CUBAN AND U.S. HEALTH CARE SYSTEMS 1900–2016: SIMILARITIES, DIFFERENCES, AND EFFICIENCIES

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In 1999, the World Health Organization (WHO) developed a measure to assess the ability of a National Health System (NHS) to translate expenditures into health outcomes called the "index of performance or efficiency on the level of health" (IELH). Health expenses per capita, disability-adjusted life expectancy (DALE), effectiveness of the NHS, and education are the components of such measure. In that year, the U.S. ranked 72nd in the world, while Cuba ranked much higher at 36th.[2] In July 9, 2001, the *LA Times* wrote "Old-fashioned doctoring keeps Cubans healthy. The nation may be one of the poorest in the world, but reports health indices that rival those of rich countries such as the U.S.; Cubans are absolute best at doing something with nothing." Later, DALE was refined into health-adjusted life expectancy (HALE).[3] Experts found that for 1970–2009, the U.S. had the fastest deceleration in world health-efficiency among high-income nations, without any valuable gain or reduction in cost for wellbeing or health.[4] U.S. policy makers want to adopt policies of welfare states and even some of Cuba's to make U.S. NHS the best.[5] Despite Cuba's higher IELH world rank compared to the U.S., its oppressed, impoverished, and despaired people in the period of 1959–2016 kept leaving the island mainly to the U.S., Cuba's supposed enemy and apparent the least healthy nation of the developed world. What health dimensions are the DALE, IELH, and HALE not measuring that have created such a paradox between the Cuban and U.S. NHS from 1990 to 2016? The objectives of this study were to find any similarities, differences, and efficiencies' behaviors and causes between the Cuban and U.S. NHS and suggest the

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2. WHO. *The World Health Report 2000. Health Systems: Improving Performance*. Geneva: WHO, 2000. IELH is the difference of observed and theoretical DALEs in absence of a functioning-NHS, education-adjusted, divided by the difference of the maximum possible DALE achieved for the observed health expenses per capita, and DALE in the absence of a functioning NHS.

3. HALE is a form of health expectancy that applies disability weights to health states to compute equivalent years of life expected to be lived in full health. Global Health Observatory. http://www.who.int/gho/mortality_burden_disease/life_tables/hale_text/en; GBD 2015 DALYs, HALE Collaborators. Global, regional and national disability-adjusted life-years (DALYs) for 315 diseases, injuries and healthy life expectancy (HALE), 1990–2015: a systematic analysis. *Lancet*. 2016; 388(10053):1603–58.

4. Murray CJ, Frenk J. Ranking 37th measuring the performance of the US health care system. *NEJM*. 2010;362:98–99; Anon Cuban professional. The integrality of the concepts behind the statistics. Some broad questions. [No way to send an anon letter to the NEJM Editor from Havana. Posted Jan. 8, 2010 http://rational.fortunecity.com/ushealthcare.htm Available until Apr 3, 2012.]

5. Campion E, Morrissey S. A different model-medical care in Cuba. *NEJM.* 2013;368:297–9; Keck C. The U.S. and Cuba -turning enemies into partners for health. *NEJM.* 2016;375:1507–9; Loewenberg S. Cuba's focus on prev. medicine pays off. *Lancet.* 2016; 387:327–9;Schneider E, Squires D. From last to first-could the US health care become the world best? *NEJM.* 2017;377:901–4.

most human efficient policies to hasten their NHS development.

METHODS

Design of Matrix of NHS Cases and Data

Historical facts and statistics for the periods 1900–1958/1964 and 1959/1964–2016, before and after the Cuban socialist revolution,[6] were collected and described. System analysis of the Cuban and U.S. life and health sectors' inputs, processes, and outputs, as well as cross section international and cohort intra-national comparisons of 190 variables for both NHS were made. Pan American Health Organization/WHO and other United Nations (UN) agencies' databases at their Havana Offices were consulted. Also consulted were university libraries in Havana, Glasgow, Edinburgh, Pennsylvania, Connecticut, and Miami directly and through the internet while living at Havana 1998–2009 and Miami 2010–2017.[7] The author estimated missing data and made adjustments of conflicting Cuban data (based on his first-hand experiences as practicing physician and biostatistician) using Maddison's econometric methods.[8] The references in this paper summarize hundreds of other sources consulted.[9]

