

Ottesen.txt

<time begin="00: 00: 30. 02"/><clear/>>> Good evening and welcome
to the first

lecture in this our second year of the series

<time begin="00: 00: 36. 00"/><clear/>of Global Disease: Voices
from the Vanguard.

<time begin="00: 00: 39. 31"/><clear/>The Voices of Vanguard series
is

a joint effort between the center

<time begin="00: 00: 44. 94"/><clear/>for Tropical Emerging
Global

Diseases and the Knight Chair in Health

<time begin="00: 00: 49. 13"/><clear/>and Medical Journalism our
own Pat Thomas of the

Grady College of Journalism in Mass Communications

<time begin="00: 00: 56. 29"/><clear/>with the assistance this
year

of the Office of the Provost.

<time begin="00: 00: 59. 75"/><clear/>I'd like to announce
that

this is a blue card event.

<time begin="00: 01: 02. 75"/><clear/>And someone will be here
for

you to sign you in with them.

<time begin="00: 01: 07. 06"/><clear/>And also people here from
People, Parasites and

Plagues should also see Julie Moore or the TA.

<time begin="00: 01: 15. 99"/><clear/>We hope this lecture series
will help solidify

the widespread interest in multiple aspects

<time begin="00: 01: 23. 59"/><clear/>of global health as they
occur

across the whole UGA campus.

<time begin="00: 01: 29. 81"/><clear/>Now, we seek to do that by
bringing in

speakers here to Athens who have both shown

<time begin="00: 01: 37. 38"/><clear/>through their tenacity
and

their innovation ways to get

<time begin="00: 01: 40. 97"/><clear/>about doing something about
global health.

<time begin="00: 01: 44. 47"/><clear/>And I'm pleased that each of
you is

here tonight, thank you for coming.

<time begin="00: 01: 48. 38"/><clear/>If you attended any of last
year's lectures

you have some anticipation of what to expect.

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<time begin="00: 01: 53. 79"/><clear/>This year's series will again

present a

wonderful lineup of those on the frontlines

<time begin="00: 01: 59. 65"/><clear/>of innovations in pursuing

global health.

<time begin="00: 02: 03. 45"/><clear/>All four speakers are

visionaries who have

been able to blend their factual knowledge

<time begin="00: 02: 08. 89"/><clear/>with their subject with the

realities and

the challenges of working in the field.

<time begin="00: 02: 15. 65"/><clear/>Tonight we're going to be

privileged

to hear Doctor Eric Ottesen speak to us

<time begin="00: 02: 19. 24"/><clear/>about the elimination of

lymphatic filariasis.

<time begin="00: 02: 22. 26"/><clear/>Next month Dr. Zeda Rosenberg

will be here from

the International Partnership for Microbicides.

<time begin="00: 02: 29. 19"/><clear/>And then in March Dr. Robert

Glass

will be here and he's the director

<time begin="00: 02: 33. 82"/><clear/>of the Fogarty International

Center at the NIH.

<time begin="00: 02: 37. 06"/><clear/>And in April we'll wind up

this

year's lecture series the Voices

<time begin="00: 02: 41. 20"/><clear/>from the Vanguard with one of

the actual voices.

<time begin="00: 02: 45. 67"/><clear/>Dick Thompson will be here

from the

WHO and he's the spokesperson for WHO

<time begin="00: 02: 51. 16"/><clear/>on international infectious

disease crises.

<time begin="00: 02: 55. 62"/><clear/>So, we're excited about

this

entire group of lecturers.

<time begin="00: 02: 59. 06"/><clear/>And without further ado I

would like to

introduce Dr. Sheila Allen who is the dean

<time begin="00: 03: 05. 18"/><clear/>of the College of Veterinary

Medicine

here and she's going to introduce Eric.

<time begin="00: 03: 13. 27"/><clear/>>> Good evening ladies and

gentlemen.

<time begin="00: 03: 16. 45"/><clear/>In our ever-changing

global
society recent attention has focused
<time begin="00: 03: 21. 04"/><clear/>on combating naturally
occurring
and reemerging infectious diseases
<time begin="00: 03: 25. 74"/><clear/>that poses major public
health threats
including highly pathogenic Avian influenza,

<time begin="00: 03: 31. 71"/><clear/>HIV, E Coli 0157 and
others.

<time begin="00: 03: 36. 19"/><clear/>The responsibility, to
develop
treatments and preventative strategies
<time begin="00: 03: 39. 89"/><clear/>for these pandemic diseases
rest
upon the shoulders of scientists.

<time begin="00: 03: 44. 38"/><clear/>It's my privilege today to
introduce
Dr. Eric Ottesen a renowned investigator
<time begin="00: 03: 49. 14"/><clear/>who has devoted his career to
such endeavors.

<time begin="00: 03: 52. 44"/><clear/>Dr. Ottesen is a research
professor and
director of Lymphatic Filariasis Support Center
<time begin="00: 03: 57. 45"/><clear/>at Emory University's
Rollins
School of Public Health.

<time begin="00: 04: 01. 15"/><clear/>Dr. Ottesen has spent most
of
his career leading the fight
<time begin="00: 04: 04. 15"/><clear/>against lymphatic filariasis
a debilitating
condition that affects many people world wide.

<time begin="00: 04: 10. 49"/><clear/>Prior to his position at
Emory
University Dr. Ottesen spent seven years
<time begin="00: 04: 15. 48"/><clear/>at the World Malaria
Organization in Geneva leading
research in filariasis elimination program.

<time begin="00: 04: 21. 91"/><clear/>He also spent 22 years at the
National Institute
of Health as an infectious disease scientist
<time begin="00: 04: 28. 55"/><clear/>and lead investigator in the
laboratories of
parasitic diseases and clinical investigations.

<time begin="00: 04: 35. 20"/><clear/>Dr. Ottesen is a Princeton

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University

honor graduate and holds a doctorate

<time begin="00:04:38.74"/><clear/>of medicine from Harvard

University.

<time begin="00:04:41.35"/><clear/>Certified by the American

Board of Pediatrics

he currently serves on the task force

<time begin="00:04:46.04"/><clear/>for child survival and

development

at Emory as part as his work

<time begin="00:04:49.75"/><clear/>on eliminating lymphatic

filariasis.

<time begin="00:04:53.08"/><clear/>Dr. Ottesen is the recipient

of numerous awards

<time begin="00:04:55.56"/><clear/>and honors throughout his

career

including an a commendation medal

<time begin="00:04:59.30"/><clear/>and meritory award service

medal for his public

health service at the National Institute

<time begin="00:05:03.31"/><clear/>of Health, the Donald MacKay

Medal from

the American Society of Tropical Medicine

<time begin="00:05:08.65"/><clear/>and Hygiene and the Rural

Society of Tropical

medicine, and the Joseph E. Smadel Award

<time begin="00:05:15.11"/><clear/>from the Infectious Disease

Society of America.

<time begin="00:05:17.18"/><clear/>And the Kitasato Microbiol

Chemistry Medal from

Kitasato Institute in Tokyo and many others.

<time begin="00:05:24.56"/><clear/>Dr. Ottesen has numerous

journal articles

and papers appearing in such publications

<time begin="00:05:29.22"/><clear/>as New England Journal of

Medicine

and the Journal of Infectious Disease.

<time begin="00:05:34.19"/><clear/>It's an honor for the

University of Georgia

community to welcome a world renowned expert

<time begin="00:05:39.34"/><clear/>of Dr. Ottesen's stature to

our campus.

<time begin="00:05:42.12"/><clear/>Please join me in welcoming a

scholar

who is internationally recognized

<time begin="00:05:45.38"/><clear/>and a respected expert in a

fight against

infectious disease, Dr. Eric Ottesen.

<time begin="00:05:50.51"/><clear/>[Applause]

<time begin="00:06:01.49"/><clear/>>> Thank you very much

doctor

for the excessively kind words.

<time begin="00:06:07.88"/><clear/>I think that probably all of

the

people that come here and have

<time begin="00:06:12.29"/><clear/>to speak here are left

feeling a little

<time begin="00:06:14.52"/><clear/>out of place unless they are

have legitimate

robed existence, part of the clergy or something.

<time begin="00:06:23.12"/><clear/>I was thinking being here

perhaps it'll make

the impact of what I say that much greater.

<time begin="00:06:32.86"/><clear/>But, it also makes me

make

sure that I want to stay close

<time begin="00:06:36.30"/><clear/>to the truth in anything I

say tonight.

<time begin="00:06:37.93"/><clear/>[Laughter]

<time begin="00:06:39.04"/><clear/>But anyway, it is a great

pleasure to be here.

<time begin="00:06:41.01"/><clear/>As you'll see later the

University of

Georgia has played an enormous role

<time begin="00:06:46.04"/><clear/>in filariasis research and

I'll

come back to that in just a minute.

<time begin="00:06:50.03"/><clear/>But, let me say first that

what I want to do

tonight is to really talk about public health.

<time begin="00:06:55.74"/><clear/>But, and some of the

processes

and how the thing works

<time begin="00:06:59.17"/><clear/>because we want to make

global health experiences.

<time begin="00:07:03.72"/><clear/>But they have to be

experiences

around certain topics.

<time begin="00:07:06.58"/><clear/>And tonight the topic I think

is going to be

lymphatic filariasis and I think you'll see why.

<time begin="00:07:12.86"/><clear/>This really is a story of

success here.

<time begin="00:07:16.69"/><clear/>And the, the we have success
in the

science, we have success in the intervention

<time begin="00:07:25.95"/><clear/>and then we have successes
that we

really didn't anticipate from filariasis.

<time begin="00:07:30.47"/><clear/>So, let me start with that
and first

introduce, we've got to be talking about something

<time begin="00:07:35.59"/><clear/>that probably almost nobody
here knows much

about or, well, we had it working before.

<time begin="00:07:42.42"/><clear/>There you go.

<time begin="00:07:43.84"/><clear/>And that is that disease
itself.

<time begin="00:07:46.11"/><clear/>Now, lymphatic filariasis is
elephantiasis

to most people.

<time begin="00:07:52.61"/><clear/>And this is lymphedema where
it's really

loud and this is what you see in elephantiasis

<time begin="00:07:58.49"/><clear/>where you have these great
distended limbs.

