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SUMMARY

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We previously identified the principles of the maintenance programme but for emphasis I repeat them:

a) To eliminate the accumulation of susceptibles by immunization.
b) To assure high coverage in such campaigns through concurrent assessment.
c) To identify and control outbreaks.

In the maintenance phase of the programme the priorities regarding measles control must be carefully determined by each country. We are not really able to talk yet about maintenance of measles control; the initial achievement of measles control throughout the 19 country area is still limited geographically. However, one may at this point highlight certain of our experiences:

a) The success of measles control in The Gambia is clearcut and it appears that The Gambia at least has every hope of maintaining measles control through an annual nationwide vaccination cycle.
b) In Ibadan, Nigeria, a surprising epidemic developed. On careful examination, it appears that the cause was due to an accumulation of susceptibles in the population primarily as a result of low coverage in the age group six months to one year. Other factors may have been involved, specifically population migration.
c) The experience in Kano, Nigeria demonstrates the difficulties experienced in reducing the target age group to young infants and emphasizes the problem of securing high coverage levels in this group. Hope is expressed, however, that greater selectivity can be achieved and, through better dispersion of information, high coverage can be obtained.

Some of the excellent ideas brought forward in the discussion deserve evaluation:

a) The suggestion of a single annual urban campaign timed to occur just before the expected measles season is interesting. Such a campaign might be supplemented by firefighting activities throughout the rest of the year to keep the level of transmission as low as possible.
b) The suggestion to time campaigns according to the ebb and flow of epidemics is also compelling. To evaluate this, one must have information on the cyclicity of measles in various areas. By "tailor-making" programmes for these areas, hopefully we might quickly establish whether such "tailored" immunization programmes can prevent epidemics.
c) The persistent door-to-door search for susceptibles in urban areas deserves study. This practice could be essentially continuous and might be tied to birth registration and infant care schemes to assure adequate follow-up. It will obviously demand a substantial change in the orientation from mobile immunization campaigns. However, in urban areas it may, in fact, represent the modus operandi of the future.

Fortunately, smallpox eradication is much more amenable to maintenance. The effective contact transmission rate in smallpox is less which means that a larger reservoir of susceptibles must accumulate to support continuing widespread infection. There are already several examples of successful maintenance programmes of smallpox vaccination in the 19 country programme. Not only Ivory Coast but also other countries, members of both OCCGE and OCEAC, have shown that repeated cycles of vaccination on a mass basis at three year intervals can keep the pool of susceptibles at levels sufficiently low so that, even when reintroduced, smallpox is a manageable problem.

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The discussions have emphasized several problems of importance in the future.

1) Foremost among the problems potentially jeopardizing success of the maintenance phase, is the importation of smallpox from infected areas. The solution of this problem will rest upon the establishment of a surveillance system adequate to detect imported cases quickly, and an investigation and control system adequate to provide rapid handling of cases which are imported.
2) Nomads continue to constitute a problem as regards coverage, and there is no easy solution for this. We must continue to find ways in the maintenance programme to provide reasonable coverage for nomad groups. We should recall our previous discussions, however, which emphasized that nomads, while sometimes important in spreading smallpox from one area to another, appear to be of secondary importance as chronic reservoirs of smallpox infection.
3) The advantages and disadvantages of immunization cards have been discussed at length. They may well have a role in certain circumstances but, in others, they may be quite unworkable. Further studies and observations will be important.

In conclusion it would appear that the suppression of smallpox is relatively easy: the maintenance of freedom from smallpox will require persistence in the vaccination programme as well as adequate surveillance and outbreak control activities. It would appear that any system which is adequate to maintain measles control will be more than adequate for maintenance of smallpox eradication.

We must regard the maintenance vaccination programmes as being of indefinite duration. In many instances, measles and smallpox vaccination activities may become part of a multiple antigen immunization programme; in other instances they may persist as specific activities. Nonetheless until the world is free of smallpox, continued maintenance vaccination programmes will be essential.

It would appear that in the absence of a resumption of endemic smallpox transmission in the 19 country area, and provided that alert surveillance and outbreak control response is sustained, a repeat revaccination of the entire population of the 19 country area will not be necessary. Our objective at this point should be to get everyone vaccinated at least once as soon as possible after birth. The evolving WHO dictum indicates that one primary vaccination, followed by one revaccination should provide a level of immunity sufficient for life in most instances. We express a certain faith in the ultimate success of the global programme in our anticipation that sources of reintroduction of smallpox will be gone within the next few years. If not, the question of revaccination of the total population will have to be considered.