Operational Definitions and Classification

1. A NHS's real human efficiency on levels of health is considered when it reflects all the physical, mental, and social dimensions of the WHO health definition.[10]
2. A NHS model is not equivalent to central planning; every nation has a NHS as legitimate as its national economic system.
3. Since 1900, the Cuban NHS was reformed to mimic the US-style NHS of democratic-capitalism, and since 1959, the Soviet-style NHS of totalitarian-socialism;[11] the U.S. NHS was reformed in the style of a Swiss social-democracy system since 1965.
4. Every NHS has two closely related industrial sectors: (a) a health care internal sector (NHS core-sub system); and (b) a life support external multi-sector (NHS biophysical-socioeconomic environmental conditions or super system).[12]
5. Between 1917 and 1991, no reform policies in the socialist Soviet bloc nations showed transparently their inhuman effects on the morbid-mortality and average life expectancy (ALE) of their citizens. To understand the Soviet method of governmental data manipulation and biases, requires mining all public and secret data, facts, and conflicting policies, classifying health and

6. McGuire J, Frankel L. Mortality decline in Cuba 1900–1959: Patterns, comparisons, causes. *Latin Am Res Rev* 2005:40:83–116.

7. In Cuba 2000–2009/U.S. 2010–2017, the author discussed Cuba and US life and health systems and policies during 74 lectures with 1,000 US doctors, nurses, scientists, public managers/students, and personally with 100 US and Western professionals.

8. Maddison A. *Contours of World Economy 1–2030. Macro Economic History Essays.* Oxford: Oxford University Press, 2007.

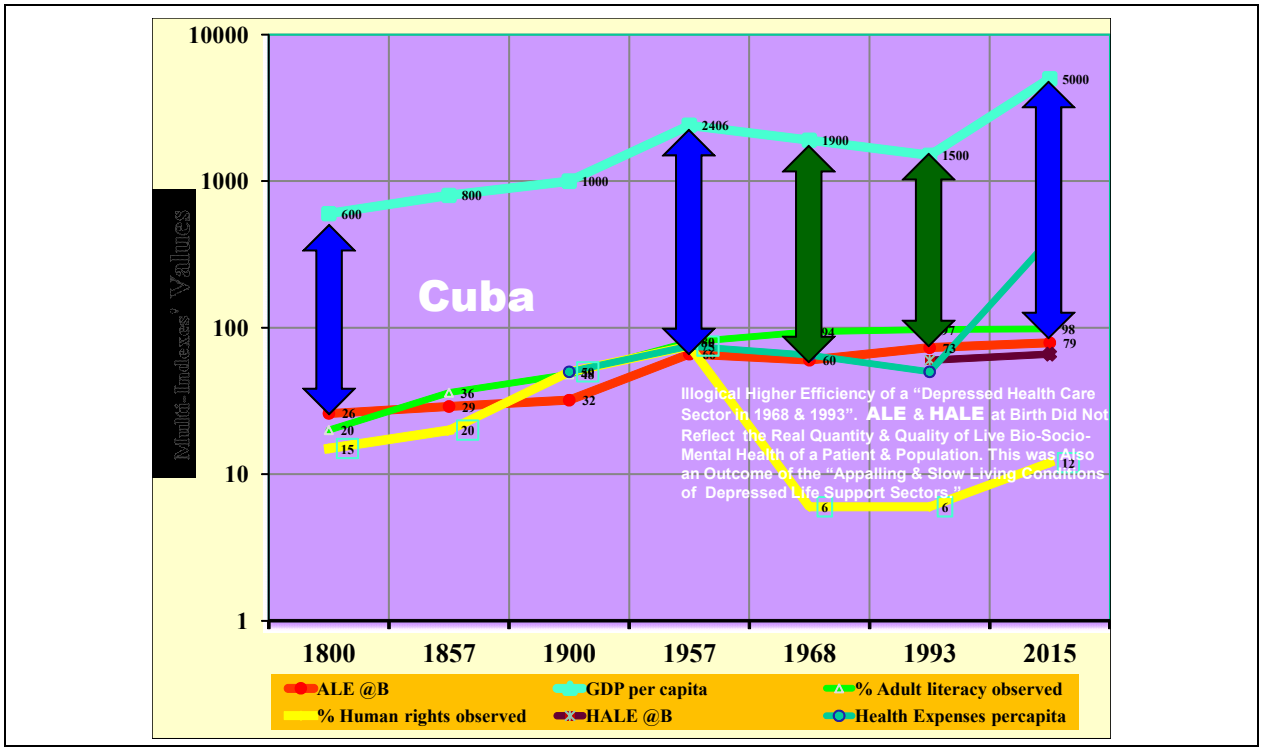
9. E.g., Anon Cuban. Cuba's delayed transition needs. *Lancet.* 2006;368:1323; Idem. e-letter. Achieving health equity with more liberty, wealth, and ethics. *BM J.* 2007 (Oct. 5). www.bmj.com/cgi/eletters/335/7621/628–b#177601; Idem. e-letter. Poverty, emigration, government, development, and equity. *AFM.* 2007 (Dec. 3). www.annfammed.org/cgi/eletters/5/6/486#7388; Stusser R, Dickey R, Norris T. Enhancing global rural health using comprehensive and e-primary health and life care. Havana, Working Paper, Dec. 2007; Idem. Demystifying Cuba's health system. *Proc Cuba in Trans ASCE Conf* 2011;(21):222–34; Idem. Access to health, freedoms, and standards of living development in Cuba. *Proc Cuba in Trans ASCE Conf* 2012;(22):315–31; Idem. Cuba's long tradition of health care policies: Implications for Cuba and other nations. *Proc Cuba in Trans ASCE Conf* 2013;(23):369–80.

