions.**
 - o The apparent conflict between the duty to provide equal access to public accommodations (including homeless shelters) and the need to exclude persons with the disability of active infectious TB (or, more particularly, with *suspected* active infectious TB) should be resolved.
 - o Whether the need to exclude homeless persons from shelters if they can not provide documentation that they are free of TB is in conflict with the duty of a shelter to provide assistance in obtaining necessary medical assistance should be resolved.¹³
2. **The work group should develop and recommend adoption of steps by federal agencies to ensure that federal actions, themselves, contribute to the control of (or at least do not impede the control of) TB in homeless shelters.**
 - o OSHA could ask HUD to adopt necessary ventilation requirements as part of HUD's regulations regarding minimum building requirements for buildings receiving ESG funds.
 - o OSHA could request that HUD adopt certain minimum building guidelines for federal property disposed of for purposes of providing homeless shelter.
3. **The work group should review existing funding programs to identify and either remove or mitigate potential barriers to steps taken to effectively control TB.**
 - o OSHA could ask HUD to determine that compliance with an OSHA TB standard is a program expense rather than an administrative expense. HUD subjects administrative expenses in homeless programs to strict limits.¹⁴ Expenditures incurred for OSHA compliance would include, for example, expenditures on training, recordkeeping,

¹³ HUD requires its Emergency Shelter Grant (ESG) grantees to provide "assistance in obtaining appropriate. . .medical health treatment." The interaction between a shelter's obligations to its employees under OSHA regulations and its obligations to its residents under HUD regulations is thus not clear. This issue is discussed in detail in *Site Visits to Homeless Shelters*, supra note 1.

¹⁴ For example, by statute, ESG recipients are limited to using not more than five percent of any annual grant received under the ESG program for administrative purposes. 42 *U.S.C.A.* 11378 (1998); 24 *C.F.R.* 585.135(b) (2000).

and staff medical screening.

- o OSHA could ask HUD, HHS (and other funding agencies) to determine that actions taken to control the incidence of TB in the homeless population will be considered "program" expenses.

4. **The work group should review and adopt mechanisms, where appropriate, enlisting each federal agency as an ally in the effort to control TB in the homeless population.**

- o OSHA could request that HHS promulgate particular program standards requiring Health Care for the Homeless programs to periodically provide designated TB screening services through homeless shelters, themselves.
- o OSHA could request the work group to consider whether, and if so how and in what circumstances, HUD, HHS, and other federal agencies might adopt, as part of their homeless funding programs, requirements that homeless shelters provide, as a condition of acceptance of funding, assurances that they will take specific actions to control the incidence of TB within the homeless population.

5. **The work group should review programs and policies and adopt definitive guides and definitions to enhance the effectiveness of efforts to effectively control TB in the homeless population.**

- o OSHA could request the work group to jointly develop a uniform definition of "homeless shelter," including a determination of whether "homeless shelters" include institutions such as runaway and domestic violence shelters, day warming shelters, transitional and supportive housing, and the like.
- o OSHA could request the work group to jointly develop a uniform definition of what institution and what facility (or part of a facility if appropriate) represents a "homeless shelter" in those circumstances where: (a) shelters are multiple occupants of single building; or (b) a single program in a multiple program institution.

These recommendations as to actions that OSHA could undertake are intended simply to illustrate the new dual strategy recommended in this article. They demonstrate how, in addition to being a regulator, OSHA can (and should) *also* play a critical role, as an advocate for the worker, in drawing the attention of agencies whose institutional mission involves the client base rather than the worker base to the implications of social service delivery to the worker and in seeking arbitration of competing, and often contradictory, program objectives.

2.4.2 A New TB Control Tactic for Homeless Shelters

As discussed in detail above, OSHA's TB control tactics, involving the requirement that homeless

shelters comply with "identify and transfer" regulations, will likely be ineffective in a homeless shelter environment. As an alternative to that approach, OSHA should adopt a regulation requiring overnight homeless shelters to adopt, as a condition of stay, the presentation of documentation of having received a TB test within the immediate past three months.¹⁵ That test shall have found the shelter guest to be free of active infectious TB. This disease free demonstration (DFD) model will result in a reduction in the risk of occupational exposure by workers in overnight homeless shelters to TB.

