Specialist occupational medicine services in Sub-Saharan Africa

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Introduction

A specialist occupational medical clinical service can best be described as a service staffed by specialist occupational medical practitioners, with access to specialized diagnostic and management resources, including diagnostic tests and access to other medical specialists. The immediate functions of such a service include the diagnosis and management of occupational disease (1,2). Causes of occupational diseases are usually identifiable and often preventable; therefore a specialist service should also be concerned with the assessment and remediation of workplace environments (1,2,3). In addition, the data collected from the clinic may provide information about the spectrum of occupational diseases in the region it serves. Such information is rarely available from other sources, and is necessary to ensure appropriate public health interventions (1). Unfortunately, few centres with the capacity to perform all of these functions (including occupational hygiene, ergonomics and occupational safety) exist even internationally.

Occupational medical clinics described in the literature serve a variety of sectors. In South Africa, referral is usually by occupational health nurses in industry, followed by employers, trade unions and private practitioners (4,2); while in one US report, referrals from unions, lawyers and physicians predominate (1). There are certain groups for whom access to occupational health services is available essentially through the public health sector. These include:

a) **Ex-workers** having left employment, are still at risk for developing occupational diseases with long latency, e.g. cancers, pneumoconioses, etc. In the absence of a specialist clinical service, the likelihood of disease being correctly diagnosed is remote.

b) **Workers in the informal sector or in small and medium enterprises** generally have no company occupational health services but are at considerable risk for occupational diseases (5).

c) **Workers in the public sector**, whether employed by the state or local government, regularly face hazards that can result in occupational disease (e.g. health care workers, sewage workers, road and construction workers, etc.). While governments may place pressure on private industry to ensure high standards of occupational health and safety, rarely do government departments lead by example. South African government policy acknowledges the responsibility of the public health sector to provide occupational health services for these workers, but little has been done to implement such services (6).

Throughout the continent, capacity in occupational medicine is scarce. Thus, where occupational medical services are provided at company level, these are usually primary care in nature, and specialist occupational medical services, if available, are called upon to provide a service to workers referred from the private sector with a suspected occupational disease.

The spectrum of diseases seen at specialist occupational medical clinics should reflect patterns of exposure to occupational hazards in the region. However, a predominance of classical respiratory occupational diseases is reported by African and US clinics (1,2,4). According to the published reports of the clinics in the US and South Africa (1,4), US referrals appear to be more frequent than South African referrals, and include a broader range of occupational diseases (including acute chemical toxicities and dermatitis). Obviously, the problems seen are influenced by the likelihood of referring agencies to detect and report possible occupational health problems. This is higher in populations with a heightened awareness of occupational health problems, and likely to include a broader range of problems where knowledge exists of less “classical” occupational health problems (1).

Specialist occupational medical clinics in Sub-Saharan Africa

Although specialist-level occupational medical services in the public sector are available to a limited extent in South Africa, they appear to exist to an even lesser extent in other sub-Saharan countries. In a survey of occupational health professionals from sub-Saharan countries, services were reported to be totally absent in Ghana and Malawi, basic in Zambia, while in Tanzania, this role has been taken up by the private sector. Recently, efforts have been made to develop such specialist services in Mozambique (Table 1, see next page).

Botswana has a single specialist occupational health clinic, located within the Ministry of Health and integrated within the country’s public health system (7). The only Zambian service available is on the Zambian Copperbelt, the Occupational Health and Safety Management Board provided by the Ministry of Health. No public sector specialist occupational medical service exists in Tanzania, Mozambique, Ghana or Malawi. The latter two have some serv-
ices provided by the industries themselves. The privately run specialist clinics in Tanzania provide a range of services with multiple sources of referrals.

Specialist occupational medical clinics in South Africa

The five specialist occupational medical clinical services in South Africa that responded to the survey vary in the types of services that they provide and with a single exception, all have originated from academic units attached to the teaching hospitals. Although staffed by specialist occupational medical practitioners employed by the University and/or public sector, these services are generally not directly fully supported by provincial or national Departments of Health. Some services are run exclusively by university staff, e.g. in KwaZulu-Natal. The exception is the service run by the National Institute of Occupational Health (NIOH) (formerly the National Centre for Occupational Health, NCOH), which is a state-provided service.

Three of these centres provide similar services to a broad spectrum of workers, from the public (government) sector, private industries, unions and other non-governmental organizations. Services range from diagnostic services, disability/fitness to work assessments and submission and management of compensation claims. Workplace assessments are conducted if necessary for patient management, and if access is provided by the management.

At another hospital, services are almost exclusively directed toward examiners, while the fifth centre attends to employees from within the hospital itself, and other public health care workers.