10. WHO. *Research and the WHO. A History of the Advisory Committee on Health Research 1959–1999*. Geneva: WHO, 2010.

11. Stusser R. *Cuban health research and scientific progress. Results, reflections, challenges, and scenarios*. Working paper of 40 lectures given to US People to People, Havana 2000–03. http://rational.fortunecity.com/conference.htm Available until 2012.

12. Mansourian P. *Global perspectives in health. Medical Sciences*. Paris: UNESCO-Encyclopedia of Life Support Systems, 2004.

Figure 1. Trends of Six Human Health Growth Indices. Cuban NHS 1800–2015 ***(logarithmic y scale, non-linear x scale)***



life policies according to ethics and human efficiency.[13]

RESULTS

Efficiency Behavior of Cuban and U.S. NHS, 1800 through 2015

Figure 1 shows Cuba's apparently high NHS efficiency results from 1959 to 2015, accentuated by disastrous periods in 1966–1974 and 1991–1999 for all life and health sectors. Cuba's slow rise and less publicized falls of ALE at birth occurred while the island auto-suppressed human rights and auto-depressed gross domestic product (GDP) per capita and other standards of living.

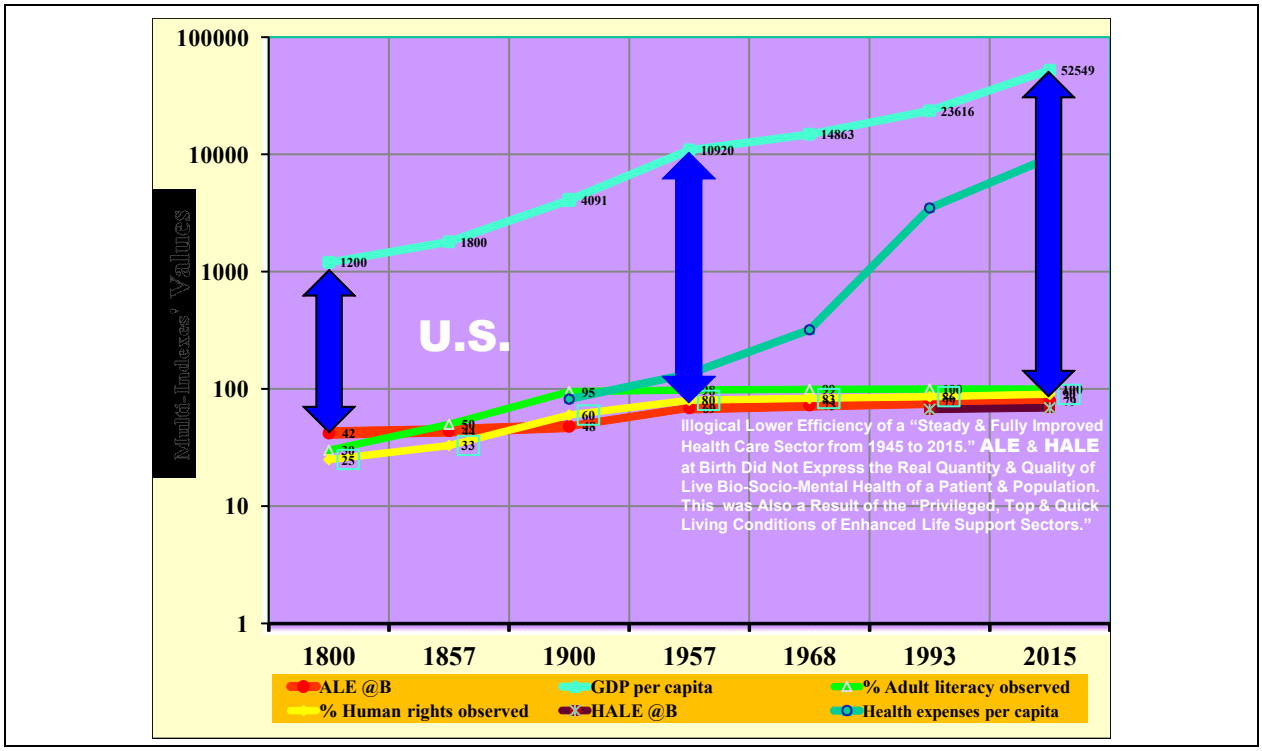
Figure 2 shows an apparent drop in U.S. NHS efficiency since 1945. U.S. and Western scientific-technological growth enhanced patient biophysical medicine and public health. In 1965, the start of the Medicaid and Medicare federal-state health insurance programs for the poor and elder in the U.S. accentuated the fall. This apparent decline in efficiency occurred while all standards of living, including human rights and education, consistently rose.