Under the DFD model, an overnight shelter will be required to *ask and record* at the time of shelter admittance whether a shelter guest has had a TB test within the immediately preceding three months.

A guest would be required to offer documentation from a health professional that such a test has occurred and that that test has found the shelter guest to be free of active infectious TB. Documentation would be valid for three months from the date of the test. Documentation would need to be reinitiated every three months.

In the event that a guest presenting himself or herself for admittance for the first time at the shelter has *not* had such a test, or presents documentation that has lapsed due to time, an overnight shelter would be permitted to admit the guest. After the fifth day following that first day of presentation, however, if the guest cannot provide the required documentation of a disease free demonstration (DFD), the shelter would be required to deny admission to the guest.

This process is consistent with typical admission, check-in and recordkeeping processes at overnight homeless shelters. At overnight shelters, it is common for shelter workers to check the identification of a person presenting himself (or herself) for admission. The check-in process universally records the date of admission and has some means of recordkeeping for tracking the guest. The intake and admission procedures for overnight shelters are consistently capable of requiring persons presenting themselves for admission to present DFD documentation.

This process is consistent, as well, with the willingness of shelters to exclude potential guests. No shelter has a policy of admitting *all* persons. Common conditions for denying admission range from being intoxicated to being disorderly. Every shelter has a set of rules non-compliance with which will result in being denied the right to stay in the shelter. The mere decision to exclude a person from a shelter, standing alone, is not inconsistent with the policy or procedure of providing homeless services.

This process is consistent with shelter recordkeeping capabilities as well. Virtually every shelter has a "bar list" (though not all shelters call that list by this name). These lists track shelter guests who are to be denied admission to the shelter, for an array of reasons, for a specified period of time. Some reasons result in permanent exclusion. Some shelters have variable lengths of exclusion, depending on the nature and severity of the reason underlying the exclusion. Each shelter has an

¹⁵ A modification of this procedure can be implemented for extended stay shelters, as well. This variation of the DFD process is not outlined in detail in this article. The distinctions between overnight shelters and extended stay shelters is discussed in detail in *Site Visits to Homeless Shelters*, supra note 1.

administrative process identified to address situations involving individuals who presented themselves for admission who are not allowed admission because of their inclusion on the "bar list." The existing shelter procedures are capable of tracking the DFD documentation (or lack thereof) required of homeless persons presenting themselves for admission and making decisions to exclude based on that tracking.

This process is consistent with the program objective identified above to reduce the incidence of TB infection, as well as TB disease, amongst homeless shelter workers. While it is true that a homeless person having active infectious TB could be present in an overnight homeless shelter for up to five days, the recommended DFD model would cap the exposure of shelter workers at five days. In the absence of the DFD model, and given the unworkability of the identify and transfer model in homeless shelters, the homeless person could be present in an overnight shelter indefinitely. Given typical periods of consecutive days of stay in the range of 10 to 15 days, the DFD model represents a decrease of from 50 to nearly 70 percent in the risk of exposure to unidentified active infectious TB. With respect to those homeless persons staying at a shelter for much longer periods --this is a situation commonly identified by overnight shelter administrators-- the risk reduction is substantially greater. Over time, as the DFD model results in the identification and treatment of homeless persons with active infectious TB, the cumulative risk reduction will be even greater than the risk reduction attributable to any isolated incident. The DFD model will result in a reduction in the risk of TB exposure by workers in overnight homeless shelters and will contribute to achieving the program objective articulated above.

This process is finally consistent with retention of the remainder of OSHA's proposed 1997 TB standard for homeless shelters. The process presumes that in the event a medical facility identifies a homeless person as having active infectious TB, that person will be retained at the medical facility. Accordingly, there is no need for OSHA to implement a "transfer" procedure for persons *diagnosed* as having active infectious TB. The process further presumes that a person identified as having TB infection (as opposed to active infectious TB) presents no threat of imminent danger to a homeless shelter. Accordingly, that person may return to or enter a homeless shelter after the diagnosis. In the event, however, that a person is diagnosed as having active infectious TB *subsequent* to having stayed at a homeless shelter, the procedures of the proposed OSHA standard regarding investigation, medical surveillance and the like remain in place under the DFD procedure.

