

The disease remains a problem for all countries @ question.
Map shows problem today.

3 major geographic areas. - rates higher in Africa.

Turn to the Development of the Programme later

~~Response to data from analysis~~

What have we done? ^{+ data} What are we doing? Where are the problems?

Given \$ 2.5×10^6 for the world - ~~it~~ doesn't go too far.

U.S. came thro with virtually total assistance to 19 W + C African countries

That is what it is
with the amount
of money

1) ~~Smallpox vaccine~~ - glycerinated + freeze-dried - est. finally no use of glycerinated vaccine
need for 200,000,000 doses per yr. - @ 1¢/dose, this would be our budget.

Therefore - policy of no purchase, Effort to build up labs. and to obtain domestic.

1) Soviet Union 100,000,000 for India + 8×10^6 over 3 yrs to Arg.

2) Other countries - Netherlands, Yugoslavia, Algeria, Tunisia, Hungary, ~~Sweden~~,
Sweden, Switzerland, USSR & others have come thro. For MP use, we now

3) Testing all donated vaccine of the series to other countries.

4) Contract & provide

5) Contract to European Lab.

6) Vaccine producers conference.

7) Studies of different strains - USSR -

production potential - Netherlands
using my little - 5th extension

8) Bilateral assistance beyond USA - 3 countries active discussion
9) Bifurcated needle - Wyeth - expensive - now working out cheap

10) Methods to be employed.

Observation that national staff and WHO - little experience re. conduct of program,
surveillance, etc. - development of manual (hold up)

April convened ^{and} Reg. Bar. from the 5 WHO Regional Offices to discuss this in
draft form. Hoping thereby to get some sort of coherent policy and direction.

Scientific Group - to consider Manual and policies.

11) Necessary to get programs underway - to this end, send staff to various countries.
Refer to map - ~~all~~ AMRO - 5 yr. program for production.

in Africa - except Ethiopia, Somalia, Rwanda, Uganda

in ~~Asia~~ - except W. Pakistan + Indonesia.

in remaining countries - 1968.

Conduct in the Reg. Conference - Dec in Bangkok for Asia

Not yet in Kunming for Eastern Asia.

Now dependent
on the Reg.
WHO - USSR

Portugal
+ 5 yr. plan

2.5×10^6 - must be
initiated during 1967

~~Problems yet to~~

1) Coordination + Reporting

Conferences - Bangkok - ~~Dec.~~ for Africa
Kisumu - next year for Eastern Africa.
Surveillance reports - 1st hopefully in mid-sept.

2) Non-endemic areas - Sun. vaccine reserve -
Story of Oman -

Vaccine reserve in Geneva.

re: Problems

1. Epidemiology of smallpox ^{re: strategy of program} - comparatively easy to study

~~Dealing with~~ Dealing with man to man transmitted disease. Subclinical cases overlooked.
~~Questions to what level of herd immunity needed before a case vanishes.~~

Analyze problem - 2 wk. incubation period - assume no transmission during 1st week - requires one new case of 3 wks. - Thus one chain of infection in country is minimum of 17 cases. ^{one of these is not dangerous} Perhaps, therefore, our strategy needs to be a specifically two pronged attack.

- 1) raise immunity level to point where transmission is markedly suppressed.
- 2) detective; prompt vaccination and containment in areas where disease

This requires ^{rapid lab work} case identification and active field investigation - a real scarcity in most countries
~~Policy that in most countries, a lower immune level already established~~

Can this be developed and what are the problems - must find out.

~~As such the~~

2. Jet injectors

One developed - good, expensive (\$1100)

Dermojet being aggressively pushed - Higson - cost \$200. Results as yet not good.

Handicapped by vaccine availability. Jet injector vaccine standards.

3. Animal reservoir - Y.F., Malawi - monkeys

~~Disease~~ Disease eradicated in many areas to monkeys and has remained absent.

~~However~~ However, had 800's - smallpox described in monkeys.
now know transmission to monkeys and from one cage-pull to another is possible.

1958 entity monkey pox described by Mr. Magnus. Virus similar to vaccinia/variola.
cross protection provided — no way to distinguish by neutral AB. In monkey,
appears to be subclinical infection & carrier state

Just completed a survey of major handlers. Pox have seen. No evidence here or in literature
of human acquisition.

Now in the group here and in Moscow, serological studies of monkeys to find where occurs and
to permit more definitive studies.

4. Laboratories

~~As far as cases~~ ~~needed~~ U.S. Japan contg. - Dec)
4. Research ^{with} International Conference

Problems are many more than those few but these are the major ones. However, a start has
been made and, to every one of us, the start has been far more aggressive than anyone had any
reason to hope. However, an initial enthusiasm can wane quickly. We must sustain what
has been started.

Quote General + Soper

Table 1. Evident that the program overall was not proceeding quite so well.

(Discuss) - 1967 1st 6 months - 56,775 cases. ~~India~~ - Pakistan.

Small countries quite successful -

Asia - Malaysia, Thailand, Iran, Saudi Arabia ceased reporting cases

Africa - Sudan, Algeria, I.C, Senegal and Mauritania - similarly

Americas - Ecuador⁺, joint reduced into Peru.

Principle areas ^(1st 6 months) India, Pakistan, Indonesia - ~~Not~~

India/Pakistan problems. Some success but convergent.

Indonesia - nothing done at all.

The countries of WHO responded minimally to requests for assistance. Need particularly for f.d. vaccine but except for Soviet Union, Switzerland, Netherlands - nothing was forthcoming. U.S. provided \$1.480 funds to India but otherwise nothing.

In May of last year - ^{D-G 2/11/70} ~~Assembly~~ considered all of this, proposed to Assembly that money be appropriated for that the annual plans resolutions of 10: SE be stopped. He suggest \$2.5 x 10⁶ - the US and other major contributors said \$1.0 x 10⁶ would be enough but the endemic countries voted them down.

In Nov. last year, an SE unit established and as of 1 Jan 67, a 10 year program of SE was initiated.

Consider

What is the rationale of all this - why is global concern ⁱⁿ this disease -

Of all diseases known to man, more concern is evidenced re: ^{small} pox than any other. Throughout Europe + N.A., vaccination is widely practiced. In fact, as many vac. are performed for ^{small} pox as for any other disease. A bit paradoxical, isn't it? ~~In none of these the ^{annual} number of cases per year for all of Europe + N.A. ^{was not} more than 50 ^{per year} ~~in the past 8 yrs.~~~~

Well to recall, however, that ^{in the} pre-Jennerian era, in the 18th century, small pox was widely prevalent - 95% ~~of~~ contracted the disease; variably between 15 and 35% died. 45000 deaths/yr. occurred in the U.K. alone; at the London Hospital for the Blind, 75% of all cases were caused by ^{small} pox.

Vaccination changed all of this ^{in many parts of the world - this difference - personal concern + waterhouse vaccine} but ~~contrast~~ unlike the situation with respect to cholera, malaria, y.f., ^{intermediate} ~~play~~ a major role in transmission, the potential with respect to ^{transmission} ~~remained~~ little changed. ^{in this country of India or U.K.} ~~we~~ ^{concern ourselves} ~~with~~ with the threat of substantial outbreaks ^{of these other diseases.}

Potential re: severity has not changed. Variola major in ~~India~~ causes 35-40% mortality in these areas. In the UK/Sweden in 1962-1963, 40% of unvaccinated pts. died in spite ^{of excellent care.}

Reporting + impressions
Surveillance + help

Critical view
Pakistan.

Remote areas

Die out. -

~~High~~

Timetable -