1967, JULY – CDC – SPOX COURSE

I needn't tell you what a pleasure it is for me to return to the city & institution which the Hendersons call home. I feel as tho I had been away for a very long time indeed and yet it is only 9 months, one gestation period – I am pleased to report, however, that there are no additional Swiss Henderson children and only one additional Swiss cat plus a smallpox program in its birth pangs.

One's vantage point on the world necessarily changes as an international civil servant, altho the same Parkinsonian laws apply. I am discovering. One ~~hears about~~ receives somewhat more frank accounts, I suppose, from ~~those~~ colleagues visiting this area for the first time – ~~2~~ things are mentioned, amusingly, ~~[illegible]~~ frequently, aside from CDC & its speakers

~~1. The Magnitude of CDC and its setting.~~ ~~[illegible]~~

~~2. The incredible downtown hotel with its open enclosed courtyard – which I haven't seen yet.~~ (where one is attacked to leaving, on leaving a store, Au revoir, merci, messieurs-dames – there is the contrasting)

~~3. A sometimes incomprehensible accent punctuated by the~~ {yall hurry – – –

(1) The inexplicably non-alcoholic dessert across the street – for which few come prepared.

~~The contrast between my present responsibilities and interests is necessarily an acute contrast with my past contrary to most who assume a broader interest in ... by.~~

~~The similarities.~~

~~WHO and the contrast in~~

~~For those of you who have not visited WHO, I might dilate a moment to say a word or two about it. The ~~Organization~~ WHO is housed in a magnificent & newly built (and already too small) 8 story building set on a rise of land. From our offices we directly overlook the city~~

Geneva, I might note, we have found very much to our liking. Clearly it is one of the most beautiful cities I know, bedecked with flowers, ~~and~~ situated ~~on lake [illegible]~~ the ~~largest~~ longest inland lake in Europe ~~[illegible]~~ and lying between the ~~[illegible]~~ Alps and the Jura Mountains. Our first winter, surprisingly, we found to be milder than in Atlanta ~~and the summer a bit cooler~~. For a city of only 300,000, it ~~has an amazing variety of~~ is replete with museums, opera throughout the winter, and ~~the~~ a vast variety of other events – unfortunately, no professional football. I am happy to note that ~~also~~ also that the family is doing very well in French with the exception of the father whose French consists of ~~no~~ little more than a 100 nouns and perhaps two verbs, present tense. The problem is, of course, need and, in the ~~Organization~~ Smallpox Unit, English is clearly our lowest common denominator for our professional staff consists of one other American, a Japanese, a Russian (Nick), a Latvian, a Pole plus 3 English secretaries and 1 Scottish secretary.

Smallpox eradication had its ~~[illegible]~~ nascent beginnings in the Americas – PAHO, 1950. Freeze-dried vaccine. By 1958, all countries free except Brazil / Colombia / Ecuador. The ~~continuing~~ continuing problem of smallpox to all ~~the~~ countries and the evident successes achieved led the Soviet Union, in 1958, to propose a global scheme for SE. Unanimously ~~proposed~~ passed by Assembly – financing, voluntary.

Smallpox since a world-wide problem but following Jenner's ... in the 1800s ... gradually ... endemic control ... in the developed countries during the 1900s ... U.S. + Canada ... 1950s ... Europe ... analysis ... factors – long ... [illegible]

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 Program to date

~~Response to date from enquiry~~

What have we done? (+ dates) What are we doing? Where are the problems?

- Given 2.5×10^6 for the world - ~~not~~ doesn't go too far.
- Early today U.S. came thru with virtually total assistance to 19 W+C. African countries
- a) ~~Freeze~~ Lyophilized vaccine - glycerinated + freeze-dried - est. firmly we use if 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 donation.
  1) Soviet Union 100 000 000/yr. to India + $X \times 10^6$ over 3 yrs to Arg.
  2) Other countries - Netherlands, Yugoslavia, Algeria, Tunisia, Hungary, ~~Czechoslovakia~~, Sweden, Switzerland, UAR & others have come thru. For MP use, we now are assured of a supply for at least the next 2 yrs.
  3) Testing of all donated vaccine + free services to other countries.
  4) Consult & provide
  5) Contact @ European Lab.
  6) Vaccine producers conference.
  7) Studies of different strains - USSR. -
     production potential - Netherlands
  8) Bifurcated needle - Wyeth - expensive - now working out cheap ~~#~~ uses very little - 5¢ extension
- b) Bilateral assistance beyond USA - 3 countries active discussion
- c) Methods to be employed.
  Observation that national staff and WHO - little experience re. control of program, surveillance, etc. - development of manual (held up)
  April convened ad hoc Regional Advisers from the 5 WHO Regional Offices & discuss this in draft form hoping thereby to get some sort of coherent policy and direction. New directions for the Org. USA - USSR
  Scientific Group - & consider Manual and policies.
- d) Necessary to get programs underway - to this end, assist staff & various countries.
  Refer to map - by end of 1967 programs in ~~last~~ AMRO - 5 yr. program of eradication.
  in AFRICA - except Ethiopia, Somalia, Rwanda, Uganda + Portuguese + S. Africa
  in Asia - except W. Pakistan + Indonesia.
  in remaining countries - 1968.

