

# Tuberculosis screening in industry

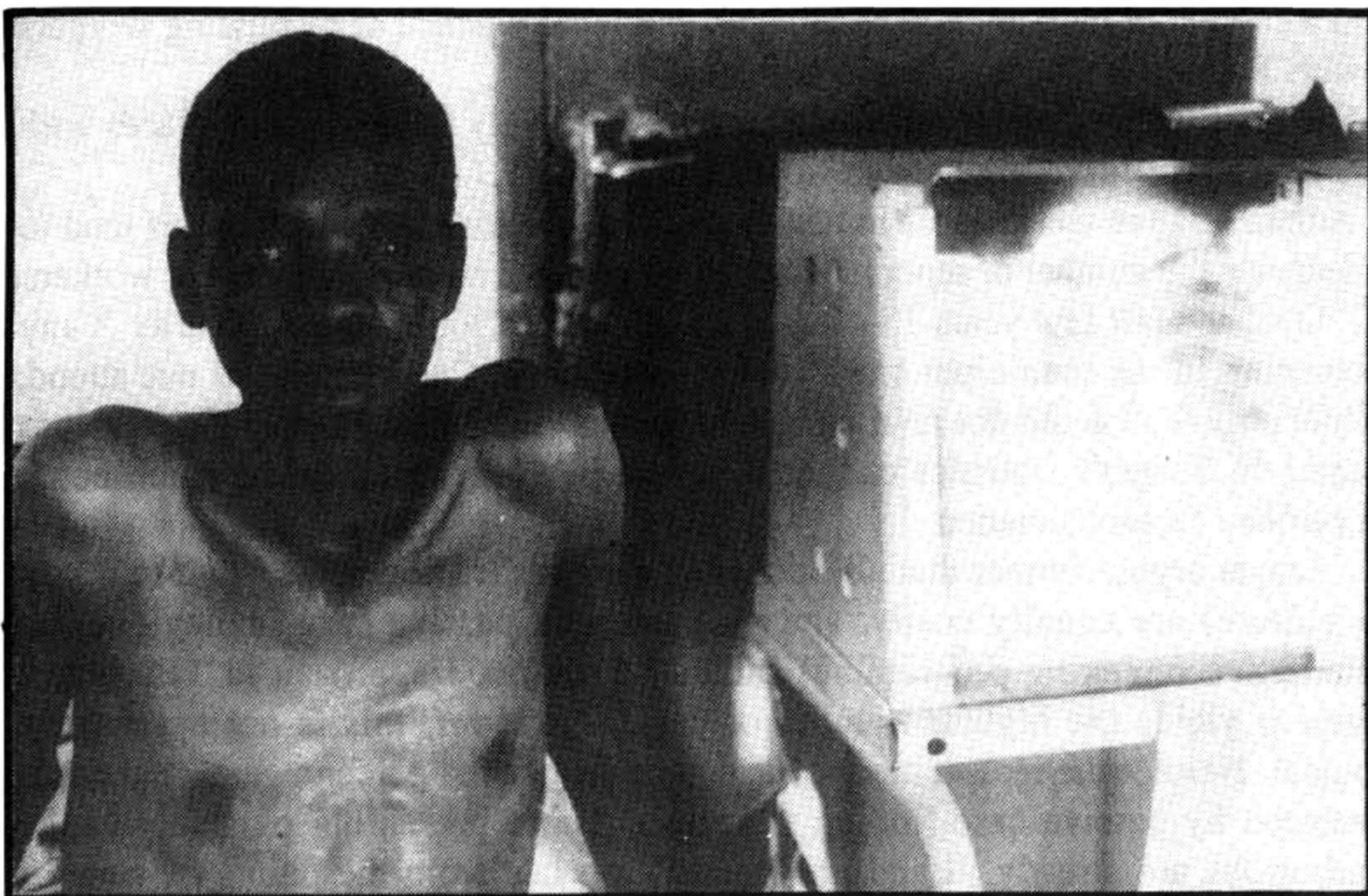
Lobbyists, calling for the privatisation of occupational health services, strongly argue that such moves will introduce far more cost-effective services for workers. Invariably, such moves towards privatisation are often coupled with cut-backs in existing services that are felt to be cost-ineffective.

In an edited version of a recent opinion article, published in the South African Medical Journal,<sup>1</sup> Myers strongly argues against the rationale of phasing out active case-finding methods in order to detect tuberculosis in factory workers and job seekers.

