



Investing in innovation for Health in low- and middle- income countries



Invertir en la innovación para la sanidad de los países de renta baja y media

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Even Cuba is a low- and middle- income country
lack of funds never was a barrier for investing in the
Innovation for Public Health

Cuba in the Innovation for Health

- **State Priority regarding R&D and Service Philosophy vs Profit Philosophy**
- **Investment in Human Resources Training (technical and philosophically)**
- **Definition of Priorities at the service of Cuban Public Health and others low- and middle- income countries**
- **The US Blockade against Cuba as stimulator of creativity and searching of solutions**
- **Collaboration and Integration with a common goal**
- **Closed Circle Strategy: High commitment since Research until the Impact in Public Health**
- **National Health System and the Cuban educated people as Volunteers permits the evaluation of new products**

STATE PRIORITY

SCIENTIFIC CLUSTER WEST OF HABANA



IPK

CNGM

CIM



CIGB



CENIC

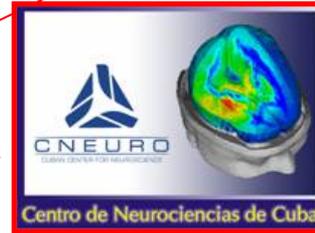
I. FINLAY



CIE



21 Institutions



Centro de Neurociencias de Cuba



Planta de Citosfáticos



LIORAD



NOVATEC



ATCA

CENPALAB



BioCen



CENSA



CIREN

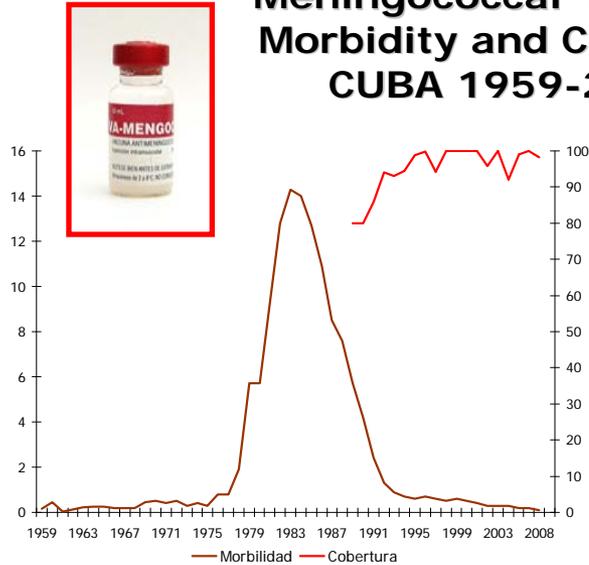
INVESTMENT IN HUMAN RESOURCES

More than 10 500 workers
only in Biotech Cuban System



DEFINITION OF PRIORITIES AT THE SERVICE OF CUBAN PUBLIC HEALTH AND LOW- AND MIDDLE- INCOME COUNTRIES

Meningococcal Disease. Morbidity and Coverage CUBA 1959-2008



Meningitis belt : 21 countries and 400 million people at risk



July 17th, 2006 request

Urgent need to ensure an adequate global supply of **Meningococcal Polysaccharide A-C vaccine**



Clinical Trial Phase I-II at Mozambique (120 volunteers)

•The vaccine was immunogenic and well tolerated



New Production Facility

THE US BLOCKADE AGAINST CUBA AS STIMULATOR OF CREATIVITY AND SEARCHING OF SOLUTIONS



"The US will maintain the embargo as a tool to apply pressure on Cuba".

COLLABORATION AND INTEGRATION WITH A COMMON GOAL

JOINT DEVELOPMENT AND PRODUCTION

Purified
Diphtheria
Anatoxin
(D)

Purified
Tetanus
Anatoxin
(T)

*Bordetella
pertussis*
(whole cells)
(P)

Hep B
Antigen

Hib
Antigen

FINLAY
INSTITUTE



CIGB

BIOCEN



CUBAN
PENTAVALENT VACCINE



CLOSED CIRCLE STRATEGY

PHARMACEUTICAL DEVELOPMENT



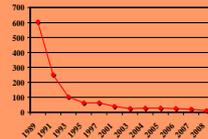
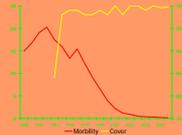
BASIC RESEARCH



SCALE UP PRODUCTION



IMPACT IN PUBLIC HEALTH



NATIONAL HEALTH SYSTEM AND THE CUBAN EDUCATED PEOPLE AS VOLUNTEERS PERMITS THE EVALUATION OF NEW PRODUCTS

Attenuated Vaccine from *V. cholerae*.

Challenge in Healthy Volunteers Cuba

Finlay Institute -Tropical Medicine Institute-
National Center for Scientific Research



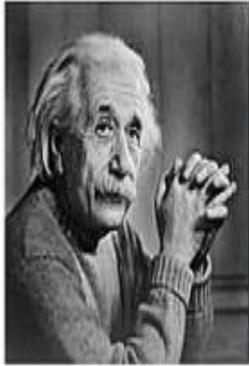
Safety
100% protection

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La crisis según Albert Einstein.



"No pretendamos que las cosas cambien, si siempre hacemos lo mismo. La crisis es la mejor bendición que puede sucederle a personas y países, porque la crisis trae progresos. La creatividad nace de la angustia, como el día nace de la noche oscura. Es en la crisis que nace la inventiva, los descubrimientos y las grandes estrategias. Quien supera la crisis, se supera a sí mismo sin quedar 'superado'.

Quien atribuye a la crisis sus fracasos y penurias, violenta su propio talento y respeta más a los problemas que a las soluciones. La verdadera crisis, es la crisis de la incompetencia. El inconveniente de las personas y los países es la pereza para encontrar las salidas y soluciones. Sin crisis no hay desafíos, sin desafíos la vida es una rutina, una lenta agonía. Sin crisis no hay méritos. Es en la crisis donde aflora lo mejor de cada uno, porque sin crisis todo viento es caricia. Hablar de crisis es promoverla, y callar en la crisis es exaltar el conformismo. En vez de esto, trabajemos duro. Acabemos de una vez con la única crisis amenazadora, que es la tragedia de no querer luchar por superarla."



Let's not pretend that things will change if we keep doing the same things. A crisis can be a real blessing to any person, to any nation. For all crises bring progress.

Creativity is born from anguish, just like the day is born from the dark night. It's in crisis that inventive is born, as well as discoveries, and big strategies. Who overcomes crisis, overcomes himself, without getting overcome. Who blames his failure to a crisis neglects his own talent, and is more respectful to problems than to solutions. Incompetence is the true crisis.

The greatest inconvenience of people and nations is the laziness with which they attempt to find the solutions to their problems. There's no challenge without a crisis. Without challenges, life becomes a routine, a slow agony. There's no merit without crisis. It's in the crisis where we can show the very best in us. Without a crisis, any wind becomes a tender touch. To speak about a crisis is to promote it. Not to speak about it is to exalt conformism. Let us work hard instead.

Let us stop, once and for all, the menacing crisis that represents the tragedy of not being willing to overcome it.

**SO, LET'S GO TO INNOVATE FOR HEALTH
INSTEAD TO BE LOW AND MIDDLE INCOME COUNTRIES!!!!**



Thank you...

