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THE CONTRIBUTION OF PUBLIC HEALTH TO A RURAL COMMUNITY

by

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Some Points in General

To an audience such as this, the subject as indicated by the title amounts to a presentation of technical and administrative platitudes but it may be useful to pass them in review. I propose giving half my time to these essential general points and the second half to our experience in the last nine years in attempting to apply them in the Aden Protectorate.

Clearly there are direct contributions from public health administration that may be made to a rural community and there are those that are indirect. Of the former there is the treatment of disease, meaning saving of life, suffering, and physical and mental inefficiency. Equally important is the exercise of conventional preventive mechanisms causing a reduction in the amount of such disease to be treated. Such mechanisms are those relating to pure water supply, control of foodstuffs, markets and eating establishments, disposal of waste and naturally composting in rural communities where it can be done, housing improvement, control of vermin, and immunization. To these will be tied of course appropriate sanitar staff and legislation. This aspect may be taken for granted.

Indirectly but closely linked and of considerable contributory importance, is the raising of the living standard and thereby the initiation of a beneficial circle. This is one of wider education, better housing and social sense, productivity, more leisure, happier because more knowledgeable living, tolerance, and a wider appreciation of fellow-beings, their trials, successes and aspirations. All these things lead to lessened invalidism, both physical and mental.

These propositions have to be viewed in relation to rural as opposed to urban communities. The distinction is one of degree. Urban communities by their very nature, being more highly aggregated populations with usually more extensive and refined provision in administration, staff and equipment, can in this context normally look after themselves. In rural communities, lower economics, remoteness from expert control aand lessened availability of facilities, bring difficulties in attainment of the objectives aimed at.

It seems peculiarly appropriate to the present seminar to deal largely with the role of ancillary sub-professional staff in the warmer climates of the Middle East where there are still under developed areas.

Of the work to be done in rural communities there is of course primarily first aid in its conventional sense, the immediate treatment of injuries and attacks of disease which calls for something to be done to save life, relieve suffering or prevent permanent damage and in the case of communicable disease to prevent spread. Most communities evolve traditional ways of dealing with fractures, burns, fever, pain, mental disorder, childbirth, weaning, and so on, but although sometimes the methods are rational, or sound as the result of experience, only too often the cautery, poisonous herbs, or magic are the means employed. When this ill-formed phase provides the pattern, the advent of knowledge and conventional practice relating for example to artificial respiration, the avoidance of danger from burning charcoal, the treatment of poisoning, the arrest of haemorrhage, asepsis in midwifery, and the use of hot fomentations, must necessarily be of value.

This is all first aid in a fairly wide sense but the term literally and logically includes much more than this. In the absence of a doctor, should there be fever, a knowledge of the nature of the commoner serious diseases such as diphtheria, typhoid, poliomyelitis, malaria, meningitis, smallpox as contrasted with chicken-pox, cholera, plague, guinea-worm and so on, should lead to better proppects both for the sick person and the community, as a whole, through despatch of intelligence, self-imposed quarantine or the immediate application of other preventive measures and appropriate nursing.

Perhaps the readiest mechanism for the application of first-aid in this widest sense is health education in schools, the scholars disseminating the knowledge thereafter in the homes. There are of course also youth organizations such as boy-scouts and girl-guides. Important also are institutions of the nature of women's institutes, which may be in association with Maternal and Child Health clinics. Public health district or community nurses or as we prefer to call them home-visitors are the most important medium being girls or women, trained jointly as nurses, midwives and sanitary inspectors.

It is obvious that the basis of conventional first-aid with the rather wider attributes covered by the term as used here can be most usefully disseminated by radio-broadcast, and by leaflet. Special mobile health propoganda units with loud speakers, cine-films and exhibits also have a useful role, visiting villages or having stands at fairs or other gatherings. Something will always stick somewhere and cumulative effect should be allowed for. Attention to adult health education may also be given to Government, municipal and village officials, teache

troops, and police. The key functionary when good however, is the home-visitor and no matter how remote the prospect, she should remain firmly fixed as an ultimate objective in suitable distribution as economics permit.

Tied to the home-visitor is the base from which she works and which gives her supplies and organizational follow-up facilities. This base may be a hospital or it may be an offshoot, such as a Maternal and Child Health or Health unit. The sitting of such health units more commonly called dispensaries must normally have relation to population density and distance from a controlling district hospital. Physical, topographical or even political factors may however also have to influence the location. As a yardstick, perhaps a population of 5 - 10,000 within a radius of 20 miles may be postulated as suitable with a district hospital within 50 miles by road.