It has recently become official tuberculosis control policy not to do routine mass radiographic screening for factory employees.<sup>2</sup> Policy at present is to screen the following groups: "new" migrant workers (annually), "old" migrant workers (bi-ennially), self or factory referred people with signs and symptoms, and TB case-contacts; and to do pre-employment screening in a high-risk industry when requested by management (M. Zabow, Cape Divisional Council - personal communication).

In consequence, routine X-ray screening, especially periodic examinations of workers in factories, has been progressively abandoned since 1981/1982, while no alternative *active* case-finding procedure has been introduced in its place. The tendency is to rely in practice on *passive* case-finding and screening of contacts. There has been a steady increase in the incidence of TB since 1981,<sup>3, 4</sup> so the abandonment of active case-finding needs to be questioned. The policy change was based on an analysis by Seager<sup>5</sup> of local statistics showing low TB prevalences, and on an acceptance of the 1974 World Health Organization (WHO) guidelines for TB control.<sup>6</sup>

The WHO document recommended discontinuation of indiscriminate X-ray screening. The reasoning behind the recommendation was that, on the one hand, in developed countries TB was not much of a problem and indiscriminate screening was cost-inefficient, while on the other hand, despite high prevalences of TB in developing countries, there were insufficient resources to trace or treat



According to a recent policy, factory workers are no longer entitled to routine mass screening for TB

the disease. Since South Africa is developed enough to have substantial resources for the diagnosis and treatment of TB, and undeveloped enough to have a serious TB problem, the WHO recommendation should not be uncritically accepted. It is noteworthy that the WHO did recommend the discontinuation of selective X-ray screening in high risk groups such as certain factory workers.

Seager uses his analysis of local statistics showing low TB prevalences, to argue against radiographic screening of work seekers and factory employees. Seager feels that if TB prevalences are low, indiscriminate screening (as he refers to it) is cost-inefficient.

He reports a 0,2% prevalence rate for bacteriologically verified cases among "work seekers and factory employees" in the larger urban centres. This contrasts with a rate of 0,3% found in a general urban clinic for all races, and that of 0,7% found in municipal and divisional council clinics in black areas in Cape Town.

It is interesting to note that yields considered in developed countries to be cost-inefficient range from 0,008% to 0,16%.<sup>7, 8</sup>

There are many possible reasons for low prevalences such as those reported by Seager.<sup>5</sup>

- The population screened may be diluted by non-workers.
- Workers tend to avoid screening if they suspect the presence of a chest problem

in a context of high unemployment and employer practice of dismissing workers with TB, and if they are illegal migrant workers.

- Factories making use of screening facilities are likely to be healthier places with healthier work-forces, selecting workers free from TB.
- Administrative weaknesses in health services and attendance difficulties tend to decrease the number of reported cases. This effect is more prominent for workers.

Over the last few years 15-40% of those recalled for examination after X-ray screening in the municipal black township clinic in Cape Town did not attend, while only 4-15% did not re-attend in the general municipal clinic.<sup>2</sup> Conclusions based on Seager's statistics cannot therefore be generalized to the much better controlled factory situation.

Seager argues further that all screening methods (radiographic, sputum smear or culture) are equally costly, and proposes that passive case-finding (i.e. no alternative screening programme) should be the main approach in TB control since it yields the highest number of cases. However, this is not necessarily logical. Neither the real number of actual cases nor the percentage of real cases detected by passive case-finding is known. Those presenting passively to the authorities are already ill and are "found" too late from the points of view of personal health and transmission. In other words, the way in which cases are detected at present tends to maximize the yield from passive case-finding while minimizing the yield from case-finding by selective screening of high-risk populations. The potential for expanded yields from the former may therefore be very low, while that for the latter may be very high.

In the light of these findings, it would seem that passive case finding is not enough. What should be investigated is increased active selective-case-finding among chronic coughers in defined high-risk groups. Methods that should be more closely examined include mini-radiography followed by sputum smear or culture or by means of sputum smear alone. (See original SAMJ article<sup>1</sup> for a cost-effective argument of this suggestion - Editor.)

More research could be undertaken into the definition of high-risk groups and the relative effectiveness of different screening methods. It may, for instance, be possible for factory safety representatives (recently brought into being by the Machinery and Occupational Safety Act) to take regular symptom histories from workers for whom they are responsible in the workplace.

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