

Date	Aug 30 1992
Author	DA Henderson
Title	Vaccines and public health
Event	5th Annual meeting
Event Sponsor	Advances in AIDS Vaccine Development
Event location	Chantilly VA
Notes	
Publ as	

~~Delighted~~

speech file
asis

- Delighted to have the opportunity to be with you today
Meeting which has to be one of the most important for AIDS R + D.
- Viewing AIDS from a public health and global perspective
 - + Clearly being challenged by one of the most serious microbial threats of all time.
 - + ^{Public health perspective} Options for control are few and presently not very effective
 - Behavioral change
 - Technologies such as blood screening + provision of sterile needles
 - Drugs, so far, are disappointing therapeutically and very costly.
Remain hopeful but, to date, antiviral agents have thwarted host efforts.
If developed, how applicable for the Third world $\leftarrow$ ^{cost} _{prog. applic.}
 - Vaccines - at this time, only ^{meaningful} ~~possible~~ possible modality
to date, the ^{vaccine} only intervention which has proved effective in dealing
on a global scale with any disease.
- + Could a vaccine, if available, be rapidly and effectively applied - YES
 - 80% of children - child survival prog.
 - Own experience in spp. - not that difficult to reach 90% of
most populations in any country in 1-2 yrs.
- + Important ^{characteristics} ~~considerations~~ for vaccine for international use
 - COST - presently, a break point at around \$50⁺/person protected
National budgets for health - still used primarily for curative demands
International assistance - finite
- Lesser considerations in limits
 - NO. OF DOSES REQUIRED -
 - VACCINE - HEAT STABILITY

Q

+ In deciding on candidate vaccines for testing, important that ^{these} factors of cost / least stability / doses required be weighed along with efficacy. No point in having a highly efficacious gold-plated vaccine if not used. Could not donor countries be persuaded? like to think they would but e.g. smallpox - problem to indust. & dev. world alike.

~~+ ^{Bottomline} ~~In my opinion~~, vaccines offer the only meaningful hope for significantly altering course of epidemic. Need to bear this in mind in setting priorities and in the urgency which we must assign to this problem.~~

• Enormous efforts have been made in basic research pertaining to HIV and from agenda for the conference, much progress has been made in vaccine development. As you all well know, much remains to be done on all fronts.

fact of the vaccine development agenda is of general -
• One ~~area~~ ^{of special} concern to me ~~of this kind~~ ^{is} ~~one which has received increasing attention over the past year~~ ^{too often} (practical problems associated w vaccine testing).

+ I have found that my lab. colleagues have an all too simplistic view of the complexities of vaccine testing in the field - line up a bunch of people and voila.

You undoubtedly know that epidem. have a similarly foreshortened view of the complexities of laboratory research

And, parenthetically, neither has much appreciation for the probs of the manufacturer who has to ~~and~~ develop material satisfactory to reg. agencies and the art (not a science) of scaling up production - that's for another day.

^{promotive}
+ Probs of field testing of ~~any~~ HIV vaccine - like all facets of the AIDS problem
^{sum time}
are more unique, difficult and potentially more contentious issues than
for any present or prospective vaccine.
SAFETY - EFFICACY

+ Problems of safety - a minor issue assuming an attenuated virus is not used
and I will assume that is the case.

^{against natural challenge}
+ Problem of demonstrating efficacy is the key issue and, in course of doing,
hopefully identifying meaningful surrogate markers which will
simplify future studies.

^{Not unequaled m.}
o Population - [Size of pop. needed depends on intensity of challenge]
1) Desirable to select those experiencing highest rates of new infections
Not necessarily those with highest prevalence of HIV antibody
Requires knowledge of kinetics of infection locally - info. scanty
Industrialized country - very doubtful.
Prevalence ^{of AB}, even rates of infection, may be high in
drug abusers / prostitutes - ? cooperation
? route of trans. (drugs)
Developing country - almost certainly the key
At present: expertise in epidemiology, lab. sci, vaccine testing
not strong. CRITICAL THAT THIS BE DEVELOPED
~~Info on rates of infection among diff. groups needs to be sought.~~

2) Age group - 12 to 20 yrs.

Experience - most difficult to identify and to follow.

3) ^{Protective} route: IV drug abuse - route
without route: heterosexual route

o Placebo of some sort will be required - curiously, not all agree.
Why? simplistic illustration. Vaccinate 2000 people - no disease.
Goat but how do we know they were challenged.
(e.g. cholera vaccine)

o What are some of the practical problems in implementing study

1) Informed consent — conform to Helsinki accord & other intl. agreements
How to explain, what detail.
Behavioral scientists who only understand pop. & ~~ling~~ ^{socio}cultural context

2) Assume some 2000 to 10000 people are to be followed over 2-3 yr. period.

Need to ensure certain identification — not so easy as you might think.
duplicate names / names change ^{in interpretation}

Migration / disappearance — a problem if % is too high

Illness & other effects attributed to vaccine

Almost always in vacc. trials [have participated in
Allergies: sterilization
: spreading the disease // Potential international repercussions

Need for countless meetings @ all levels of govt, prof. societies,
local citizens groups, etc., etc. to secure cooperation.

Even then — P. I.

— Zaire — Project SIDA — civil disorder.

o Bottom line — each properly conducted trial — costly, time consuming, difficult
Need for substantial local participation, substantial time to develop baseline
and meticulous conduct of study if meaningful results to be obtained

Not many persons @ a great deal of experience @ field trials.

Because of these factors and cost — a finite no. of studies can be done.

5

Final analysis ^{special} - need for international coordination in vaccine trials
 cannot be all
 Someone needs to decide which vaccines - (internationally convened group best)
 Many different approaches being taken → many dif. products
 Efficacy, cost, feasibility of admin. (& stability, # of doses)
 Decision as to when ^{to start} ~~introducing~~ made. - when to move on to general use
 (e.g. typhoid)
 Agreement & full participation of government & local community.
 Important role for WHO. - pleased to see their response.

Bottom line: dealing c a potential product which may well be the only effective
 of significance
 control measure for most of the world.
 dealing c a ~~product~~ vaccine product which may well be the most
 difficult one to test
 dealing c a product to which many dif. labs./countries/publ. sector
 contributing & investing. Requiring a level of coordination and
 industry unique in vaccine animals.

SCOT

This chapter - like all others pertaining to HIV - will have the
 complex ~~all~~ of ~~our~~ resources
 are in agreed in & intellect.

Time to proceed with all dispatch in laying groundwork