The functions of the health unit may be grouped as, giving conventional first-aid treatment to cases of endemic disease and common injuries, reference to the district hospital of appropriate cases, immediate intelligence and follow-up action in epidemics, registration of such cases as tuberculosis, leprosy, guinea-worm, bilharzia, eye infections, cold surgery awaiting operation, and of the handicapped such as mental disorder, paralyses and the blind with special note of the possibly educable children for schools for the blind. The health unit may also register births and deaths. It will transmit registrations of all sorts to a master register in the district hospital. It will also collect and transmit health statistics and health intelligence. Other functions should be immunisation more specially vaccination against smallpox, distribution of health propaganda material, control of local insect-borne diseases, district sanitation, midwifery, infant and child care, teaching of first-aid, this widest first-aid, which includes the elements of preventive medicine to schools, women's institutes, troops and police. It may call in the help of a mobile sanitation unit to systematically clean up foci of communicable disease or deal with epidemic situations beyond its own local resources.

Where economics permit, the health unit may have facilities for simple surgery, for childbirth deliveries, for periodic clinics held by visiting specialists, control of public bathing or laundering institutions, or a protected water supply notably in bilharzial and guinea-worm areas. It will naturally utilize wall space in waiting rooms and corridors for health propaganda material.

Staff will be according to size, complexity and the controlling factor of economics. There may be from one or more doctors down to a single senior health auxiliary trained in both preventive and curative skills. There must whenever possible however, be one or more home-visitors of the type mentioned above for domiciliary visiting of the cases of tuberculosis, leprosy and the handicapped.

Supporting staff will have to be commensurate, the simplest form of establishment having at least one cleaner who cleans and handles the insecticidal spraying appliances. He should not assist with clinical work. Funds must be available for casual labour. Transport ideally includes motor vehicles for visiting and field sanitation, to carry staff, equipment such as sprays and spades, and as an ambulance. Home-visitors may have cycles or animals but travel for all may have to be by animal, on foot or by boat.

The accommodation provided for the unit will vary with the state of development and local economics but to subserve the basic functions spoken of here, certain minima are required. They are a room as office-clinic, another used as a store, laboratory and pharmacy, and a third reserved for women and children as a Maternal and Child Health clinic. Toilets are the next essentials, waiting rooms for males and females apart from each other come next. In the remoter areas distinct wards for women and men are needed for cases requiring continuity of simple treatment, awaiting transport to hospital, or required to be under observation for suspected quarantinable disease.

Rural health units should be standardized within reason in structure, fittings, schedules of instruments and drugs, and more-over in practice. This facilitates training and interchange of staff. The staff who should be local residents when possible, should be trained at base hospitals linked with district hospitals. These in turn are linked with groups of daughter health units, four to six being a convenient brood, controlled, supplied and inspected by them. Health assistants under training should spend part of their third (final) year in a model such unit under a doctor or health assistant recognized as having an aptitude for rural health with a reaslistic and reasonably altruistic outlook.

In purdah communities, society carries a big handicap and it may be conceived that in the long run the biggest contribution public health may make to a rural community is through properly inspired health education in girls' schools. Moreover the girls may well act as companions to home-visitors. It is clear that the greatest hope for rural health as with urban health lies as regards staff also in progress in education in the broadest sense, meaning not only increased knowledge, but wisdom, balance, judgement and the will to apply usefully in a sensible practical way, what can be applied locally and continued. The synonym for training is habituation, the establishment of right procedure as a routine.

Emphasis on this long view however does not of course imply any neglect of the immediate priority of the sick case, the mosquito that bites by night, or the fly that pursues its evil course by day.

Finally there should be a word on policy in respect of continuity and integration as opposed to institution of activities by special teams with inadequate provision for the carrying on of the work. It may be tempting to think that results are best obtained by teams of experts accompanied by local understudies who provide the theoretical continuity element on the termination of schemes as for exemple malaria eradication, tuberculosis control, maternal and child health work or smallpox eradication by vaccination. It has always seemed to me however, that there is here the danger of momentary enthusiasm dropping to neglicence once the impetus of the novel, the special, and the support of the unchallenged expert have gone. On the contrary, it has also seemed to me that successful preventive activities lie in standardization of practice in all mechanisms introduced successively as opportunities offer and the developmental phase justifies, and persistently adhered to until they are routine in every district hospital and health unit. In short the aim should be as already stated, habituation, and not the momentary appeal to the dramatic. No doubt in exceptional circumstances a happy combination of the two approaches may be achieved.

Application to Aden Protectorate

The Aden Protectorate organized as two territories, West and East, of 112,000 square miles contains an estimated population of 750,000. Mukalla, of about 40,000 population is the biggest town. The coast is irregularly sandy and rocky and is hot and humid, the highlands have normally a dry heat in summer and are quite cold in winter. Rainfall is sporadic but is expected in the beginning and middle of the year and heavy falls in the hills occasionally cause devastating floods.

