Health status of hostel dwellers

Part V. Tuberculosis notifications

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Summary

Cape Town tuberculosis notification rates for the hostel dwellers of Langa and Guguletu emphasise the severity of the problem among the poor in the city. But the enormity of the problem for the broader dependent migrant population can only be surmised from these figures. It is not possible to compile a comprehensive tuberculosis profile for a geographically divided mobile population nor provide the necessary continuity of treatment under the present politically contrived disparate health care system. Control of tuberculosis cannot wait for a political solution.

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Tuberculosis is a major health problem in the western Cape.[1] Recently the Medical Officer of Health of Cape Town predicted that 1 : 130 persons in the Cape Flats area would contract tuberculosis. Studies that examine tuberculosis trends frequently use broad categories based on geographical area,[1] age,[2] or population classification.[3] In this article we have endeavoured to complement this approach by examining tuberculosis notifications for a particular population and social situation. It describes Cape Town City Council notification rates for the urban migrant council-built hostels of Langa and Guguletu. Demographic factors and economic indicators identified during a long-term project, which investigated the conditions of life in these hostels,[4,5] are related to tuberculosis rates. Findings are interpreted in the context of oscillating migrant labour.

The notification rates used in this article are a means of identifying trends. Notification rates provide information about reported new cases.[1] In southern Africa, because of the difficulties associated with tuberculosis notification,[1] they are not a precise measure of incidence. Screening for prevalence is costly[1] and less costly methods of investigation have proved unreliable.[6]

The material and physical impoverishment of the hostel environment[5] epitomises the non-medical risk factors associated with tuberculosis. Overcrowding, with an average *bed* occupancy rate of 2,8 persons, is particularly severe.[4,5] Hostel dwellers, as migrant labourers, are subject to forced oscillation between Cape Town, the urban workplace and the eastern Cape (Transkei/Ciskei). The Transkei/Ciskei areas have a significantly higher tuberculosis infection rate than urban Cape Town.[1]

The forced oscillation of the migrant population presents considerable difficulties for estimating, identifying and treating tuberculosis. Health care of a single geographical/economic region is artificially and politically divided.[7] An inequitable distribution of services parallels this political divide.[8,9]

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Ways to circumvent the divided and inequitable distribution of health care in the region must be found if the tuberculosis problem is to be addressed. Cape Town Metropolitan and Regional Services health authorities show a willingness to address these problems, but are limited. They do not have direct control over non-medical health portfolios, such as housing, and geographically their jurisdiction does not extend to the eastern Cape (Transkei/Ciskei).

However, hostel dwellers as the urban base provide access for metropolitan health authorities to the broader migrant population. Furthermore, the hostel dwellers' present campaign to upgrade their accommodation to family housing addresses some of the non-medical risk factors associated with tuberculosis. It provides the opportunity for a concerted medical intervention.[1,10,11] This article provides the baseline for such a co-operative tuberculosis intervention strategy.

Subjects and methods

Data for the demographic profiles and economic indicators for the hostels of Langa and Guguletu used in this article were gathered over two surveys. A demographic survey was carried out in Langa (May - August 1987).[5] Data on age and sex profiles and cash-earning activities were elicited for the bedhold (the equivalent of the household in more conventional living conditions) by questionnaire.[5] The same questionnaire was used to derive the demographic details for the second survey (October - November 1987). The second survey screened the health status of hostel dwellers in Langa, Nyanga and Guguletu. Health data were collected from volunteers by an additional 'health questionnaire' and selected screening measures.[12]

A computer print-out of tuberculosis notifications for Langa and Guguletu was requested from and supplied by the Cape Town City Health Department for the 18-month period January 1987 - June 1988, i.e. year of the survey up to the time of the request in July 1988. Notifications from council-built hostels were identified by address. These Council hostel notifications for the 18-month period were converted to an estimate for a 12-month period (NOTS 12/12 = Council notifications × 2/3), for ease of comparison. These data, although an underestimate of tuberculosis prevalence, are the best available. It is the basis of notifications cited in this article.

This article focuses on the geographical areas of Langa and Guguletu because these areas fall within the jurisdiction of the Cape Town City Council and notifications are available for these areas in a standard format and are accessible from a central computer database. Council-built hostels (and not employer-built) are the focus, since it was in these hostels that the larger project was carried out.

Results

It must be made clear at the start that it was not possible to carry out age adjustments that would examine differences not due to age distribution. Population estimates for the townships for 1987 are not available by age category. The 1985 census data are available, by categories 0 - 14 years; 15 - 64 years; and

> 65 years.[13] These age categories do not reflect demographically the movement patterns of migrant hostel dwellers' lifestyle. Without the additional level of statistical analysis, caution was exercised in interpreting these results. However, this does not detract from the severity of the problem these tuberculosis rates confirm.

Tuberculosis notifications are higher for the hostels in comparison with figures for the townships as a whole (Table I). By hostel geographical area they are higher for Langa (Table I). Among the hostel complexes notifications are highest in the Zones (Table II). The Zones have the highest average bed occupancy (2,7 persons per bed) and unemployment (32%) among Langa and Guguetu hostels. In the Old Flats, where notifications are lowest (Table II), the average bed occupancy (1,8 persons per bed) and unemployment (15%) are also lowest for these hostel complexes.