<time begin="00:08:02.27"/><clear/>In fact this is what is
characteristically

recognized as lymphatic filariasis.

<time begin="00:08:08.30"/><clear/>But, really the more
important one is

something we really can't talk about that much

<time begin="00:08:13.56"/><clear/>because it's just not
socially acceptable

but it is men who have similar disabilities

<time begin="00:08:20.39"/><clear/>but of the genitalia it's
hydroscrotum

and elephantiasis of the scrotum.

<time begin="00:08:27.54"/><clear/>It's almost ten times as
common as the lesions in women.

<time begin="00:08:31.51"/><clear/>But you never see any
pictures of it.

<time begin="00:08:33.10"/><clear/>We really cannot communicate
effectively

with it because it's just not something that,

<time begin="00:08:38.71"/><clear/>that's easy to bring to
audiences.

<time begin="00:08:41.79"/><clear/>Extremely important and
because

it effects the males

<time begin="00:08:44.76"/><clear/>in the population, has a
tremendous

economic impact.

<time begin="00:08:48.60"/><clear/>But, what is it that causes
these gross

distortions, this disease in humans.

<time begin="00:08:54.13"/><clear/>It's actually little worms
it's these

filarial worms that may be four inches long,

<time begin="00:09:00.39"/><clear/>filarial means thread,
thread-

like, so they're relatively thin.

<time begin="00:09:04.96"/><clear/>But you can see this is a
dilated lymphatic.

<time begin="00:09:08.67"/><clear/>This is at surgery around
the

hydrosol from the hydrosol there

<time begin="00:09:14.36"/><clear/>where a lymphatic, or these
very thin

vessels that go throughout the body.

<time begin="00:09:21.43"/><clear/>And the parasites themselves
lodge within the

vessels and cause dysfunction so that you end

<time begin="00:09:28.31"/><clear/>up with fluid that doesn't
flow normally.

<time begin="00:09:30.87"/><clear/>You end up with baggy
dilataion

and you end up with problems

<time begin="00:09:33.94"/><clear/>that have all sorts of
complications.

<time begin="00:09:36.07"/><clear/>And some of those we'll
look

at in just a couple of minutes.

<time begin="00:09:40.15"/><clear/>There are other aspects of
filarial disease.

<time begin="00:09:43.72"/><clear/>But we're not going to talk
about these things.

<time begin="00:09:45.61"/><clear/>So there are a number of
different situations

conditions that are caused by filarias.

<time begin="00:09:52.15"/><clear/>But again, just the
notion

that this is something

<time begin="00:09:55.93"/><clear/>in the lymphatic causes
dilataion,

elephantitis in hydrosol that's enough to, to,

<time begin="00: 10: 02. 22"/><clear/>to recognize from a clinical

point of view.

<time begin="00: 10: 05. 40"/><clear/>But the other interesting

thing

about filariasis is that many people

<time begin="00: 10: 09. 23"/><clear/>in the endemic areas have

no

idea that they have filariasis.

<time begin="00: 10: 13. 18"/><clear/>They don't have those

manifestations

that you see.

<time begin="00: 10: 16. 03"/><clear/>Instead what you can find,

the way

you, the way you identify it is

<time begin="00: 10: 19. 74"/><clear/>that the parasites circulate

in the blood.

<time begin="00: 10: 23. 23"/><clear/>So these are microfilarial

they're much

smaller than the, than the adult filarial we saw

<time begin="00: 10: 28. 63"/><clear/>in the surgical specimen

there, and

these are white blood cells here.

<time begin="00: 10: 32. 11"/><clear/>So, you can get an idea of

the size

of one of these filarial. Something

<time begin="00: 10: 35. 61"/><clear/>like 300 microns long,

circulating

by the thousands and thousands.

<time begin="00: 10: 39. 98"/><clear/>In the blood of asymptomatic

people.

<time begin="00: 10: 43. 15"/><clear/>The importance of these

things is

not immediately to the clinician.

<time begin="00: 10: 48. 07"/><clear/>But the importance is that

this is how

the parasite transmits itself and stays

<time begin="00: 10: 52. 91"/><clear/>with the life cycle the

endemicity is

caused by the microfilarial that are picked

<time begin="00: 11: 00. 29"/><clear/>up from the blood of

individuals, picked up

by mosquitoes go through a maturation phase

<time begin="00: 11: 06. 06"/><clear/>and then are re-infect

another

human, another individual.

<time begin="00: 11: 11. 76"/><clear/>And then over the course

of
literally years go through a lifecycle
<time begin="00:11:15.96"/><clear/>that maybe will last perhaps
a year, six
months or a year on this side of the lifecycle
<time begin="00:11:21.13"/><clear/>but the adult ones last four
to six years.
<time begin="00:11:23.49"/><clear/>So, this is long chronic
infection, and
again, in the, in the tropical areas
<time begin="00:11:31.86"/><clear/>of the world principally
because they
have to be transmitted by mosquitoes.
<time begin="00:11:38.09"/><clear/>Now, why do we focus on
lymphatic filariasis tonight?
<time begin="00:11:42.02"/><clear/>Or why do we focus on
lymphatic
filaria in general?
<time begin="00:11:45.11"/><clear/>It's not a very well known
disease
as you'll all appreciate I'm sure.
<time begin="00:11:50.80"/><clear/>One is it really causes
an
enormous health burden.
<time begin="00:11:54.15"/><clear/>And it affects already
more
than 120 million people.
<time begin="00:11:59.00"/><clear/>About 40 million had that
overt disease the
elephantiasis, the hydroedema that kind of thing.
<time begin="00:12:05.05"/><clear/>And, another 80 million has
hidden
infections sometimes they're microfilariaemic
<time begin="00:12:10.50"/><clear/>like we saw a minute ago but
sometimes you
can't even tell that the infection is there.
<time begin="00:12:15.36"/><clear/>But I'll show you in just a
minute
what's happening to individuals.
<time begin="00:12:19.93"/><clear/>But there're over a
billion
people at risk of this infection.
<time begin="00:12:23.15"/><clear/>So in the areas where it's

endemic you're talking about almost
<time begin="00:12:27.09"/><clear/>a fifth of the world's

populati on.

<time begin="00:12:29.33"/><clear/>But, does it make any

difference?

<time begin="00:12:30.77"/><clear/>Well, not if you're living

here, of course,

<time begin="00:12:32.48"/><clear/>but if you're living

there

it makes a huge difference.

<time begin="00:12:35.34"/><clear/>It has an enormous, it's a

major

cause of disability, stigma,

<time begin="00:12:40.31"/><clear/>and economic loss in the 83

endemic

countries, again mostly throughout the tropics

<time begin="00:12:47.18"/><clear/>and the subtropics, as you

can see

the tropics and the subtropics.

<time begin="00:12:55.59"/><clear/>Well I think the other thing,

the other reason

why we focus on filariasis now is that especially

<time begin="00:13:02.10"/><clear/>because we can do something

about it.

<time begin="00:13:03.83"/><clear/>Again this is a good story

and we

don't have to sit and suffer with this.

<time begin="00:13:10.99"/><clear/>In fact the, it's a good

piece of science.

<time begin="00:13:14.65"/><clear/>It shows that all the work

that goes on in the

laboratories, all of the activities that go

<time begin="00:13:19.84"/><clear/>on to build this thing

finally

do come to fruition sometimes.

<time begin="00:13:24.51"/><clear/>This, this is sort of the

typical

approach to any of, any of the conditions,

<time begin="00:13:29.37"/><clear/>the infections, the diseases

we work on.

<time begin="00:13:31.76"/><clear/>There are questions that are

posed, research

is done to get a better understanding

<time begin="00:13:37.77"/><clear/>of these conditions, develop

tools necessary

to actually combat them, develop a strategy how

<time begin="00:13:44.69"/><clear/>to use that tool and then

somehow get

them into the public health spirit where,

<time begin="00: 13: 50. 73"/><clear/>where you can make a
difference with

your public health implementation.

<time begin="00: 13: 55. 94"/><clear/>And in fact, for those people
who deal with

the medical sphere, people are always talking

<time begin="00: 14: 03. 25"/><clear/>about from the bench to the
bedside

this is the mantra for researchers,

<time begin="00: 14: 08. 59"/><clear/>clinical researchers
from

the bench to the bedside.

<time begin="00: 14: 10. 78"/><clear/>But when we deal with these
diseases

here we don't really have any bed sides,

<time begin="00: 14: 15. 59"/><clear/>very few bed sides in the
countries where the

disease is endemic almost nothing here in the US.

<time begin="00: 14: 23. 05"/><clear/>So, what we were really
talking about

is from the bench to the community here.

<time begin="00: 14: 26. 94"/><clear/>So, this, this is the goal
that we

have in terms of the development

<time begin="00: 14: 34. 28"/><clear/>of programs on this global
health scale.

<time begin="00: 14: 39. 10"/><clear/>Now, I want to work through
this fairly

straightforward layer fairly quickly,

<time begin="00: 14: 45. 66"/><clear/>but the important thing is
because this is

very, this is just a scenario that would apply

<time begin="00: 14: 53. 30"/><clear/>to almost any of the diseases
or

any of the conditions we work on.

<time begin="00: 14: 58. 25"/><clear/>the first step in this thing
though

is really to define what the goal is

<time begin="00: 15: 02. 68"/><clear/>because if everybody's
working in

a different direction you say yeah,

<time begin="00: 15: 05. 44"/><clear/>we know this is a
problem.

<time begin="00: 15: 07. 10"/><clear/>And, we will, we will address
this

problem, but everybody has a different view

<time begin="00: 15: 13. 78"/><clear/>of the problem, you're not
going to get anywhere.

<time begin="00: 15: 16. 86"/><clear/>So, defining a clear goal is
the most

important first step in all of this.

<time begin="00: 15: 22. 80"/><clear/>for the filariasis program,
the Global Programme

to Eliminate Lymphatic Filariasis, the goal had

<time begin="00: 15: 30. 83"/><clear/>to be two things in terms of
that last

step for public health implementation.

<time begin="00: 15: 35. 71"/><clear/>What do we want?