Most of the population is rural, either nomad or settled. Racially, the tribal population is dark and presumably represents aboriginal elements. On the coast, African, Indian and Somali contribuants are in evidence and in the Wadi Hadhramaut there is a considerable admixture of Indonesian blood. Purdah is strong except in the more purely nomad communities. There are about 4% of the children, about 12,000, in schools of conventional elementary, intermediate and junior secondary type, apart from village religious schools. In most of the towns people can read and write Arabic.

Economics are problematical, cotton brings money in the West, and dates and tobacco to some extent to the Hadhramaut in the East. Most of the States revenue is derived from customs duties or subsidies from Her Majesty's Government. There are some twenty one States in the Protectorate in advisory treaty relationships with the British Government, the relationship being that of the good neighbour on the part of the States in return for defence, administrative advice and financial help.

Notable endemic diseases are malaria, now under considerable control but still producing, in remoter areas, the occasional minor epidemic, tuberculosis - the harder one looks, the more one finds - bilharzia and guinea-worm in sparse patches, roundworm mostly in the Wadi Hadhramaut and the fly-borne afflictions of the dysenteries, enteric, hepatitis, poliomyelitis and eye infections. Kwashiorkor is rarely diagnosed but infant mortality is very high. Fish, fresh, dried or salted is widely eaten and carried well into the interior particularly in the East. Hypovitaminosis A is not obtrusive. Pellagra and beri-beri are practically unknown, the common staples being whole-meal millet or wheat. Scurvy occurs more particularly in winter. Classical rickets in children is seemingly rare but deformed pelvis appear to be the cause of most labour tragedies. Venereal diseases and leprosy are not major public health problems, the former are decreasing and the latter exists though in a trivial degree.

The health situation was assessed in 1951 and it was clear that the twenty-one organizations were handicapped by three main factors, diversity or rather lack of objectives in health, lack of guidance and co-ordination towards the attainment of any such objectives and lack of money for betterment.

In the Western Protectorate, the health work was in the hands of a Mission doctor and sister, who based in the Colony, toured fourteen district units staffed by some twenty district assistants or dressers, some based in pairs. They were trained and administered from the Colony by the Mission and such cases as required hospitalization were brought into the Mission Hospital at Sheikh Uthman in the Colony. Preventive work was limited to aquatic control of anophelines by oiling, in the cotton development area of Abyan. There were available as transport, a truck and two landrovers, one for the malaria control in Abyan. The work done within these limits was of high quality but the limits were narrow. Money for health in the West was contained in a small vote administered by the local British Agent. Lahej Sultanate ran a dispensary in Lahej and a partially evolved Medical Scheme was stillborn in Abyan. Other Western communities or States produced practically nothing in the way of funds.

In the Eastern Protectorate, there was a Residency Surgeon in Mukalla and the relatively large Qu'aiti State employed two doctors in a thirty bedded hospital in Mukalla and a lady doctor in improvised accommodation at Shibam in the Wadi Hadhramaut. The Kathiri State employed a doctor in the so-called dispensary in Saiun and the Al Kaf family of Tarim, employed a doctor. There were fourteen rural so-called dispensaries. There was a little control of anophelines attempted in Mukalla and Shihr by oiling. There was no motor transport for medical purposes in the East. In neither Protectorate was there any planned work among women and children.

Money for the East was provided for themselves by the Qu'aiti and Kathiri States and for other States in the East the British Resident in Mukalla had a small vote. Small Colonial Development and Welfare Schemes had provided an Arab malarial inspector his transport and oil for the control of malaria in Abyan and some equipment and drugs for the Saiun dispensary.

Training of subordinate staff was in Sheikh Uthman Hospital and Mukalla Hospital and was limited to clinical practice. In the East, medicaments had not moved with the times, quinine, copaiba balsam, chaulmoorgra oil and copper sulphate striking the key-note in most dispensaries. These in both Protectorates were mostly single rooms in rented houses or in forts, without fittings or water supplies. Equipment was elementary and registers and returns were in keeping and their study threw little light on the pattern or incidence of disease. Staff wore no uniforms were badly paid and rarely visited. No immunizations were done except in Mukalla for pilgrims to the Hedjaz. Nevertheless a start had been made.

Planning and co-ordination of development were initiated. Several things were clearly needed. The first was the balancing of effort between cure and prevention, others were an increase of hospitals and rural health units, more attention to rural health in general, an increase of staff, standardization in practice, training and grading of staff, buildings, equipment, supplies, budget pattern and documentation. Clearly also it was desirable to fuse the health services of adjoining States in administrative aspects, wherever this could be done.

