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Author	DA Henderson
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Event	Andrew Watters Symposium
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Notes	Henderson attended Lakewood High School and had been inducted <i>in absentia</i> into its Alumni Hall of Fame on Jun 2 1986. The first (4-pg) document appears to be preliminary notes, while the 2nd (9-pg) document is the draft speech.
Publ as	

LAKELAND HIGH SCHOOL
JAN 1987

Not so many yrs. ago, I sat where you are sitting,
a student at Lakewood H.S. wondering

Can I go to College? With thy acceptance? Can my family afford to send me?
What will I do when I graduate?

I ~~dis~~liked biology — I had an uncle who was a doctor —
encouraged by my biology teachers to go to College + try
Applied to Oberlin College + what a scholarship, working summers and
~~the~~ jobs ~~was~~ waiting on table — graduated

Rochester Med School — 4 yrs. — graduated — at last a doctor
always thought of myself as a doctor who ~~was~~ ^{would see} sick patients
but then I was drafted (all had to serve) — PHS — 2 years

Epidemic Intelligence Service — "Disease Detectives"

Like a fire dept. for epidemics of disease.

On call 24 hrs. a day to go anywhere in U.S. or other countries
Telephone call — arriving to place ~~in~~ ^{at} 24 hrs.
Did not treat patients at all. Tried to discover why the epidemic
was occurring & to do something about it.

Food / H_2O / disease & vaccine
Travelling to many places in U.S. to Central America / ^{Asia} Argentina / ^{Polyn} Philippines & ^{else} elsewhere.

Exciting work — my children were asked "Is he a real doctor?"

No — a public health doctor — Don't Rx sick patients — stop them from
becoming sick.

Went to Johns Hopkins (School I now head) for more training.

Not so many yrs. ago, I sat where you are sitting
a student at Lakewood H.S. wondering as I suspect many of you are wondering
Can I go to College? Will they accept me? Can I ^(my family) afford the tuition?
What will I do when I graduate?
Will we ~~be able to~~ beat Shaker Heights in basketball?
Will that cute girl in biology go to the dance with me? Do I have the courage to ask her?

Many, many questions & problems

Oberlin College - scholarships - decided to be a doctor
Rochester - "

Draftsman - Public Health Service - EES "Disease Detectives"

1st problem - polio - new vaccine

what was it like growing up & polio?

Vaccine - better than any Rx - but 3 injections, ^{some} people didn't want to be vaccinated - what do you do -

ANANVA experiences

Research - + no. of vaccinations at one time
+ jet injector
+ encourage people to be vac. - ^{lotteries} ^{prizes}
+ new vaccines

1967 to Geneva, Switzerland -

WHO (what is it) decided on a global prog. to eliminate smallpox.

Smallpox - a dread disease - ^{everyone got disease unless vac.}

Spread anywhere, 1 in 5 died. / most feared of all diseases.

But no one really believed it could be eradicated

Wars

Lack of roads, etc.

Population (Cleveland) < small city

Strategy - vaccination // containment

10 year adventure - 100 WHO staff - 150,000 national staff.

Travel - 3 weeks out / 1 week back.

Problems - happens today about it now that I was at the time.

Nigeria (Africa)

Pakistan (Asia)

Ethiopia -

Worked c people of all nationalities - many Americans & many Russians -
people from 75 nationalities - not always able to understand each other.

Everyone worked very hard - India - summer -

Many young people - Ethiopian students / ~~English~~ ^{Canadian} 17 yr old ♀ volunteer

10 years went by - country after country free -

Summer of 1976 - Ethiopia - war / Kidnapping / ~~not all~~ ^{usually}

Guerillas were helpful ^{TV show} ~~TV show~~ 8 weeks - party

+ September, new cases in Somalia - another campaign.

16 October 1977, last case in world. - delay in celebrating but had the new

Reward.

Gratias every where cited. - how much could be done / how inexpensive to stop disease

Began a larger program - 6 diseases.

← Polio myelitis - (war in El Salvador)
+ Other activities
ORT
VIT A
Now: new vaccines →

Two of these - polio myelitis and measles

And if you had polio ^{a person c} Have any of you seen polio myelitis - Know anybody - you are all vaccinated (what is a vaccine)

When I was growing up - no vaccine.

Everyone terrified of polio. - what is the disease like? Virus - germ & germ.