<time begin="00: 15: 36. 89"/><clear/>We want to be able to
interrupt

transmission and we want

<time begin="00: 15: 40. 17"/><clear/>to alleviate the suffering
prevent the

suffering of those who are already infected.

<time begin="00: 15: 45. 34"/><clear/>So, these are our goals.

<time begin="00: 15: 47. 35"/><clear/>I, I put that right up front
even though this

is the goal of the public health implementation.

<time begin="00: 15: 53. 13"/><clear/>Let's go back and look at the
research

components that led to this that lead to this.

<time begin="00: 15: 59. 99"/><clear/>At first I wanna look at
that, that second

issue, that alleviating the suffering.

<time begin="00: 16: 04. 28"/><clear/>It's not, it's not going to
be the thing that

stops the transmission that eliminates filariasis

<time begin="00: 16: 12. 95"/><clear/>but we can't forget the
patients.

<time begin="00: 16: 15. 19"/><clear/>These are the people that are
already

out there with the infections.

<time begin="00: 16: 18. 51"/><clear/>We've got to do something to
help

them even if we're going to try

<time begin="00: 16: 20. 99"/><clear/>to prevent others in the
future from getting it.

<time begin="00: 16: 23. 88"/><clear/>What can we do to take care
of these patients?

<time begin="00: 16: 26. 59"/><clear/>Well there have been some
real

advances over the past decade

<time begin="00: 16: 30. 28"/><clear/>and a half in terms of our

understanding.

<time begin="00: 16: 32. 95"/><clear/>This is so important I think
with

all of the science activities that go

<time begin="00: 16: 37. 32"/><clear/>on here and in the academic
institutions.

<time begin="00: 16: 41. 21"/><clear/>Pathogenesis, what's
happening?

<time begin="00: 16: 43. 17"/><clear/>It's only after you begin to
understand

things that you can really address them

<time begin="00: 16: 46. 59"/><clear/>with a goal, with a
developing a tool.

<time begin="00: 16: 52. 41"/><clear/>One of the first bits of
understanding we

had came from our colleagues at the CDC.

<time begin="00: 16: 58. 58"/><clear/>When they looked in Haiti at
young

children and they looked in a way

<time begin="00: 17: 04. 11"/><clear/>that hadn't ever been
looked

at young children before.

<time begin="00: 17: 07. 16"/><clear/>And in fact, what they found
was rather than

having this be a disease of older people

<time begin="00: 17: 12. 17"/><clear/>because if you look in
textbooks

or if you have an opportunity

<time begin="00: 17: 16. 42"/><clear/>to be in an endemic area
really it's just adults

that you find with these conditions

<time begin="00: 17: 21. 27"/><clear/>with the hydrosol, with
the

elephantiasis you almost never see kids

<time begin="00: 17: 25. 45"/><clear/>with this kind of stuff at
all.

<time begin="00: 17: 27. 16"/><clear/>So, you figure it's a
disease

of old people or adults.

<time begin="00: 17: 30. 79"/><clear/>It's not the case
though.

<time begin="00: 17: 32. 59"/><clear/>In fact, it between age two
and four

is when they saw the largest increase

<time begin="00: 17: 38. 61"/><clear/>in individuals who, they

were

looking at antigen positive

<time begin="00:17:42.80"/><clear/>So, this was a new test
detecting

parasite antigen in the blood.

<time begin="00:17:47.03"/><clear/>You can't find the
parasites

there yet, you can if you look,

<time begin="00:17:50.43"/><clear/>but they're not, it's a lot
harder to find.

<time begin="00:17:52.85"/><clear/>But parasite antigen is given
off by the

living parasites and it's between the age two

<time begin="00:17:57.47"/><clear/>and four that this disease is
acquired.

<time begin="00:17:59.99"/><clear/>So, in these countries it's
the kids that

are infected but you don't know about it

<time begin="00:18:05.20"/><clear/>until they reach the adult
stage of life.

<time begin="00:18:09.17"/><clear/>That was a key bit of
our

understanding into how to approach this.

<time begin="00:18:13.94"/><clear/>Another key thing of
understanding

was the recognition

<time begin="00:18:17.79"/><clear/>that while these kids
are

infected they really have disease.

<time begin="00:18:21.69"/><clear/>There's something wrong.

<time begin="00:18:23.09"/><clear/>We just don't see it with our
clinical

proceeding our general perception clinically.

<time begin="00:18:30.17"/><clear/>We have to use
lymphocytography,

ultrasound studies.

<time begin="00:18:34.85"/><clear/>We have to look hard.

<time begin="00:18:36.31"/><clear/>And in fact these
individuals,

these young kids or older people

<time begin="00:18:41.17"/><clear/>who are totally
asymptomatic

don't have lymphatic systems.

<time begin="00:18:45.99"/><clear/>Now remember the lymphatic
system goes throughout

the body and the purpose is to deliver immune cells

<time begin="00:18:52.35"/><clear/>to infected areas but it's

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also to mobilize the
fluid so that your legs don't swell at the end
<time begin="00:18:57.70"/><clear/>of the day, mobilize the
fluid and
put it back into the blood system.
<time begin="00:19:02.30"/><clear/>And what happens, the way it
works, there's no,
there's no pump of course, not like the heart,
<time begin="00:19:06.29"/><clear/>but it's really like a set of
locks,
boats going through a canal with locks.
<time begin="00:19:11.32"/><clear/>You have valves in the
lymphatic tree
and the valves the muscles squeeze,
<time begin="00:19:17.41"/><clear/>the fluid goes up, it falls
back, the valves
close and it keeps moving up that way.
<time begin="00:19:22.40"/><clear/>In fact what happens when you
get filariasis is
you get great dilatation these lymphatics get big
<time begin="00:19:28.99"/><clear/>fat, dilate and the valves no
longer
come together, so the fluid goes up
<time begin="00:19:35.22"/><clear/>and it just falls right back
down.
<time begin="00:19:36.95"/><clear/>So, you end up with instead
of normal
lymphatics, this is a radio labeled tracer going
<time begin="00:19:42.04"/><clear/>up here as normal
lymphatics,
this is what people
<time begin="00:19:45.33"/><clear/>who have this asymptomatic
filariasis
have great dilatation of their lymphatics
<time begin="00:19:50.42"/><clear/>and convolutions here
and
they don't function well.
<time begin="00:19:56.91"/><clear/>And if you look at
ultrasound,
lymphatics are almost totally invisible
<time begin="00:20:01.79"/><clear/>by ultrasound unless they're
enlarged.
<time begin="00:20:04.14"/><clear/>And here you see a great
enlarged lymphatic.
<time begin="00:20:06.72"/><clear/>So, the point was that the
second key thing
about our understanding the pathogenesis

<time begin="00: 20: 11. 28"/><clear/>of the disease is that
there's a

great deal of subclinical disease.

<time begin="00: 20: 16. 96"/><clear/>Another thing that one of
prongs I said if you

have all this fluid going coming splashing back

<time begin="00: 20: 22. 78"/><clear/>down instead of being
mobilized it's like,

<time begin="00: 20: 26. 13"/><clear/>Like your leg becomes a
petri

dish or a culture medium.

<time begin="00: 20: 29. 79"/><clear/>So that any little nick, any
little

problem you have can lead to inflammation.

<time begin="00: 20: 35. 58"/><clear/>So one thing that's very
important is to

understand that there are different kinds

<time begin="00: 20: 39. 92"/><clear/>of the inflammation and even
especially recognizing

that it's the bacterial super infection

<time begin="00: 20: 45. 99"/><clear/>that gets into the cracks,
you know, in the

skin and then gets into those areas of skin,

<time begin="00: 20: 53. 05"/><clear/>causes that local
inflammation

that destroys more lymphatics.

<time begin="00: 20: 56. 27"/><clear/>In other words it turns
out

to be a vicious cycle,

<time begin="00: 20: 58. 63"/><clear/>of more destroyed lymphatics,
more

of the fluid, more infections.

<time begin="00: 21: 02. 74"/><clear/>It, that's how you end up
with elephantiasis.

<time begin="00: 21: 05. 19"/><clear/>Where once this was
understood in terms of

pathogenesis then it was not so difficult

<time begin="00: 21: 13. 08"/><clear/>to figure out well how
you

going to make these people better?

<time begin="00: 21: 15. 42"/><clear/>Not just by treating their
filaria. You do treat

<time begin="00: 21: 18. 74"/><clear/>their filaria. But it turns
out that if you just apply

stringent hygiene these people do very

<time begin="00: 21: 26. 87"/><clear/>much better.

<time begin="00: 21: 27. 87"/><clear/>The, you, if we get a little

bacteria

or fungal infection on our legs,

<time begin="00: 21: 33. 29"/><clear/>you know, we just wash the
thing off.

<time begin="00: 21: 35. 12"/><clear/>It's really not a bother
because our

immune system is so effective and we,

<time begin="00: 21: 39. 60"/><clear/>we don't have the problems
with this,

<time begin="00: 21: 40. 92"/><clear/>but in these individuals who
can't clear it

themselves, washing is basically helping their

<time begin="00: 21: 45. 68"/><clear/>immune system.

<time begin="00: 21: 46. 61"/><clear/>Just clean things off, make
the,

make the insult less and less.

<time begin="00: 21: 52. 47"/><clear/>And so, you can end up with a
very

effective treatment regiment here.

<time begin="00: 21: 56. 33"/><clear/>And the same story is really
the case

for hydrosol and genital involvement.

<time begin="00: 22: 04. 15"/><clear/>So, we really do now have
some

tools that manage patients better

<time begin="00: 22: 08. 43"/><clear/>and that people feel much
better.

<time begin="00: 22: 10. 39"/><clear/>There, I mean I can go on and
on about this

thing but it's really not, it's not necessary.

<time begin="00: 22: 17. 80"/><clear/>The important thing is that
these individuals

can be made to feel a great deal better

<time begin="00: 22: 22. 01"/><clear/>by applying some very simple
tools.

<time begin="00: 22: 24. 47"/><clear/>And we didn't even understand
this

five or seven or eight years ago.

<time begin="00: 22: 28. 52"/><clear/>It is new finding, doesn't
look remarkable

but it is very, very important to them.