Discussion and conclusions

Although this sub-Saharan survey is by no means extensive, it does provide a sense of the underdevelopment of specialist occupational medical services in sub-Saharan Africa. This can be attributed to several factors:

- The South African clinics reported that, although located within public-sector teaching hospitals, lack of direct support and recognition from the Department of Health had hindered the provision of services.
- The absence of occupational health capacity within the primary levels of the public health system has meant that the specialist services attend to cases that require lower levels of care, and that aspects of workplace remediation are not attended to.
- An issue raised by respondents to the South African survey was that the lack of workplace-based services, and the increasing outsourcing of occupational health services by industry, has resulted in workers attending the specialist public sector clinics for services which should be provided by employers. These services are provided at public health care rates, resulting in the public sector subsidizing the private sector.
- The extent to which specialist services result in preventive measures being implemented at workplaces is limited by obstacles to access to workplaces, as well as the deficit of primary-level services in public and private sectors to play a role in the function.

It is our impression that occupational health provision in general is currently hamstrung by lack of government policy and resources, as occupational health competes for government attention and resources with other urgent issues, such as HIV/AIDS and poverty. For example, a country like Botswana, while having a high prevalence of HIV/AIDS of approximately 32% (7) is also burdened by a large percentage of ex-miners with pneumoconiosis (formerly employed in South African mines); in one study they accounted for approximately 31% of participants (8). Failure to recognise and manage occupational diseases will result in high levels of preventable morbidity and mortality, with predictable socioeconomic consequences. Specialist occupational medical services therefore cannot be seen as a luxury.

Table 1. Specialist occupational medical services in Sub-Saharan Africa, excluding South Africa

<table>
<thead>
<tr>
<th></th>
<th>Botswana</th>
<th>Tanzania</th>
<th>Zambia</th>
<th>Mocambique</th>
<th>Ghana</th>
<th>Malawi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist public sector service available</td>
<td>+ (1)</td>
<td>-</td>
<td>+ (2)</td>
<td>Being developed (3)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Specialist private sector service available</td>
<td>-</td>
<td>+ (4)</td>
<td>-</td>
<td>-</td>
<td>Does not apply</td>
<td>Does not apply</td>
</tr>
<tr>
<td>Services provided: Diagnostic</td>
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<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Disability assessment</td>
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<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
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</tr>
<tr>
<td>Occupational hygiene</td>
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<td>-</td>
<td>+</td>
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</tr>
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<td>+</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Pneumoconiosis screening only</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Integration into the public health system</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Referral sources</td>
<td>All sources</td>
<td>All sources</td>
<td>Mine and quarry operators</td>
<td>Being developed</td>
<td>Does not apply</td>
<td>Does not apply</td>
</tr>
</tbody>
</table>

Service names: (1) Ministry of Health; (2) Occupational Health and Safety Management Board; (3) Ministry of Health/Universidade Eduardo Mondlane – Maputo Central Hospital; (4) Tanzania Occupational Health Service and Moshi-Arusha Occupational Health Service Service names: (1) Ministry of Health; (2) Occupational Health and Safety Management Board; (3) Ministry of Health/Universidade Eduardo Mondlane – Maputo Central Hospital; (4) Tanzania Occupational Health Service and Moshi-Arusha Occupational Health Service

Key:
+ present
- absent

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Way forward for the development of specialist occupational medical services

National Ministries of Health have to make a commitment to the establishment of specialist occupational medical services. The content and role of these services could be modified according to needs and available resources, but fundamental to their effective functioning are:

1. Adequate capacity: at a minimum clinic personnel should include a medical doctor with advanced training in occupational medicine;
2. Adequate resources and support: a specialist referral network, good-quality radiological and spirometry services and at least basic laboratory services (2). A useful lesson from the South African process is the advantage of locating the service within a teaching hospital or medical school, which allows access to existing specialist resources;
3. Integration with competent and functional primary care services in both public and private health systems, to ensure an efficient referral system, maximal benefit to workers, and effective workplace intervention where needed. Several models have been proposed for such integration (9), and the model selected should be appropriate for the specific region in which it is implemented. While a public-sector occupational medical service should cater primarily for the workers listed above, services to the private sector may be necessary and could become a means of generating income for sustainability – but ensuring no public subsidization of the private sector.

The availability of resources will determine the extent to which the specialist occupational medical service takes on the role of a specialized unit in occupational health, including occupational hygiene, ergonomic and other services. However, the provision of additional services would be a progression of the core occupational medical service, integrating as far as possible clinical diagnosis and management with workplace remediation, without which workers in any country are at a severe disadvantage.

In conclusion, specialist occupational medical services are essential for sub-Saharan countries. Notwithstanding the considerable demands on the public health sector, it is important that African states develop clear policies on the nature and content of specialist occupational medical services, and their integration within the broader health systems.

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References

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