~~Before vaccine~~ - 3 or 4 of you would be paralysed today wheel-chair for life / leg braces / dead

Today - 1 or 2 cases in the entire country.

But - only ~~10~~ years ago - in most of the poor countries of the world - no vaccine
~~Indian~~ What does justice mean to them - must must work in the fields
 or as a laborer to earn money - can't do this & then paralyzed.

Become beggars instead

Now - a global prog. to vaccinate all the world's children - >50% protected

Three years - expect to eliminate it from Western Hemisphere.

Measles - have any of you had measles or know of anybody who has.

^{virus} Sx's. of measles Everyone got the disease before vaccine.

Developing countries - 10% die of the disease.

Now - a world program to protect children vs. measles.

*

Only a beginning -

New methods being used in labs. - genetic engineering. -

today - 42 vaccines in ~~the~~ development.

Not all

ORT -

This part up. at J.H. - Vit A.

Change - now ~~doing~~ ^{doing much} more to prevent disease - to keep people healthy.

Many work in this area - MD's, nurses, engineers, lab. scientists.

But, as my children say, I'm not a real doctor - I ~~am~~ a doctor who
 helps you get better when you are sick but a doctor to keep you
^{well} ~~away from doctors~~ so that you don't need doctors.

This story all began here - at Lehighwood H.S.

What we are ^{all} doing (and there are many of us) is exciting many people.

Last yr. I was privileged to receive an award in May from Pres. Reagan
 from Queen Elizabeth, in England in July and from Mrs. R. in November.

Just 40 years ago, I, like many of you, was a senior ^{at Lakeswood High} - attending School in these buildings - bicycling to School every day from our home on Dalwood Drive - wondering if a war would end before we got drafted (that was World War II for those of you who are a bit weak in history) - hoping to get admitted to college and wondering where the money would be found for tuition if I did - working weekends at the ice cream parlor (a good job because one was allowed to eat all the ice cream one wanted) - and thinking ^{be able to} that someday I might become a doctor.

There were ~~three~~ ^{four} people who taught biology at that time who ^{in particular} encouraged me to try - ~~was~~ Mr. Ted Cunningham, Mr. Clelio Johnson and, of course, ~~was~~ Mr. Robert Rood, ~~and the other was~~ Mr. Andrew Watters. Mr. Watters was a particular favorite and was responsible for my career in cross-country. No one has mentioned my prowess as a cross-country runner for good reason. I was terrible - in fact, I wasn't a runner at all but was called the "manager," ^{a grand term for someone who} ~~who~~ basically had ^{often than to manage} few responsibilities ~~but to take care of~~ the travels. Andy Watters, however, was the 'coach' and the opportunity to be with him ^{during practices and meets} was payment enough for fulfilling a very menial role.

It thus is a special pleasure to be asked to speak at this, the Andrew Watters Science Symposium; to express, in a very modest way, my thanks to him ^{and to others who taught me at Lakeswood High} and, as well,

to pay tribute to ^{Lukewood's} a great cross-country tradition in which ^{two other persons} my brother-in-law and sister
^{later} played such an active role — Frank and Mary Nixon. My cross-country career ended
 at Lukewood High School but ~~the~~ ^{my} interest in medicine lasted — and 8 years later, after
 4 years at Oberlin and 4 years at Rochester Medical School — I became a doctor.

My expectation was that I would be a real doctor (as our children used to say — i.e. a
 doctor who took care of you when you got sick, who carried a black bag ^{and} a stethoscope
~~who~~ ^{who} dressed up in a gown and mask to perform surgery in a marvelously romantic operating room —
~~at least they seemed that way from the motion pictures~~).

My plans were abruptly changed, however, when I got drafted into the Public Health Service
 and was sent to Atlanta Georgia to become a member of the "Epidemic Intelligence Service"
 a group called the "disease detectives". We were expected to be available 24 hours a day,
 7 days a week ^{to provide} ~~the~~ emergency assistance if there was an epidemic anywhere in the USA —

in fact, any where in the world. For somebody who had never travelled ^{west} beyond Chicago or

further than New York City, and never outside the country except to Canada — this was a very
 romantic ^{even if for only two years} ~~existing~~ challenge — ~~but~~ ^{at the same time it} ~~was~~ ^{indeed} was a bit frightening. Many times, one
^{in a strange city}

or two of us would arrive by plane ^{to} find a whole battery of cameras and reporters and
^{the public} ^{who} ^{desperately} ^{were} worried about an epidemic of poliomyelitis or typhoid fever or hepatitis.