<time begin="00: 22: 35. 28"/><clear/>But if we're talking about
the Global Programme

<time begin="00: 22: 37. 74"/><clear/>to Eliminate Filariasis, what
we really want to

do is not just take care of the people

<time begin="00: 22: 42. 33"/><clear/>who have the disease but
to

prevent it in the first place.

<time begin="00: 22: 45. 94"/><clear/>So how are we going to do
that?

<time begin="00: 22: 46. 96"/><clear/>We have to interrupt
transmission.

<time begin="00: 22: 48. 97"/><clear/>Make it so that there's
nothing

that's carried by the mosquitoes.

<time begin="00: 22: 54. 06"/><clear/>Elimination then means that
the

incidence of infection is zero.

<time begin="00: 22: 58. 95"/><clear/>Nobody acquires new
infection.

<time begin="00: 23: 02. 49"/><clear/>And for that, transmission
from the mosquito to

the infected person to the mosquito has to stop.

<time begin="00: 23: 09. 00"/><clear/>And this is really
interesting.

<time begin="00: 23: 12. 32"/><clear/>Well what does it take to
make, to make a

disease eliminatable, what is it that takes?

<time begin="00: 23: 20. 15"/><clear/>You know some people they'd
say well you know

it's got to be a certain kind of infection

<time begin="00: 23: 23. 73"/><clear/>or it's got to just be in
humans

or it's got to be something.

<time begin="00: 23: 27. 36"/><clear/>But really it's very simple,
there're only two things.

<time begin="00: 23: 29. 58"/><clear/>And it's not, there's
nothing,

there's nothing biological

<time begin="00: 23: 31. 88"/><clear/>about whether a disease
can

be eliminated or not.

<time begin="00: 23: 35. 81"/><clear/>It's all up to us.

<time begin="00: 23: 38. 56"/><clear/>If we can identify or create
an effective

intervention so we can get rid of the thing,

<time begin="00: 23: 44. 52"/><clear/>that's very important, and
we

also need an effective diagnostic so that

<time begin="00: 23: 50. 19"/><clear/>if it comes back we can tell
it's there.

<time begin="00: 23: 52. 78"/><clear/>So, it's got to be a
sensitive diagnostic

it's got to be a very effective intervention.

<time begin="00: 23: 56. 56"/><clear/>It's only two things.

<time begin="00: 23: 57. 70"/><clear/>I think that's really
fascinating.

<time begin="00: 23: 59. 40"/><clear/>Anything could be gotten rid
of if you

have effective tools to get rid of it

<time begin="00: 24: 03. 97"/><clear/>and an effective way to
monitor

whether it comes back.

<time begin="00: 24: 08. 33"/><clear/>
<time begin="00: 24: 09. 83"/><clear/>So again, if we're talking
about filariasis this,

the infection that we're talking about depends

<time begin="00: 24: 18. 19"/><clear/>on microfilaria being
transmitted

from humans to mosquitoes.

<time begin="00: 24: 24. 23"/><clear/>And very fortunately there
are a number of

different drugs that, that have been developed

<time begin="00: 24: 34. 13"/><clear/>over the years that are
effective

against the filaria.

<time begin="00: 24: 38. 00"/><clear/>Now in fact they're not so
effective.

<time begin="00: 24: 40. 75"/><clear/>They're fairly effective
against the adult

parasites but they don't kill it completely.

<time begin="00: 24: 45. 18"/><clear/>But they're extremely
effective

against microfilaria.

<time begin="00: 24: 48. 53"/><clear/>And I guess I can stop here,
yeah, and

just indicate to you now the University

<time begin="00: 24: 58. 04"/><clear/>of Georgia has been
absolutely critical in the

development of this entire story.

<time begin="00: 25: 03. 44"/><clear/>I could've stopped anywhere
and recognized

it but over the past I mean it's John McCall

<time begin="00: 25: 09. 14"/><clear/>and Ray Kaplan now who run a
filariasis

repository which must be at least 30 years old

<time begin="00: 25: 15. 78"/><clear/>or something just been here
at the

university for something like 30 years.

<time begin="00: 25: 20. 22"/><clear/>And they have together
produced, John and his

team first and Ray now have been responsible

<time begin="00: 25: 28. 28"/><clear/>for producing most of the
parasites

that have been used in all the research.

<time begin="00: 25: 32. 46"/><clear/>And John has done an enormous
amount

of screening of drugs that have led us

<time begin="00: 25: 37. 19"/><clear/>to our understanding and
capability

of using anti-filarial drugs.

<time begin="00: 25: 41. 97"/><clear/>So when I say it's an honor
and a pleasure to be

here today it's really a very significant place

<time begin="00: 25: 47. 70"/><clear/>for all of the work that's
gone on in filariasis.

<time begin="00: 25: 50. 98"/><clear/>And to maintain this life
cycle it's just beyond

most people. There would not be any significant

<time begin="00: 25: 57. 46"/><clear/>filaria research had it
not been for

their repository that's the NIH suppository

<time begin="00: 26: 02. 70"/><clear/>repository been here at
the

University of Georgia for all these years.

<time begin="00: 26: 08. 03"/><clear/>Okay so to come back then,
basically we

have two drugs that work very effectively

<time begin="00: 26: 13. 76"/><clear/>against the microfilaria, two
drugs that

work reasonably effectively against adult worms

<time begin="00: 26: 18. 94"/><clear/>to shut down microfilarial
production.

<time begin="00: 26: 21. 63"/><clear/>So our best way of breaking
the cycle here is

to stop these microfilaria or to get rid of them

<time begin="00: 26: 26. 69"/><clear/>from the bloodstream of the
infected individuals.

<time begin="00: 26: 30. 20"/><clear/>Each of these drugs alone, if
you give a

single dose of any one of the three,

<time begin="00: 26: 38. 71"/><clear/>brings down the microfilaria
counts

and keeps them down for periods

<time begin="00: 26: 43. 47"/><clear/>of at least a year and even

beyond.

<time begin="00: 26: 47. 78"/><clear/>This is each of the

three

drugs given as a single dose.

<time begin="00: 26: 51. 22"/><clear/>And you see, that's good, but

the real

drama comes when you put two drugs together.

<time begin="00: 26: 57. 47"/><clear/>And it's almost any two,

a

combination of any two of the drugs.

<time begin="00: 27: 01. 74"/><clear/>You can see that the

combination

of albendazole and ivermectin,

<time begin="00: 27: 04. 55"/><clear/>which is the combination

that's used for Africa,

<time begin="00: 27: 08. 25"/><clear/>because ivermectin is

the

drug that says Mectizan.

<time begin="00: 27: 11. 99"/><clear/>It's used for river

blindness, a

major program underway for that.

<time begin="00: 27: 17. 01"/><clear/>In Africa we use this

combination,

albendazole and ivermectin.

<time begin="00: 27: 20. 53"/><clear/>Look how rapidly a single

dose of two drugs

given together bring the microfilaria counts

<time begin="00: 27: 26. 16"/><clear/>down to zero.

<time begin="00: 27: 27. 45"/><clear/>And how long do they stay at

zero?

<time begin="00: 27: 29. 77"/><clear/>/We've got 30 months after a

single dose.

<time begin="00: 27: 32. 55"/><clear/>That's extraordinary.

<time begin="00: 27: 34. 10"/><clear/> Albendazole and DEC, which

is used in the rest of

the world, has a bit of a different kinetics,

<time begin="00: 27: 40. 08"/><clear/>but again, a single dose of

the two drugs

together gets rid of the microfilaria again

<time begin="00: 27: 45. 20"/><clear/>for periods of two, two

and

a half years, a single dose.

<time begin="00: 27: 49. 33"/><clear/>So that's very

impressive.

<time begin="00: 27: 51. 61"/><clear/>Great tools.

<time begin="00: 27: 53. 79"/><clear/>Not only do we have the tools

for

getting effective intervention,

<time begin="00:27:59.43"/><clear/>we also have a very good

diagnostic.

<time begin="00:28:01.62"/><clear/>I'm not going to go into

these filaria

that circulate in the blood,

<time begin="00:28:06.32"/><clear/>they only circulate at night,

almost.

<time begin="00:28:08.64"/><clear/>I mean, if you're doing blood

studies, you

have to go at night in the middle of you know,

<time begin="00:28:14.85"/><clear/>Africa, India, wherever

and

sample blood for night time,

<time begin="00:28:20.04"/><clear/>look under a microscope, see

the microfilaria.

<time begin="00:28:22.39"/><clear/>That didn't work.

<time begin="00:28:23.61"/><clear/>Nobody was interested in this

disease

<time begin="00:28:25.53"/><clear/>if that's what had to be

done.

<time begin="00:28:27.30"/><clear/>But great stuff forward came

when an antigen,

<time begin="00:28:31.37"/><clear/>a simple finger prick antigen

detection

test allowed you to pick up the infection,

<time begin="00:28:37.34"/><clear/>recognize that the infection

was inside,

parasites are liberating a little bit of antigen

<time begin="00:28:41.98"/><clear/>and you can actually detect

that

immunologically on a simple card test.

<time begin="00:28:45.71"/><clear/>Extremely valuable.

<time begin="00:28:49.08"/><clear/>You could not have a program

that

didn't have effective diagnostic.

<time begin="00:28:52.46"/><clear/>You couldn't have a program

if you

hadn't had the intervention tools.