TABLE I. TUBERCULOSIS NOTIFICATIONS RATES (/100 000) OF POPULATION OF COUNCIL-BUILT HOSTELS OF LANGA AND GUGULETU FOR A 12-MONTH PERIOD

Location	Population	NOTS 12/12	/100 000
Hostels			
Langa	**17 397**	**350,7**	**2 015,9**
Guguletu	**7 545**	**84,0**	**1 113,3**
Langa + Guguletu	**24 942**	**434,7**	**1 742,8**
Township (excluding hostels)			
Langa	**55 103**	**267,3**	**485,1**
Guguletu	**143 455**	**932,0**	**649,7**
Langa + Guguletu	**198 558**	**1 199,3**	**604,0**
Township (including hostels)			
Langa	**72 500**	**618,0**	**852,4**
Guguletu	**151 000**	**1 016,0**	**672,8**
Langa + Guguletu	**223 500**	**1 634,0**	**731,1**

Source: Notification rates — City of Cape Town Medical Officer of Health; township population figures — Cape Town City Council Technical Management Services; council-built hostel population — Segar.[5]

Tuberculosis notification rates for age and sex were calculated as follows: the hostel population for each age category was estimated on the basis of the percentage sample age categories of the total sample population. For children < 10 years, notifications were highest for the 0 - 5-year-olds (Table III). For people > 10 years of age the notifications were highest for the 40 - 49-year-olds (Table III). Overall notifications were lowest for the 6 - 29-year-olds and for the elderly (60+ years — Table III). The higher overall notification rate for adults is listed in Table IV. Among adults, rates were higher for men (Table IV).

TABLE II. TB NOTIFICATION RATES PER 100 000 OF THE POPULATION FOR THE COUNCIL-BUILT HOSTELS OF LANGA AND GUGULETU BY PLACE AND BLOCK TYPE FOR A 12-MONTH PERIOD

Place	Block type	Population	NOTS 12/12	/100 000
Langa	**Old Flats**	**3 280**	**30,0**	**914,6**
	New Flats	**4 769**	**90,0**	**1 887,2**
	Zones	**8 546**	**228,0**	**2 667,9**
	Special quarters	**802**	**2,7**	**336,7**
		17 397	**350,7**	**2 015,9**
Guguletu		**7 545**	**84,0**	**1 113,3**
Total		**24 942**	**434,7**	**1 742,8**

Discussion

Since mass screening for tuberculosis has declined as a result of attempts by local health authorities to cut costs,[1] it cannot account for the high notification rates from the hostels. The Cape Town City Health Department has stated that mass screening was not discontinued to cut costs but for the scientific reason that screening is not the most effective way of finding cases. It is necessary for many patients to undergo radiography before a single active case is found. Furthermore, mass screening can have a harmful effect from exposure to X-rays. A higher yield of cases can be found by restricting examinations to high-risk groups or persons with chest symptoms (N. M. Duncan, Cape Town City Health Department — personal communication, 28 November 1990). The material and physical impoverishment of the hostel environment suggests a high incidence of tuberculosis and accounts at a broad level for high notification rates for the hostels in comparison with the town-

TABLE III. TUBERCULOSIS NOTIFICATION RATES (/100 000) OF ESTIMATED POPULATION OF COUNCIL-BUILT HOSTELS OF LANGA AND GUGULETU BY AGE COHORTS FOR A 12-MONTH PERIOD

Age (yrs)	Sample population No.	Sample population %	Estimated population	Total hostel NOTS by age 12/12	NOTS/ 100 000
0 - 5	**166**	**10,5**	**2 617**	**39,3**	**1 501,7**
6 - 9	**82**	**5,2**	**1 293**	**13,3**	**1 028,6**
10 - 19	**95**	**6,0**	**1 498**	**17,3**	**1 154,9**
20 - 29	**266**	**16,8**	**4 194**	**58,0**	**1 382,9**
30 - 39	**197**	**12,5**	**3 106**	**68,7**	**2 211,8**
40 - 49	**200**	**12,6**	**3 153**	**77,3**	**2 451,6**
50 - 59	**253**	**16,0**	**3 989**	**85,3**	**2 138,4**
60 - 69	**189**	**12,0**	**2 980**	**55,3**	**1 855,7**
70 - 79	**27**	**1,7**	**426**	**6,0**	**1 408,5**
80 - 89	**2**	**0,1**	**31**	**0**	**0**
Not recorded	**105**	**6,6**	**1 655**	**14,0**	**845,9**
Total	**1 582**	**100,0**	**24 942**	**434,7**	**1 742,8**

TABLE IV. TUBERCULOSIS NOTIFICATION RATES (/100 000) OF ESTIMATED POPULATION OF COUNCIL-BUILT HOSTELS OF LANGA AND GUGULETU BY SEX FOR ADULTS (>17 YRS) FOR A 12-MONTH PERIOD

Sex	Sample population No.	% Langa + Guguletu sample (⩾17 yrs)	Estimated population Langa + Guguletu	Total NOTS	NOTS/ 100 000
M	**795**	**67,4**	**12 534**	**276**	**2 202,0**
F	**384**	**32,6**	**6 054**	**83**	**1 356,5**
Total	**1 179**	**100,0**	**18 588**	**358,7**	

ships. The well-known relationship between tuberculosis, overcrowding and poverty is also evident within the hostel environment. Notifications are highest in the Zones where overcrowding and unemployment are highest.