We were the experts from out-of-town who were expected to have the answers

(3)

- whether or not we did, we had to appear that we knew what we were doing. Under such circumstances, ~~one~~ ^{one} studied and learned a lot very rapidly as ~~you~~ ^{one} had no idea what ~~one~~ ^{one} might face next. My trips took me to many parts of the USA - to Argentina - to Central America - to the Philippines. Our responsibility was not to treat those who were sick but to discover how the disease was being spread so that we could stop the epidemic. Sometimes it was a bad water supply or contaminated food - sometimes the disease was simply spreading from person to person among those who had not been vaccinated. We organized vaccination campaigns, set up emergency hospitals & isolate patients, took samples for laboratory study and helped to organize community resources to cope with the problem. The work was exhausting but exhilarating.

It was during this time that I ~~decided~~ ^{was} ~~stopped~~ began to realize that there ^{were} lots of so-called "real" doctors who were able to take care of sick patients but not many public health doctors whose job it was to prevent people from becoming sick. I remember ^(one particular) being in a hospital in the Philippines where there was a whole ward for children with tetanus - probably 50-60 patients, most of whom would be dead within the ~~next~~ week. I couldn't help but think - ^{why are these children here -} why are ~~they~~ ^{they} spending all this effort and money treating

These children ^{when} we have an excellent ^{inexpensive} vaccine which provides almost complete protection for life.

Why ~~are~~ ^{have} they not ~~been~~ ^{been} vaccinated? Quite simply, the government and the practicing

physicians were so preoccupied with taking care of those who were sick that there was

neither money nor people to ~~prevent~~ ^{prevent} disease by simple vaccination. It seemed to me that here was a need ^{or opportunity} to accomplish for more than I could as a so-called Red doctor.

My two years in the Public Health Service stretched on. During my ^{service} ~~stay~~, we were responsible

for developing polio vaccine programs throughout the United States and later, measles vaccination

programs. We tested new vaccines both in the USSR and other countries and we worked with

~~engineers~~ ^{engineers} in the U.S. Army to perfect a vaccine gun - a gun which injected vaccine under

high pressure right thro the skin. The gun had no needle - simply a reservoir of vaccine

which fed into a chamber - a piston drove the vaccine through a tiny opening and deep under the

skin causing no pain. One could vaccinate 1000 persons per hour with the gun - the ^{only} ~~problem~~

thing which stood in the way was the problem ^{of getting} ~~to get~~ 1000 people to march in a line ~~from~~ past the gun.

It was during this period that I was sent to Argentina to help that government control an

epidemic of food poisoning. We were successful and at the end of my visit, the Minister

of Health asked if I would like to stay on for a week or so ~~either~~ to go hunting

with him ^{at his hunting lodge} ~~for~~ to see cases of smallpox. I decided on the smallpox and so I was

provided a pilot and a small plane and flown far to the north to see my first cases of smallpox.

One might logically ask what sort of steps it follows ^{prepared} ~~was~~ who ~~wanted~~ to see cases of smallpox rather than to go on a marvelous vacation. ^{For those of us in medicine,} Smallpox was ^{then} far away the most terrifying and loathsome disease known to mankind. With ^{widespread} vaccination, it had disappeared from the USA but it was ^{present} ~~endemic~~ ^{most of} throughout South America, Africa and Asia. ~~However,~~ Cases

of smallpox could be imported by travelers, however. ~~and so, in the USA, vaccination~~

~~was compulsory for everyone. Most of you, I suspect, have a scar on your arm as a by-product~~

~~vaccination.~~ ^{Thus,} Every person entering the USA had to

present a certificate indicating that he/she had been vaccinated within the preceding 3 years. ^{It was the only disease for which this was required.}

Even so, ~~some~~ occasionally developed smallpox after arrival. There was great fear that

such a person might spread the disease to others and so, in the USA, we required every

person to be vaccinated just in case smallpox was imported. ~~Most of you, I suspect, have~~ ^{Almost all}

the typical vaccination scar on your arm because we did not stop ~~the~~ ^{smallpox} vaccination until just

15 years ago.

What ^{was} so terrible about smallpox?