This process has the advantage of placing the burden of identifying active infectious TB on the person and in the situation where it will be most successful. In this sense, success is defined to include both: (a) identifying those persons who have active infectious TB; while at the same time (b) identifying *only* those persons who have active infectious TB. The TB determination will be made by a medical professional for a person presenting himself or herself for the purposes of having a TB determination made.

3 SUMMARY AND CONCLUSIONS

Homeless shelter workers have a high occupational exposure to the transmission of TB. Due to the high incidence of TB in the homeless population, shelter workers have a disproportionately high probability of contracting the infection. In furtherance of its statutory goal of protecting the American worker, OSHA proposed a worker health and safety standard designed to reduce the risk of occupational exposure of the homeless shelter worker to TB. The proposed OSHA standard would require each shelter to identify homeless persons with suspected active infectious TB and either deny them admission to the shelter or transfer them to an appropriate medical facility.

In the situation of homeless shelters, the strategy of worker protection cannot be separated from TB as a broader public health issue. Accordingly, in lieu of seeking to protect homeless shelter workers exclusively through a regulatory approach, OSHA should pursue protections through a public health strategy as well. This public health strategy would involve OSHA not simply working as an independent regulatory agency concerned with worker protection, but as an advocate for the American worker in an inter-agency team directed toward the broader issue of TB in the homeless population. In addition, in lieu of the "identify and transfer" regulation, OSHA should adopt a regulation requiring a disease free demonstration (DFD) as a pre-condition to a prolonged stay in a shelter. This change in strategy and tactics will have the impact of allowing OSHA to better achieve its outcome of reducing the risk of occupational exposure to TB in homeless shelters.

APPENDIX 1: BASIC PROGRAM PLANNING MODEL

1. Articulate the program goal

The program goal is the ultimate end-in-view resulting from the program.

Illustration: To maintain better contacts within one's family.

2. Establish one or more program objective(s)

Program objectives are to be both attainable and measurable. It is against program objectives that program performance is subsequently measured.

Illustration: To be home for holidays.

3. Identify the strategy through which to accomplish the objective(s)

The "strategy" of a program is the overall direction in which the program intends to move.

Illustration: To acquire frequent flyer miles to fund airplane tickets for holiday trips home.

4. Identify one or more tactics through which to implement the strategy

Program "tactics" are the specific action steps through which a strategy is implemented.

Illustration: To limit all business trips solely to a single airline to increase the accumulation of frequent flyer miles.

APPENDIX 1: BASIC PROGRAM PLANNING MODEL

5. Measure program performance

Measuring the performance involves measuring outcomes, a process that is different from measuring outputs or activities. Neither output measures nor activity measures contribute to a determination of whether a program objective is being met. Accomplishment of an objective can only be measured through an analysis of program outcomes.

Illustration (outcome measure): Was I home for New Years Day, Labor Day, Fathers Day?

Illustration (activity measure): Did I fly all my business trips on one airline?

Illustration (output measure): Did I accumulate sufficient frequent flyer miles to fund a trip home for the holidays?

6. Evaluate program performance in light of the program objectives

Program performance should be measured relative to the program objective. This involves creating a feedback loop. The feedback loop provides the planner with the ability to determine if the objective was met, and if not, what changes need to be made to improve performance.

Illustration (flawed strategy): I flew enough business trips on one airline to accumulate sufficient miles for an airline ticket, but my home town does not have an airport

Illustration (flawed tactic design): I flew 100% of my business trips on a single airline, but I took only three business trips.

Illustration (flawed tactic implementation): I flew enough business trips on one airline to accumulate sufficient miles for an airline ticket, but the airline on which I took all my business trips does not fly to my home town.

Table 1
OSHA Homeless Shelter TB Control Planning Decisions

Task	Planning Step:	OSHA Decision
1.	Goal:	Statutory: protect worker health and safety
2.	Objective:	Reduce employee exposure to TB
3.	Strategy:	Use regulation of employers.
4.	Tactic	Implement administrative controls involving an "identify and transfer" procedure.
5.	Performance measurement:	Activities and outputs
6.	Evaluation:	Compliance audits