The notification rate of new cases in the hostels may reflect hostel dwellers' concern with tuberculosis. The hostel dwellers perceive tuberculosis to be one of their major health problems.[12] They are also acutely aware of the relationship between their environment and tuberculosis. Control of tuberculosis is one of the primary motivating factors for the present upgrading scheme.

These notification rates also reflect the larger infection pool of Transkei/Ciskei. Migrant dependants with access to the city through urban cash-wage earners come to Cape Town, where the health care services are recognised to be better than in Transkei/Ciskei.[6]

It is difficult to identify general tuberculosis trends for migrant populations on the basis of notifcation rates collected at urban centres. The broad demographic profile shows the population to be divided across time and place both materially and by age and sex. The materially more advantaged cash-wage earning households have access to the city and the better health care services. At the urban-base male adults in the working age group predominate. Children (0 - 5 years), who migrate with their mothers, are the major grouping among the 0 - 16-year-olds. The more impoverished households, the 6 - 16-year-olds (school-going age) and the elderly tend to predominate at the home-base. A relatively high urban notification rate in these categories may reflect a concern with tuberculosis coupled with the recognition of the better services the city provides and access to these services via the cash-wage earners.

The oscillating lifestyle of migrant labour exaggerates hostel notifications for certain categories in comparison with other rates for Cape Town. But, in general, hostel rates are a poor reflection of the larger migrant infection pool. They merely reflect those relatively advantaged cash-wage earning households that have access to the city.

Final remarks

This article identified the hostels as a priority area for tuberculosis management. It also identified the Zones as the most vulnerable area in the Langa and Guguletu hostels. Male adults and children aged 0 - 5 years should be the target groups for starting an antituberculosis campaign.

The extent of tuberculosis in the broader mobile migrant population can only be surmised from urban-based notification rates. But the urban-base provides access for health care intervention in this population. It also provides access for redressing inequitable health care in the region. The metropolitan health resources and expertise can be redistributed more widely via the urban-base of the migrant population.

Basic to tuberculosis management for migrant populations is good follow-up at the urban-base. Follow-up must be extended to contacts in the eastern Cape: A liaison between health care personnel, which transcends the artificial political divides of the regional health care system, must be established. Liaison secures uniformity of case-finding and case-management, regular and available medication, co-operation in contact follow-up and tuberculosis data management. Most important, it supplies continuity of long-term treatment across the divided health system, without which tuberculosis will continue to be a major health problem.

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REFERENCES

1. Yach D. Tuberculosis in the Western Cape Health Region of South Africa. *Soc Sci Med* 1988; **27:** 683-689.
2. Jacobs M, Yach D, Fisher S, Kibel M, Hattingh S, Coetzee G. Management of children with tuberculosis in a local authority of Cape Town. *S Afr J Epidemiol Infect* 1987; **2:** 15-18.
3. McDonald KD. A rise of tuberculosis among coloureds. *Epidemiological Comments* 1984; **11:** No. 5, 1-43.
4. Ramphele M. The dynamics of gender politics in the hostels of Cape Town: another legacy of the South African migrant labour system. *J S Afr Studies* 1989; **75:** 393-414.
5. Segar J. Living in anonymity — life in the hostels of Cape Town. Paper presented at the Annual Conference of the Association of Anthropologists of Southern Africa, Rhodes University, Grahamstown, 7 - 10 September 1988.
6. Ramphele M, Heap M. The quest for wholeness: health care strategies among the residents of the urban migrant council-built hostels of Cape Town. *Soc Sci Med* 1991 (in press).
7. Benatar SR. Medicine and health care in South Africa. *N Engl J Med* 1986; **315:** 527-532.
8. Ramphele M. Health: a mirror of South African power relations. Paper presented to the Simthsonian Institute, Washington, DC, USA, April 1988.
9. Botha JL, Bradshaw D, Gonin R, Yach D. The distribution of health needs and services in South Africa. *Soc Sci Med* 1988; **26:** 845-851.
10. Comstock GW, Baum C, Snider DE. Isoniazid prophylaxis among Alaskan Eskimos: a final report of the Bethel isoniazid studies. *Am Rev Respir Dis* 1979; **119:** 827-830.
11. Perez-Stable EJ, Pedraza RO. Tuberculosis in Cuba. *Am Rev Respir Dis* 1984; **130:** 520-523.
12. Ramphele M, Heap M. Health status of hostel dwellers: Part I. Introduction, methodology and response rates. *S Afr Med J* 1991; **79:** 697-701 (this issue).
13. Cape Town City Council. The distribution of population and its characteristics; Western Cape RSC Area based on the 1985 Census. City Planners' Department, Technical Management Services, Report 1, August 1988.