- + The disease was caused by a virus ~~which~~ ^{and} was spread directly from person to person.
- + It could spread in any country and at any time of the year.
- + Of those who got the disease — 1 in 5 persons died. There was no treatment whatsoever.

Let us look at a mild case —

①

②

③

Many who survived were left blind — ④

Until there was a vaccine, everyone eventually got the disease ⑤

+ Europe — naming of children

+ History of Americas. —

Aztecs + Incas

Indians of North America.

Lincoln — Gettysburg address.

+ Hospitals in England & Germany only for smallpox.

⑥ Englishman — Jenner — discovered a vaccine (world's first) 150 years ago.

Problem to produce — ~~until~~ arm to arm — until cows.

Vaccine destroyed by heat — cows from door to door

1950's — discovered how to freeze dry the vaccine (like coffee) — very stable

But Industrialized countries got rid of the disease but in most of the world, still local

World Health Organization (all countries of the world in Assembly) decided to eliminate smallpox

⑦ 1959 — extent of smallpox

Program did not make much progress over next 7 years.

1966 ^{WHO} decided that a stronger program was needed and voted \$2.5 million.

⑧ ^{PA} Present in 31 countries with more than 1 billion people - the amount of money provided to us was less than 0.2 cents per person. est. 10-15 million cases / 2 million deaths. Namikawa - 10 year program - why?

⑨ That year, I was asked to go to Geneva. Sixty stated to be the world director of the program.

The task seemed impossible -

- Poorest countries - no roads or communications
- Staff of only 100 persons - > 50 nationalities (problem sometimes to communicate)
- Problem of work in some countries - civil war, floods, famines.

Nonetheless in January 1967 we began - ~~the target was to be completed~~ finish by December 1966. We didn't - we missed the target by 10 months

⑩ Began by asking governments to contribute vaccine & helped others to produce it. A lab. in Canada & one in Holland tested it. largest contributors - USSR and USA.

⑪ Vaccination technique - planned to use jet injector

⑫ + Before but problem = jet injector

~~+ Re to jet gun~~

+ Bifurcated needle.

+ as much vaccine

Train anyone (even you)

Cleaning of skin - (sanitarily)

Strategy - to vaccinate everyone in country and to find cases & stop outbreaks + how do you stop an outbreak

Isolation (watch guards if necessary)

Vaccinate all contacts.

(12) Made rapid progress - 1970

(13) 1973 - Working in these countries was not easy.

(14) Bridge in Bangladesh

(15) Road in Ethiopia

(16) Bridge in Ethiopia

(17) Kidnap note

New strategy - to search every house to find cases + to stop outbreaks.

Int India - population - 2 1/2 times that in USA - 120 000 persons.

(18) Reward

Gradually smallpox began to disappear until finally

(19) Ali Maalin Oct 26 1977 - the last case in a chain going back 710 000 years.

After this - two years of search - A reward (pimples!)

(20) Finally 8 May 1980 - P.M.N.S. DES NATIONS

Smallpox is eradicated

Vaccination every where can stop

But this is not the end of the story →

All countries - confidence in what they could do and how much ^{better} prevention was than R_0 .

(21) UN Declaration

(22) EPI Vaccines

Evidence of success already

(23) Brazil

Meanwhile, as spe was finishing, President of Johns Hopkins U. called to ask if I would become the Dean of its School of Public Health: - The oldest and largest school in the World (24)

I ~~told him~~
I had never even been a professor in a University, let alone the director of a school - let alone one with 300 faculty, 900 masters & doctoral students, 1500 staff.

He insisted I come and talk about it and he persuaded me. That was 10 years ago.

• Today ~~we~~ ^{the school} are 4x larger than 10 years ago and planning to build another building as large as the one ~~we~~ ^{we} had occupied when I came.

• We have students from 67 countries and research studies of

+ All the newest vaccines

+ New methods for family planning

+ Ways to prevent cancer and mental disorders

+ Large scale studies of drugs for AIDS and soon a new vaccine.

+ Centers for Injury Prevention / Hospital Management / Pediatric Educ. & Research

• We have laboratories to fac. and stud. in Bangladesh, Peru ~~and~~ Guatemala and ~~soon~~ ^{soon}

~~I don't know what adventures I'll~~

There is so much to be done and so many challenges -

My children still say - you're not a real doctor and, ~~indeed~~ ^{perhaps} they're right -

what we try to do is to prevent disease so that people don't need to see real doctors.