<time begin="00:28:57.83"/><clear/>And I think the other

important

thing is we don't want to forget,

<time begin="00:29:02.22"/><clear/>we also had tools for

managing disease, so

it wasn't just the cold epidemiologist going in

<time begin="00:29:08.79"/><clear/>and trying oh, we're going

to
get rid of this thing,
<time begin="00:29:10.77"/><clear/>it's caring about the
individuals who are sick as well.
<time begin="00:29:13.75"/><clear/>Very important.
<time begin="00:29:15.46"/><clear/>Okay, well given all this
then, we've been
able to move along this little pathway
<time begin="00:29:21.02"/><clear/>that was setup right at the
beginning in
terms of getting better understanding,
<time begin="00:29:24.92"/><clear/>leading to better tools, and
then to figure
out how to put this strategy together.
<time begin="00:29:29.89"/><clear/>And the fact is a big
difference
from what it used to be.
<time begin="00:29:36.68"/><clear/>I guess, in the past you
diagnosed, the
thinking was, well let's go out and find
<time begin="00:29:41.40"/><clear/>out who's infected and treat
them.
<time begin="00:29:44.11"/><clear/>Well, that's old
fashioned,
nothing complex about that,
<time begin="00:29:46.47"/><clear/>but it means you have to
diagnose all the individuals.
<time begin="00:29:49.45"/><clear/>You have to screen all the
individuals.
<time begin="00:29:51.78"/><clear/>And then you have to
treat
the ones that are positive.
<time begin="00:29:54.71"/><clear/>Very cumbersome when you're
talking
about a billion people, potentially,
<time begin="00:29:58.02"/><clear/>at risk, how are you gonna do
all of this?
<time begin="00:30:01.84"/><clear/>It just doesn't work.
<time begin="00:30:03.18"/><clear/>You could not have a program
based on this.
<time begin="00:30:05.75"/><clear/>So the major paradigm
shift
was think populations.
<time begin="00:30:09.63"/><clear/>In fact, you might have seen
the card test, the cost
of it up there, two dollars 50 cents each.
<time begin="00:30:14.11"/><clear/>That's not a public health

program.

<time begin="00: 30: 15. 66"/><clear/>You can't afford that on the
scale

of the endemicity of the disease.

<time begin="00: 30: 20. 86"/><clear/>So you think about diagnosing
the

population, just find out where the disease is

<time begin="00: 30: 27. 10"/><clear/>and then treat the entire
population.

<time begin="00: 30: 30. 66"/><clear/>One thing I didn't mention
about the two drugs,

or two things I didn't mention about the drugs

<time begin="00: 30: 34. 24"/><clear/>that are available,
they're

extraordinarily non toxic.

<time begin="00: 30: 38. 31"/><clear/>Really, we have almost no
problems

at all from the drugs themselves.

<time begin="00: 30: 41. 95"/><clear/>Zero. Put them together, no
problems.

<time begin="00: 30: 44. 81"/><clear/>And in addition, they also
kill all sorts of

other parasites, the ivermectin, lice and scabies

<time begin="00: 30: 51. 69"/><clear/>and all the intestinal
parasites

from the albendazole and so forth.

<time begin="00: 30: 55. 07"/><clear/>So these are really good
things, really

good tools that you have and that allows you

<time begin="00: 30: 59. 49"/><clear/>to develop a strategy
for

interrupting transmission.

<time begin="00: 31: 05. 59"/><clear/>So it's just identifying all
the at risk areas

and treating those populations with two drug,

<time begin="00: 31: 11. 22"/><clear/>single dose regimens,
once

yearly for four to six years.

<time begin="00: 31: 16. 29"/><clear/>That was the lifespan of the
parasite,

<time begin="00: 31: 17. 89"/><clear/>or somewhere around the
reproductive

lifespan of the parasite.

<time begin="00: 31: 21. 51"/><clear/>And you treat it by mass drug
administration

<time begin="00: 31: 26. 36"/><clear/>so that you're treating

everybody

in the population.

<time begin="00: 31: 30. 59"/><clear/>Again, we don't want to
forget, the

second pillar of all of this,

<time begin="00: 31: 37. 54"/><clear/>we want to alleviate the
suffering, prevent

the disease, just take this hygiene story

<time begin="00: 31: 42. 68"/><clear/>and run it up to a public
health dimension.

<time begin="00: 31: 46. 15"/><clear/>All right, the, if we
have

achieved this much, and again,

<time begin="00: 31: 53. 91"/><clear/>this is where we've done
this

mostly in an academic sphere so far.

<time begin="00: 31: 58. 08"/><clear/>These are research
issues.

<time begin="00: 31: 59. 48"/><clear/>These are university
issues.

<time begin="00: 32: 01. 71"/><clear/>These are field trials.

<time begin="00: 32: 04. 09"/><clear/>This is where we are
now.

<time begin="00: 32: 05. 57"/><clear/>How do we get it into the
public health domain?

<time begin="00: 32: 08. 31"/><clear/>Because this is the real
challenge.

<time begin="00: 32: 10. 47"/><clear/>And, in fact, this phase

two can be a real killer.

<time begin="00: 32: 14. 28"/><clear/>It makes all the difference
in the

world how we get from here to here.

<time begin="00: 32: 20. 53"/><clear/>This is where it takes a lot
of skill

that is not part of the scientist

<time begin="00: 32: 28. 52"/><clear/>or the medical health worker
sphere here.

<time begin="00: 32: 33. 51"/><clear/>In fact, it takes a change in
the language,

<time begin="00: 32: 37. 16"/><clear/>and this is where
communication

becomes absolutely critical.

<time begin="00: 32: 40. 70"/><clear/>As scientists in the medical
field we can

talk to ourselves, we can talk about things

<time begin="00: 32: 45. 18"/><clear/>like antigens and genomics

and pharmacokinetics

and interleukins, all of these things are key

<time begin="00: 32: 50. 47"/><clear/>in understanding the
pathogenesis,

developing the tools and so forth,

<time begin="00: 32: 54. 60"/><clear/>but it's not going play
anywhere.

<time begin="00: 32: 56. 67"/><clear/>People won't understand
what

we're talking about.

<time begin="00: 32: 58. 42"/><clear/>We've got to be talking about
partnerships,

collaborations, cost effectiveness,

<time begin="00: 33: 04. 10"/><clear/>the health systems, equity,
millennium

development goals, I mean these are not the things

<time begin="00: 33: 09. 75"/><clear/>that we talk of here in the
laboratory.

<time begin="00: 33: 12. 05"/><clear/>We have to change the
language we speak.

<time begin="00: 33: 15. 48"/><clear/>And here I think it's very
important,

we don't have to learn this language,

<time begin="00: 33: 18. 85"/><clear/>we don't have to convert, but
we

have to have partners who are

<time begin="00: 33: 22. 06"/><clear/>with us who can make that
translation.

<time begin="00: 33: 24. 49"/><clear/>This is the importance of
the

communication here that can take our findings

<time begin="00: 33: 30. 07"/><clear/>and get them into a public
health sphere.

<time begin="00: 33: 32. 59"/><clear/>And what else does it
take?

<time begin="00: 33: 35. 78"/><clear/>Well, it takes commitment of
a

political nature, the people around you.

<time begin="00: 33: 42. 44"/><clear/>It takes resources,
everybody's

going to recognize that.

<time begin="00: 33: 45. 72"/><clear/>And it takes determination to
work together.

<time begin="00: 33: 47. 94"/><clear/>I think these are the three
absolutely essential

elements that are required in that phase two
<time begin="00: 33: 55. 00"/><clear/>in order to get to the
public
health implementation.

<time begin="00: 33: 58. 24"/><clear/>But the political commitment
is not just
politicians, it's not just ministries
<time begin="00: 34: 03. 96"/><clear/>of health, it's our
scientific colleagues.

<time begin="00: 34: 07. 04"/><clear/>We have to have our team
behind our
strategy to move forward.

<time begin="00: 34: 12. 36"/><clear/>And I think for filariasis,
an important
thing was in 1993 when a task force
<time begin="00: 34: 18. 02"/><clear/>on disease eradication looked
at something like
100 different diseases and identified those
<time begin="00: 34: 25. 73"/><clear/>for filariasis essential
criteria for eradicability.

<time begin="00: 34: 28. 80"/><clear/>Remember that was having
effective tools for
intervention, having effective diagnostic tools.

<time begin="00: 34: 34. 20"/><clear/>In fact, it's been eliminated
in places before.

<time begin="00: 34: 37. 25"/><clear/>It used to be in south
Carolina and it used to
be in New Orleans, it used to be in Australia.

<time begin="00: 34: 43. 14"/><clear/>It's been eliminated, China
is the biggest example of actually
going out and eliminating it and other things.

<time begin="00: 34: 47. 40"/><clear/>But the point is it was
identified
as one of six diseases
<time begin="00: 34: 50. 90"/><clear/>that was eradicable or
potentially eradicable.

<time begin="00: 34: 53. 53"/><clear/>The important thing is, the
scientific
political commitment was there.

<time begin="00: 34: 58. 12"/><clear/>Now, the other kind of
commitment
is also very important.

<time begin="00: 35: 02. 38"/><clear/>The ministries of
health.

<time begin="00: 35: 03. 60"/><clear/>You do have to have
politicians.

<time begin="00: 35: 05. 23"/><clear/>You're talking about

countries.

<time begin="00:35:06.24"/><clear/>You're talking about endemic

populations.

<time begin="00:35:09.52"/><clear/>The ministry of health has

to

commit to the notion of all this

<time begin="00:35:14.48"/><clear/>and for filariasis the most

important thing

and again, this doesn't sound anything

<time begin="00:35:17.64"/><clear/>like laboratories, it doesn't

sound

like anything in my experience.

<time begin="00:35:20.34"/><clear/>When I started working

at

WHO the most important thing

<time begin="00:35:23.21"/><clear/>of all was getting a world

health assembly

resolution, calling on member states

<time begin="00:35:30.75"/><clear/>to strengthen activities

towards eliminating

lymphatic filariasis as a public health problem,

<time begin="00:35:35.16"/><clear/>requesting the director

general of WHO to

mobilize support for global and national elimination

efforts.

<time begin="00:35:41.37"/><clear/>Well, what difference does

that make?

<time begin="00:35:43.12"/><clear/>Well, it means that any

country that you

go on, they've all signed on to this.

<time begin="00:35:47.04"/><clear/>This is now a general world

resolution.

<time begin="00:35:50.72"/><clear/>When you go to see them it's

not a

question of convincing them to do something,

<time begin="00:35:54.76"/><clear/>it's helping them to

figure

out how to do something.

<time begin="00:35:57.62"/><clear/>They've already bought into

it.

<time begin="00:35:59.14"/><clear/>Very, very important.

<time begin="00:36:00.71"/><clear/>All the commitment in the

world's not going to

get you anywhere without resources, right?

<time begin="00:36:06.87"/><clear/>Definitely.

<time begin="00:36:07.63"/><clear/>Big problem.

Ottesen.txt

<time begin="00: 36: 08. 19"/><clear/>So what do you do?

<time begin="00: 36: 08. 91"/><clear/>Well, fortunately, we had
some

very good resources available here.