2.5 x 10⁶ - Letter US - must be used during 1967

~~Consultative Expert Conference - Dec in Bangkok for Asia~~
~~Next year in Kinshasa for Eastern Af.~~

~~[illegible]~~

d) Coordination + Reporting

Conferences - Bangkok - ~~Nov~~ Dec. for Asia
Kinshasa - next year for Eastern Africa.

Surveillance reports - 1st hopefully in mid-Sept.

~~f)~~ Non-endemic areas - Iran. Vaccine reserve -

Story of Oman -

Vaccine reserve in Geneva.

~~risk~~ Problems ~~beyond~~

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

~~Quite~~ Dealing with man to man transmitted disease. Satisfactorial cases virtually fail.

~~Question as to what level of herd immunity needed before disease vanishes.~~

Analyse problem - 2 wks. incubation period - assume most transmission during 1st week - requires one new case q 3 wks. - Thus one chain of infection in country is minimum 1/7 cases. (no. of foreign contacts) Perhaps, therefore, our strategy needs to be a specifically time grouped attack.

a) Raise immunity level to point where transmission is markedly suppressed.

a) Determine prompt vaccination and containment in areas where disease

This requires ~~would be~~ likely / case identification and active field investigation - a real scarcity in most countries

~~Feasibility in modern times, at these immune level already established~~

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

~~As regards the gap~~

2. Jet injectors

One developed - good, expensive ($1100)

~~Germ~~ Germ-jet being aggressively pushed - Pistol - cost $200. Results as yet not good.

Handicapped by vaccine availability. Jet injector vaccine standards.

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

~~Disease~~

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

~~However~~ ~~Has~~ mid 800's - smallpox described in monkeys.
now known transmission to monkeys and from one species 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 agent AB3. this 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 these reservoirs and to permit more definitive studies.

4. ~~Velocity~~

~~As for cancer — need.~~ U.S. Japan entg. – Dec)

4. Research with International Conference

Problems are many more than these 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 attack can move quickly. We must sustain it but has been started.

Dr. Greenaltz + Sezer

Table 1. Evident that the program overall was not proceeding spectacularly.
(Discuss) – 1967 1st 6 month – 56,775 cases. ~~India~~ – Pakistan.
Several countries quite successful –
Asia – Malaysia, Thailand, Iran, Saudi Arabia ceased reporting cases
Africa – Sudan, Algeria, I.C., Senegal and Mauritania – similarly
America – Ecuador+, point reduced into Peru.
Principle areas, (% of cases) India, Pakistan, Indonesia – ~~War~~
India/Pakistan problems. Some success but resurgent.
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 PL 480 funds to India but otherwise nothing.

In May of last year – ~~Assembly~~ D-G [illegible] considered all of this & proposed to Assembly that money be appropriated for that the annual pious resolutions re: SE be stopped. He suggest 2.5×10^6 – the US and other major contributors said 1.0×10^6 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

~~The rationale~~ The rationale of all this – why is global concern re: this disease –

Of all diseases known to man, more concern is evidenced re: spox than any other. Throughout Europe + N.A., vaccination is widely practised. In fact, as many vac. are performed for spox as for any other disease. A bit paradoxical, is it? ~~In view of these~~ The average no. of cases per year for all of Europe + N.A. ~~combined~~ over past 8 yrs has been not more than 50 per year ~~in the past 8 yrs.~~

Well to recall, however, that in pre-Jennerian era, in the 18th century, smallpox was widely prevalent – 95% ~~of~~ contracted the disease; variably between 15 and 35% died. 45,000 deaths/yr. occurred in the U.K. alone; at the London Hospital for the Blind, 75% of all cases were caused by spox. Throughout the world – Thyr. Islands – persist cause of Waterhouse ~~Vaccination changed all of this~~ but ~~contrast~~ unlike the situation with respect to cholera, malaria, y.f., plague in which socio-economic factors ~~[illegible]~~ play a major role in transmission, the potential with respect to spox transmission in ~~[illegible]~~ remained little changed. This today is not ~~substantially~~ a concern ~~of~~ countries, however, with the threat of substantial outbreaks of these other diseases.

Potential re: severity has not changed. Variola major in Asia 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 + (approval ~
surveillance + help

Critical areas
Pakistan.
Remote areas
Die ont. –

~~Flight~~

Timetable –