It was decided to form a flexible association of State services to be called the Aden Protectorate Health Service, associated with a component of Her Majesty's Government. This latter had the functions of advising on health matters the State services with their own doctors, looking after health matters in States with no developed health services of their own, the provision of specialist services, overall advisory control in international health and epidemics, administration, organization, development, meaning the planning and guiding into implementation of the terms of such planning and the securing of funds needed from wherever available. Financial aid was secured from Her Majesty's Government through normal Estimates and Colonial Development and Welfare Funds, from increased health votes in the States themselves, from UNICEF, from the British Red Crescent and from the Nuffield Foundation. The amount spent on health in 1951 was £.46,000 in 1959 £.231,000.

Over nine years two base hospitals and associated training centres for trainees of both sexes with each an associated mobile sanitation unit were built up, for the West at Makhzan in the Abyan area, and at Mukalla for the East.

A standard form of health unit, containing three rooms of fifteen square feet was evolved for rural centres. One room was a complex of store, laboratory and dispensary, one was a clinic-office and the third was for maternal and child health purposes. Each unit unfortunately for economic reasons could only be staffed with a single functionary, literate in Arabic, the health assistant, trained at one of the training centres over three years, in the elements of physics and chemistry, biology (mainly human), first-aid, nursing, medicine, surgery, preventive medicine, administration (records and returns) and legal medicine (injuries, identification, causes of death etc.). The aim is ultimately to have a woman home-visitor, trained to health assistant standard but with midwifery training in addition, based on each health unit, of which there are now some thirty-five in each Protectorate. Ten such women are now in training. A further sixteen rural health units are envisaged as ultimately desirable. These units are controlled by the district hospitals of which the number is now four with three more in project.

The health assistants give first-aid, diagnose and treat the bulk of the sick, send others to the hospitals, register tuberculosis and leprosy cases as also those awaiting surgery to be called forward when the specialists visit the local hospitals, report epidemics and initiate their control, vaccinate against smallpox, call for the mobile sanitation unit through the district hospital when needed, return health statistics monthly, apply bilharzial, guinea-worm and malarial control (they have insecticides, sprays, dust pumps and funds for labour hire) and deal in general with the health of the public, schools, and military posts in their area if these have no health personnel of their own. The health assistants are instructed to tour month after month in the second week, all localities in their area in turn.

The mobile sanitation units have a Health Inspector in charge of six labourers, a Tifa machine, batteries of sprays and the usual picks, spades, sickles etc. They are intended to (a) deal with epidemics (b) deal systematically with foci of endemic disease remote from health units and (c) give field training to health assistants for a portion of their final (third) year of training.

The staff controlling these activities are, for the less developed States, the assistant health advisers, and of course the State senior and district medical officers. The specialists, ophthalmologist, maternal and child health (a gynaecological surgeon and obstetrician), dental officer and protectorate matron, spend about half-time in each Protectorate visiting the main centres. Latterly two special duties officers have been appointed one for each Protectorate, to understudy the assistant health advisers, give attention to matters in all States relating to health of the indigenous security forces, school health, health units and the eradication drives against malaria through spraying and smallpox through vaccination. The drives however to be the executive concern of the health units

under guidance by the doctors, continuity through habituation as a routine duty being secured. The special duties officers will work in close liaison with the States doctors and once procedures are established as routine will be more concerned with survey and elimination of endemic foci. Ultimately when procedures are established and routine has stabilized these two appointments will be economized.

The greatest factor in the Protectorate now causative of disease is the unenclosed privy and reform by rendering the common type, a drop-shaft with an open reception recess at ground level, fly-proof has only yielded to reform so far in one or two towns in the East and even so disappointingly slowly.

Propaganda leaflets distributed to schools and the public and read periodically over the radio are used and public relation trucks with cinema-projectors and loud-speakers tour each Protectorate and include health educational matter in their material.

The level of execution and performance in rural health is unequal, the good district hospitals and health units are quite good, the poor ones require much nurturing. Difficulties apart from insecurity and remoteness in many units have been wastage and lack of continuity in staff, particularly perpetual changes in States doctors, lack of direct control, we can only advise and adjure, inability to secure always the desirable degree of education and character in local recruits for ancillary personnel, difficulties in building in remote areas, lack of trained teaching staff and initially financial help. The doctors and matron, teach allotted subjects in the training centres for which they receive fees. On the whole the teaching is conscientiously done and the average health assistant on diplomation has a reasonable number of skills and body of technical knowledge. They all return to the training centres in January yearly for a three days intensive course in new skills and as a refresher. Inevitably some go to seed. Longer refresher courses are in view for the future when the at present expanding establishment is overtaken and has stabilized.

There has been a move forward in rural health which is still in progress. It has been generally welcomed and there is more knowledge of disease and health among the public which is embarrassingly health conscious. Though nothing is yet satisfactory, the upward trend is definite. There is no place for complacency, nothing at all is yet as it should be, more inspection and consolidation are badly needed. The future, one hopes, will see the advent of adequate numbers of that key figure, the woman home-visitor, and when such are available, the Service and Society which has produced them will have reason to be satisfied.