<time begin="00: 36: 14. 45"/><clear/>And this is really
extraordinary.

<time begin="00: 36: 15. 99"/><clear/>This is worth, you've got to
remember

all the negative things we think

<time begin="00: 36: 20. 04"/><clear/>about pharmaceutical
companies

and all the things

<time begin="00: 36: 22. 56"/><clear/>that pharmaceutical companies
don't do right.

<time begin="00: 36: 26. 51"/><clear/>There are some areas where
they are

doing some just wonderful things

<time begin="00: 36: 30. 10"/><clear/>that nobody else is going to
do.

<time begin="00: 36: 32. 03"/><clear/>Glaxo Smith Klein agreed to
donate

all of the al bendazole required

<time begin="00: 36: 36. 95"/><clear/>to eliminate LF for as long
as it takes.

<time begin="00: 36: 40. 00"/><clear/>And they also had some other
support.

<time begin="00: 36: 41. 22"/><clear/>I'm talking about a billion
people at risk, four

to six years of medicine, once yearly medicine,

<time begin="00: 36: 49. 20"/><clear/>you're talking about
something like five

billion tablets of al bendazole.

<time begin="00: 36: 54. 38"/><clear/>That's a huge amount of
money.

<time begin="00: 36: 56. 74"/><clear/>In fact, the company is
heading to

build or has just finished building a plant

<time begin="00: 37: 01. 22"/><clear/>in South Africa just to
make

al bendazole to give away.

<time begin="00: 37: 05. 81"/><clear/>So just to donate these
drugs,

<time begin="00: 37: 08. 72"/><clear/>the drug companies are
actually

creating a sector for what they do.

<time begin="00: 37: 12. 11"/><clear/>It doesn't put a handle

around

them all the time,

<time begin="00: 37: 15. 69"/><clear/>but let's just be
appreciative

for what they've done here.

<time begin="00: 37: 18. 60"/><clear/>Merck is the one who actually
started

this donation program in the late 80s,

<time begin="00: 37: 23. 94"/><clear/>giving Ivermectin or mectizan

for onchocerciasis and so all of Africa

<time begin="00: 37: 29. 61"/><clear/>where onchocerciasis and LF
coexist,

they donate the Ivermectin.

<time begin="00: 37: 32. 56"/><clear/>The UK Government, the Arab
Fund

for Economic and Social Development

<time begin="00: 37: 38. 77"/><clear/>and Japan, these were the key
early donors.

<time begin="00: 37: 42. 58"/><clear/>And since that time, the Bill
and Melinda Gates

Foundation has also been an important partner

<time begin="00: 37: 52. 84"/><clear/>in all of this.

<time begin="00: 37: 54. 44"/><clear/>Now I think the other thing
that I want to say

though, we have commitment, we have resources,

<time begin="00: 38: 00. 14"/><clear/>and what else is really
critical

here in this phase, too?

<time begin="00: 38: 04. 28"/><clear/>Well, to me it's something
that's just like a mantra,

everybody knows

<time begin="00: 38: 07. 35"/><clear/>in real estate it's
location,

location, location.

<time begin="00: 38: 11. 72"/><clear/>That's the most important
thing in real estate.

<time begin="00: 38: 13. 55"/><clear/>I think if you have anything
to take away from

the global health business, I would go something

<time begin="00: 38: 18. 05"/><clear/>like what's the most
important

thing in global health?

<time begin="00: 38: 21. 79"/><clear/>Partnership, partnership,
partnership.

<time begin="00: 38: 24. 28"/><clear/>You can't, in a lab you can

do

something by yourself, somethings,

<time begin="00:38:28.47"/><clear/>some experiments, not all of
them, some of them.

<time begin="00:38:31.23"/><clear/>In global health, it's
impossible

to do anything by yourself.

<time begin="00:38:35.12"/><clear/>Everything requires
partners.

<time begin="00:38:39.01"/><clear/>The determination to work
together as partners.

<time begin="00:38:42.47"/><clear/>And in fact, when the
filariasis thing started,

<time begin="00:38:45.42"/><clear/>the first strategic plan was
actually

called the strategic plan building

<time begin="00:38:50.68"/><clear/>partnerships for lymphatic
filariasis.

<time begin="00:38:51.52"/><clear/>That's what had to be
done.

<time begin="00:38:54.41"/><clear/>Different targets and
milestones and stuff,

but the important thing is the roles of each

<time begin="00:38:58.24"/><clear/>of the partners was written
down so

that people knew what they needed to do

<time begin="00:39:03.77"/><clear/>and how they would all
fit

together in a great plan.

<time begin="00:39:07.47"/><clear/>And as a result we have many,
many partners,

probably in the order of 30 or something,

<time begin="00:39:11.93"/><clear/>but these are some of the key
partners that have

played a major role in making this go forward.

<time begin="00:39:19.97"/><clear/>And, in fact, there are
different

kinds of partners.

<time begin="00:39:22.43"/><clear/>These public sector partners
we've already

talked about, the ministries of health

<time begin="00:39:26.65"/><clear/>and overseas development
agencies, like

USAID and so forth. Private sector partners,

<time begin="00:39:32.92"/><clear/>the pharmaceutical companies,
foundations,

all the different NGO's, academia.

<time begin="00: 39: 37. 63"/><clear/>And then the people
partners

in the countries themselves.

<time begin="00: 39: 41. 20"/><clear/>It's extraordinary how many
people will volunteer

their time, will help out, have an opportunity,

<time begin="00: 39: 46. 93"/><clear/>they'll take the opportunity
and work very

hard in the programs and in the communities.

<time begin="00: 39: 52. 20"/><clear/>So again, partnership at all
levels

is what's absolutely essential

<time begin="00: 39: 57. 78"/><clear/>for moving this progression
here to the right

towards the public health implementation.

<time begin="00: 40: 05. 50"/><clear/>Now I don't want to spend too
much time on the

implementation except to indicate something

<time begin="00: 40: 11. 76"/><clear/>about what's going on
now

and just how effective it is.

<time begin="00: 40: 17. 31"/><clear/>Anticipating a 20 year
program, anticipating

that much of all of this can be accomplished

<time begin="00: 40: 22. 96"/><clear/>by 2020, remember the two
goals,

interrupting transmission,

<time begin="00: 40: 28. 02"/><clear/>alleviating and preventing
suffering.

<time begin="00: 40: 30. 97"/><clear/>What's an MDA?

<time begin="00: 40: 32. 48"/><clear/>Well an MDA is mass drug
administration.

<time begin="00: 40: 34. 77"/><clear/>It's those once yearly
interventions

and you have people all over the world,

<time begin="00: 40: 38. 55"/><clear/>different kinds of ways of
getting it, but

basically all of the communities come together

<time begin="00: 40: 43. 33"/><clear/>and you have to treat
everybody

in the population.

<time begin="00: 40: 46. 23"/><clear/>It really translates
into

something like achieving

<time begin="00: 40: 49. 49"/><clear/>about 80 percent coverage is
very

good, if you can get 80 percent,

<time begin="00: 40: 53. 66"/><clear/>because you don't treat
pregnant women

and you don't treat very sick people

<time begin="00: 40: 57. 79"/><clear/>and you don't treat
children

under the age of two.

<time begin="00: 41: 00. 15"/><clear/>But it's extraordinary just
how

effective you can be in these MDA's.

<time begin="00: 41: 07. 35"/><clear/>When I say you, it's not
people like me,

<time begin="00: 41: 09. 69"/><clear/>it's people that are the
public health

implementers in their countries.

<time begin="00: 41: 15. 54"/><clear/>How they can organize
treating a million people

in a matter of two days is just beyond me.

<time begin="00: 41: 20. 99"/><clear/>It's just amazing how they do
it though.

<time begin="00: 41: 23. 34"/><clear/>But it really works out very
effectively.

<time begin="00: 41: 27. 26"/><clear/>Again, these are the
countries that are

involved at different stages of the progression.

<time begin="00: 41: 32. 01"/><clear/>But I think that the total
numbers

are really very, very impressive.

<time begin="00: 41: 36. 71"/><clear/>Between 2000 and 2005, the
number of individual

treatments, the number of individuals,

<time begin="00: 41: 44. 49"/><clear/>so this is not cumulative,
this is yearly,

rose from say around 20 million in 2000

<time begin="00: 41: 52. 25"/><clear/>to something like almost 400
million in 2005.

<time begin="00: 41: 56. 95"/><clear/>And the 2006 numbers are not
available yet.

<time begin="00: 42: 00. 01"/><clear/>So we're talking about almost
400 million people

have received these two drugs once yearly,

<time begin="00: 42: 07. 32"/><clear/>and that's really
extraordinary.

<time begin="00: 42: 09. 22"/><clear/>Now we said before there are
83 endemic

countries, right now the program has reached

<time begin="00: 42: 14. 72"/><clear/>about 40 of those
endemic

countries so there's half to go.

<time begin="00: 42: 19. 92"/><clear/>Now what's happening with the
results?

<time begin="00: 42: 23. 08"/><clear/>What kind of results are
coming?

<time begin="00: 42: 25. 43"/><clear/>These are just some sketches
that

some plotting of some sentinel sites

<time begin="00: 42: 32. 43"/><clear/>where these things are being
monitored in

Egypt and Papua New Guinea and Haiti

<time begin="00: 42: 38. 24"/><clear/>and the Pacific Island of
Vanuatu.

<time begin="00: 42: 40. 08"/><clear/>These are different sentinel
sites and you can

see that the microfilaria reduction is sort

<time begin="00: 42: 46. 47"/><clear/>of on target, even after
three of

these rounds of MDA, because you remember,

<time begin="00: 42: 51. 14"/><clear/>this is a program that's just
begun.

<time begin="00: 42: 53. 07"/><clear/>But things are really very
much on target.

<time begin="00: 42: 56. 53"/><clear/>With the total clearance,
even after

two or three MDA's, 40, among other stuff,

<time begin="00: 43: 02. 41"/><clear/>45 percent of the sentinel
sites had total

clearance of the parasite, totally gone.

<time begin="00: 43: 10. 52"/><clear/>There is, the, between 50 and
90 percent

clearance occurred in another 48 percent

<time begin="00: 43: 20. 77"/><clear/>and only 13 percent had less
than half

<time begin="00: 43: 23. 99"/><clear/>of their filariasis
gotten

rid of after just two or three.

<time begin="00: 43: 27. 40"/><clear/>The point is, it's really
going very

effectively and a meeting was held last December

<time begin="00: 43: 31. 79"/><clear/>where it results from maybe
30 some

countries, over 750 sentinel sites

<time begin="00: 43: 38. 09"/><clear/>and the results are

really

extraordinary how effective things are.

<time begin="00: 43: 42. 90"/><clear/>However, it's on track and
doing

well, but the important thing

<time begin="00: 43: 47. 86"/><clear/>to remember is, there still
are challenges,

still problems that need to be faced.

<time begin="00: 43: 53. 42"/><clear/>And this is really very
important.

<time begin="00: 43: 56. 47"/><clear/>And important part of this
first progression

We never saw, or didn't talk about it before.

<time begin="00: 44: 02. 59"/><clear/>In fact, we've got to
recognize

that the laboratory scientist's job

<time begin="00: 44: 06. 90"/><clear/>or the epidemiologists back
up, the

job is not complete just when you move it

<time begin="00: 44: 13. 14"/><clear/>into the public health
sphere, problems

crop up, better ways of managing things

<time begin="00: 44: 19. 05"/><clear/>of doing things are always
needed.

<time begin="00: 44: 21. 99"/><clear/>Problems that have to be fed
back in, same research

community has to stay involved in this thing,

<time begin="00: 44: 27. 87"/><clear/>otherwise the program is just
going to wilt,

<time begin="00: 44: 31. 27"/><clear/>because no program is
perfect

when it starts out.

<time begin="00: 44: 33. 85"/><clear/>There are all sorts of
problems that develop.

<time begin="00: 44: 37. 24"/><clear/>To combat that, we've
had

different kinds of meetings together.

<time begin="00: 44: 40. 94"/><clear/>We've had scientists meet
together, identify

the challenges, work together, set up plans,

<time begin="00: 44: 46. 20"/><clear/>WHO privately, and then most
recently

the Gates foundation has given funds

<time begin="00: 44: 52. 58"/><clear/>to the global alliance
to

eliminate lymphatic filariasis to do what?

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<time begin="00:44:58.14"/><clear/>To look at resolving the
critical challenges that remain

<time begin="00:45:02.51"/><clear/>so that we ensure success of
this program.

<time begin="00:45:04.95"/><clear/>So it's like midcourse
corrections and this

is an extraordinarily wise thing, I think,

<time begin="00:45:09.62"/><clear/>for the foundation to have
done, to

protect society's investment by making sure

<time begin="00:45:14.39"/><clear/>that what we're doing is the
best that can

be done by increasing the research activity.

<time begin="00:45:21.00"/><clear/>
<time begin="00:45:23.77"/><clear/>But I think we still have to

face the

facts here, and the biggest challenges

<time begin="00:45:29.97"/><clear/>in many places our programs
are now starving

for funds that curve, tailed off at 40. Tailed off at 40

<time begin="00:45:38.47"/><clear/>because we really can't

afford to both increase

the treatment areas of the people being treated

<time begin="00:45:45.47"/><clear/>in the countries where there
are programs

already and start new programs.

<time begin="00:45:49.37"/><clear/>There's a real major funding
problem.

<time begin="00:45:52.40"/><clear/>And that's despite the fact
that these

programs are very well organized, very well run,

<time begin="00:45:57.00"/><clear/>highly popular with

communities, successful in

achieving targets, ridiculously inexpensive, and I'll show you

some of that in a minute

<time begin="00:46:04.11"/><clear/>and they could be

successfully

implemented fully if funds were available.

<time begin="00:46:10.67"/><clear/>So what do we do to meet this
challenge?

<time begin="00:46:14.29"/><clear/>

<time begin="00:46:19.23"/><clear/>It's time for a second

paradigm shift.

<time begin="00:46:21.88"/><clear/>Remember the first

paradigm

shift was instead of focusing

<time begin="00:46:27.85"/><clear/>on the individual, focus on

the population.

<time begin="00:46:31.08"/><clear/>What's the second paradigm

shift gonna be?

<time begin="00:46:33.01"/><clear/>It's going to be taking

advantage of what we know

is going to work in global health, partnerships.

<time begin="00:46:39.66"/><clear/>

<time begin="00:46:40.99"/><clear/>The second paradigm

shift,

we have to stop thinking

<time begin="00:46:44.88"/><clear/>about filariasis alone

in

terms of implementing it.

<time begin="00:46:49.09"/><clear/>All of what I've told you

has

only been about filariasis.

<time begin="00:46:52.34"/><clear/>Advocacy in fundraising,

we have to stop just trying

<time begin="00:46:54.84"/><clear/>to sell filariasis and

try

to explain to people.

<time begin="00:46:58.03"/><clear/>We now have to work with

other

NTD's, neglected tropical diseases.

<time begin="00:47:04.52"/><clear/>filariasis just wasn't a

marketable thing,

the communication challenges were too great.

<time begin="00:47:10.75"/><clear/>You can take advocacy and

fundraising to a

certain level, but it's much more effective

<time begin="00:47:15.08"/><clear/>if we work with partners and

put all

<time begin="00:47:17.72"/><clear/>these diseases together

as

neglected tropical diseases.

<time begin="00:47:21.57"/><clear/>Now what are we talking

about

and what's the logic?

<time begin="00:47:27.20"/><clear/>Well, we're talking at a

start for

lymphatic filariasis, onchocerciasis, schistosomiasis,

<time begin="00:47:29.53"/><clear/>soil transmitted worms,

trachoma, all of these

diseases, and we won't go into each individual,

<time begin="00:47:37.54"/><clear/>but the key thing is, how do

you treat them?

<time begin="00:47:39.98"/><clear/>You go into a community one

time a year,

maybe twice for the intestinal parasites,

<time begin="00: 47: 46. 14"/><clear/>but basically you just go
into a community one

time a year, give safe drugs, everybody at risk,

<time begin="00: 47: 52. 88"/><clear/>and leave, so it's very, very
similar.

<time begin="00: 47: 56. 55"/><clear/>You have to define the
communities,

define what you can give,

<time begin="00: 47: 59. 04"/><clear/>make sure the drugs
don't

interact, this kind of thing.

<time begin="00: 48: 01. 49"/><clear/>But conceptually, they're
very, very

similar, so there should be able

<time begin="00: 48: 07. 38"/><clear/>to integrate some of these
activities.

<time begin="00: 48: 10. 60"/><clear/>It's important to remember,
though, this

is the killer, the devil's in the detail,

<time begin="00: 48: 14. 92"/><clear/>and so even though it makes a
lot of sense

to give all of these medicines together,

<time begin="00: 48: 19. 84"/><clear/>or to get all the people
mobilized together,

carry all five disease cures along with them

<time begin="00: 48: 26. 63"/><clear/>in logistics, do similar
monitoring

evaluations for all these at the same time,

<time begin="00: 48: 32. 49"/><clear/>link the fundraising
advocacy, there're

going to be tremendous challenges

<time begin="00: 48: 36. 35"/><clear/>in making all of this
work.

<time begin="00: 48: 39. 53"/><clear/>But, if the real promise of
the future for these

neglected tropical diseases is to work together,

<time begin="00: 48: 49. 28"/><clear/>is to exploit the synergies
that one can find

with these different public health initiatives

<time begin="00: 48: 56. 37"/><clear/>that share similar
strategies, and these are

the different organizations and diseases.

<time begin="00: 49: 02. 09"/><clear/>Here's micronutrient
initiatives.

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<time begin="00:49:02.51"/><clear/>And, in fact, you can put
even malaria there.

<time begin="00:49:05.10"/><clear/>Why? They take bed nets into
a community.

<time begin="00:49:08.36"/><clear/>Bed nets can go in along with
this other thing.

<time begin="00:49:10.67"/><clear/>You bring people together,
you

increase the distribution of bed nets.

<time begin="00:49:14.37"/><clear/>There are all sorts of
things, the

immunization days, the national polio days,

<time begin="00:49:18.82"/><clear/>there's a lot that can be put
together

on one platform and moved forward.

<time begin="00:49:23.59"/><clear/>And I think that this is what
we

recognize as the way forward in terms

<time begin="00:49:28.38"/><clear/>of both implementation
and

in resource mobilization.

<time begin="00:49:32.71"/><clear/>There's a great
attractiveness of integrated

management, of packages of programs,

<time begin="00:49:37.65"/><clear/>and that way, people don't
have to memorize, don't have to

remember what were these diseases again?

<time begin="00:49:41.03"/><clear/>Just know they're the
NTD's,

the Neglected Tropical Diseases.

<time begin="00:49:44.61"/><clear/>It's a much better product to
sell.

<time begin="00:49:47.37"/><clear/>And, in fact, I'll show you
in a minute

why it's arguable really the best buy

<time begin="00:49:51.78"/><clear/>in global health today.

<time begin="00:49:52.82"/><clear/>And the reason I say that is
seen on the

next slide where the comparative costs,

<time begin="00:50:01.31"/><clear/>treatment costs, of different
key diseases are

up here and this is a range of cost, down here.

<time begin="00:50:07.64"/><clear/>The cost per person treated
per year in dollars.

<time begin="00:50:11.33"/><clear/>This is HIV AIDS.

<time begin="00:50:12.20"/><clear/>You can see it can be 1,000

dollars,

100 dollars to 1,000, a big range.

<time begin="00: 50: 18. 37"/><clear/>Tuberculosis, malaria, the

package of NTD's,

almost all of these are on donated drugs,

<time begin="00: 50: 26. 91"/><clear/>onchocerciasis, ivermectin is

donated by

Merck, lymphatic filariasis, albendazole by GSK,

<time begin="00: 50: 28. 70"/><clear/>ivermectin by Merck, and

trachoma,

erythromycin donated by Pfizer.

<time begin="00: 50: 33. 70"/><clear/>The soil transmitted

helminths, a lot of them

albendazole donated by Johnson and Johnson.

<time begin="00: 50: 41. 96"/><clear/>All of these products are

donated.

<time begin="00: 50: 46. 69"/><clear/>So what do we pay for in this

implementation?

<time begin="00: 50: 52. 27"/><clear/>We pay for the

logistics.

<time begin="00: 50: 53. 70"/><clear/>Just get the solutions that

are

already defined to the problem.

<time begin="00: 50: 57. 97"/><clear/>That's our challenge.

<time begin="00: 50: 58. 98"/><clear/>And to do it in an

integrated

fashion makes a lot of sense,

<time begin="00: 51: 02. 82"/><clear/>so the package of this is

really less

than 50 cents a year for the whole package

<time begin="00: 51: 07. 74"/><clear/>of diseases per person,

becomes

extremely cost effective.

<time begin="00: 51: 13. 30"/><clear/>And, in fact, this message

has actually gotten

through to some of the major funding agencies,

<time begin="00: 51: 19. 22"/><clear/>because when you stop

thinking about individual

diseases, these neglected tropical diseases,

<time begin="00: 51: 26. 27"/><clear/>but put them together as

diseases of poverty,

as diseases of the poorest populations,

<time begin="00: 51: 34. 48"/><clear/>diseases that are

keeping

people in the cycle of poverty.

<time begin="00: 51: 37. 60"/><clear/>We put them together and they

also have

similar strategies for approaching them,

<time begin="00: 51: 44. 46"/><clear/>and you compare them to the
global disease

burden, the DALYs that are so important

<time begin="00: 51: 50. 83"/><clear/>in terms of recognizing how
important malaria

is, the number of millions of DALYs, 46 million DALYs lost,

<time begin="00: 52: 00. 40"/><clear/>the Disability Adjusted Life
Years, road

traffic accidents, respiratory infections,

<time begin="00: 52: 07. 09"/><clear/>depression, diarrhea, heart
disease.

<time begin="00: 52: 11. 13"/><clear/>Neglected tropical diseases
can

hold their own with the importance

<time begin="00: 52: 14. 79"/><clear/>in terms of the drain on
global health.

<time begin="00: 52: 19. 49"/><clear/>Similarly, if you look at the
countries that

are affected, they're in different colors here.

<time begin="00: 52: 25. 64"/><clear/>The yellow being those that
have five of these

neglected tropical diseases, the brownish color,

<time begin="00: 52: 33. 10"/><clear/>six of them, the darker
brown, seven of these,

in other words, there's a lot of overlap

<time begin="00: 52: 38. 41"/><clear/>in the areas of the
world

where these NTD's exist.

<time begin="00: 52: 42. 23"/><clear/>As a result, there's a lot
of

interest and desire to go ahead

<time begin="00: 52: 48. 33"/><clear/>and do something about this
as a package.

<time begin="00: 52: 50. 79"/><clear/>And, in fact, most recently,
there's been

something formed called a global network

<time begin="00: 52: 56. 56"/><clear/>for neglected tropical
disease control and it

involves most of these major organizations

<time begin="00: 53: 04. 46"/><clear/>that we talked about before,
Taskforce

for Child Survival is what I'm part of,

<time begin="00: 53: 08. 62"/><clear/>with the Lymphatic Filariasis
Support Center.

<time begin="00: 53: 10. 81"/><clear/>This is also where the

Merck's

mectazan donation program is located.

<time begin="00: 53: 14. 95"/><clear/>It's also where Johnson and

Johnson's

mebendazole donation initiative is located.

<time begin="00: 53: 20. 38"/><clear/>So this has come together as

a council which

allows greater visibility and actually has begun

<time begin="00: 53: 29. 27"/><clear/>to turn heads when it comes

to support

for neglected tropical diseases.

<time begin="00: 53: 33. 47"/><clear/>And one of the things, I

think, again, from my

American point of view I feel most proud of, is that

<time begin="00: 53: 42. 02"/><clear/>our government, the USAID,

this

past year, has recognized that,

<time begin="00: 53: 48. 73"/><clear/>didn't like the individual

diseases and

supporting them and it was too confusing,

<time begin="00: 53: 54. 17"/><clear/>but taking the package

of

neglected tropical diseases,

<time begin="00: 53: 57. 62"/><clear/>USAID just put forward 100

million dollars

for work over the next five years in,

<time begin="00: 54: 06. 69"/><clear/>right now, five countries,

but

it's going to continue to expand.

<time begin="00: 54: 10. 17"/><clear/>It just is beginning.

<time begin="00: 54: 11. 21"/><clear/>But they recognize they can

do a lot for very,

<time begin="00: 54: 13. 97"/><clear/>very little money and

compared

to global costs for things.

<time begin="00: 54: 19. 08"/><clear/>And so, and Africa is the

continent in greatest

need, similarly there's been a major donation

<time begin="00: 54: 27. 20"/><clear/>of eight million dollars from

a private

foundation in Geneva for Burundi and Rwanda.

<time begin="00: 54: 32. 11"/><clear/>Exxon Mobile, just beginning

to come in, they're

interested, put some money in equatorial Guinea,

<time begin="00: 54: 37. 82"/><clear/>see how it works, and that

will grow as well.

<time begin="00: 54: 40. 96"/><clear/>But people are latching on

to
this where they couldn't latch
<time begin="00:54:46.31"/><clear/>on to the individual
diseases
as, when communicated.
<time begin="00:54:52.96"/><clear/>And really, there is this
buzz on NTD's.
<time begin="00:54:55.11"/><clear/>I have to thank, if you
remember, those of you,
Peter Hotez, I think spoke here last year.
<time begin="00:55:01.29"/><clear/>This is a slide that
Peter
Hotez gave to me.
<time begin="00:55:04.63"/><clear/>But the buzz on NTD's,
there's a lot
of talk going on now, compared to,
<time begin="00:55:09.62"/><clear/>if they're called neglected
tropical disease,
you can imagine how much talk there was before.
<time begin="00:55:13.85"/><clear/>Now people are talking about
it.
<time begin="00:55:15.88"/><clear/>The new director general of
the World Health
Organization's paying attention to,
<time begin="00:55:19.51"/><clear/>the world's paying attention
to these diseases.
<time begin="00:55:21.76"/><clear/>And she's really made a
commitment
on behalf of WHO.
<time begin="00:55:25.96"/><clear/>Jeffrey Sachs who
directs
the Earth Institute,
<time begin="00:55:29.19"/><clear/>you may know of him as a
major macroeconomist.
<time begin="00:55:34.93"/><clear/>Comprehensive Africa-wide
control of malaria
and the NTD's together would cost no more
<time begin="00:55:40.21"/><clear/>than three billion a year and
so forth.
<time begin="00:55:42.15"/><clear/>Again, he, as an
economist,
sees the value of these NTD's.
<time begin="00:55:47.44"/><clear/>The Clinton global
initiative, which has,
focuses on key issues, chose NTD's this year
<time begin="00:55:55.88"/><clear/>as one of their key focal

points.

<time begin="00: 55: 58. 06"/><clear/>And, in fact, in addition to
these

others, mentions the importance

<time begin="00: 56: 01. 16"/><clear/>of these NTD's and the
challenges.

<time begin="00: 56: 03. 55"/><clear/>And, of course, the countries
themselves

are extraordinarily excited about it.

<time begin="00: 56: 08. 46"/><clear/>Knowing that there are
tremendous challenges,

<time begin="00: 56: 10. 64"/><clear/>but knowing that you can also
make a

difference by approaching them together.

<time begin="00: 56: 14. 68"/><clear/>So I think the key thing is
instead

of, actually, I guess one more thing,

<time begin="00: 56: 19. 76"/><clear/>there's another, one of the
new journals

that's being created just for NTD's.

<time begin="00: 56: 24. 15"/><clear/>One of the public library of
science journals,

so this obviously is a very prestigious group

<time begin="00: 56: 29. 62"/><clear/>of journals and now, starting
just

this year, there'll be a journal,

<time begin="00: 56: 33. 98"/><clear/>a PLoS journal on neglected
tropical diseases.

<time begin="00: 56: 36. 52"/><clear/>So I think we have to
recognize that in

terms of all the successes and challenges,

<time begin="00: 56: 44. 23"/><clear/>the way forward is going to
be to understand

that we have extraordinary opportunities

<time begin="00: 56: 49. 67"/><clear/>to make very, very great

impacts on health and economies

<time begin="00: 56: 53. 33"/><clear/>of the developing world at
very low costs.

<time begin="00: 56: 56. 40"/><clear/>The important thing is we
can't do it alone.

<time begin="00: 56: 59. 01"/><clear/>We've got to be working
together in these

partnerships so the success will come

<time begin="00: 57: 05. 42"/><clear/>from exerting flexibility,
changing old habits,

<time begin="00: 57: 09. 30"/><clear/>creating new

partnerships

and coalitions of coalitions.

<time begin="00:57:13.62"/><clear/>So we have to bring lots

of people together to work.

<time begin="00:57:16.49"/><clear/>Now that's a good challenge
on the human front,

<time begin="00:57:20.88"/><clear/>but it's something that,
it's

very important, obviously.

<time begin="00:57:24.66"/><clear/>I think from the way I
started the talk,

we don't really want to speak anymore

<time begin="00:57:29.37"/><clear/>just of LF and the global
program to eliminate it.

<time begin="00:57:32.45"/><clear/>And now it's really LF and
beyond.

<time begin="00:57:35.16"/><clear/>It's what we and the NTD's,
we can approach

the NTD's and other global health problems

<time begin="00:57:42.38"/><clear/>in this kind of
partnerships

and stop thinking of filariasis

<time begin="00:57:46.13"/><clear/>as the elephantiasis and
the

hydrophilic, but really filariasis, is just it's the NTD phase.

<time begin="00:57:52.38"/><clear/>filariasis is the blind, it's
the

hydrophilic, it's the schistosomiasis it's the [inaudible].

<time begin="00:57:57.15"/><clear/>This is the face of
poverty.

<time begin="00:58:00.25"/><clear/>This is the face of the
neglected

tropical diseases.

<time begin="00:58:04.72"/><clear/>And this is the face that our
new

paradigm shift brings us to focus on.

<time begin="00:58:11.06"/><clear/>That's all.

<time begin="00:58:12.42"/><clear/>Thank you very much.

<time begin="00:58:13.51"/><clear/>[Applause]