Cuban and U.S. NHS–Similarities and Differences, 1900 through 2016

Tables 1–4 compare the Cuban and U.S. NHS with respect to inputs, processes, and outputs for 1900–1958/1964 and 1959/1965–2016. Similar progress in Cuban and U.S. life and health sectors are observed in 1900–1958/1964, while the main differences are observed in 1959/1965–2016.

13. Author's policy classification based on: Eberstadt N. The health crisis in the USSR. *Int J Epidem.* 2006;35(6):1384–94; Idem. *The poverty of communism*. NB, NJ: Transaction Books, 1988; Idem. The demographic disaster: a Soviet legacy. *Nat'l Interest.* 1994;36:53–7; Engelhardt HT. *The foundation of bioethics*. 2nd ed. NY: Oxford Univ. Press, 1996; Hirschfeld K. *Health, Politics, and Revolution in Cuba since 1898*. NB, NJ: Transaction Press, 2007; Maltsev YN. Lessons from Soviet medicine. *J Am Phys Surg.* 2011;16(2):47–51; Fogel RW. *Explaining long-term trends in health and longevity.* NY: Cambridge Univ. Press, 2012; Stusser R. Realities of Cuba health progress 1959–2013. Prospects for a completed transition. *Cuban Affairs.* 2015;10:2:1–29.

Figure 2. Trends of Six Human Health Growth Indices. U.S. NHS 1800–2015
(logarithmic y scale, non-linear x scale)



Cuban and U.S. NHS Efficiency Behaviors, 1900 to 1958/1964

Until 1958/1964, the Cuban and U.S. NHS behaved as the best in developing and developed nations, with respect to life and health sectors. What were their main policies?

- Cuban NHS life support sectors' policies 1900–1958. *Ethical & efficient*: Tradition of access to top U.S., French, and world standards of living by most urban and rural poor, and application of their scientific-technological platforms by most professionals. *Ethical & inefficient*: In 1940–1958 workers' unions and government began implementing an excessive number of subsidies that started to bring about bad working habits and fostered carelessness, indigence, and dependency by the poor. *Unethical & efficient*: None. *Unethical & inefficient*: Costly goods and services were obtained often by politicking. During this period, mostly Europeans migrated to Cuba.
- Cuban NHS healthcare sector's policies 1900–1958. *Ethical & efficient*: Tradition of access of most poor to top governmental, private, mutual, and charitable standards of healthcare, and of U.S., French, and world biomedical, pharmaceutical, vaccine, and public health applied scientific-technological platforms by most doctors. *Ethical & inefficient*: None. *Unethical & efficient*: None. *Unethical & inefficient*: Costly teaching hospital beds were obtained often by politicking.
- U.S. NHS life support sectors' policies 1900–1964. *Ethical & efficient*: Tradition of access to top U.K., French, German, and world standards of living of most urban and rural poor, and basic and applied scientific-technological platforms by most professionals. They invented and innovated goods and services at world class standards. *Ethical & inefficient*: In 1949–1964 unions and public agencies provided too many benefits that began to give rise to bad work habits, and fostered carelessness, indigence, and dependency by the poor. *Unethical & efficient*: None. *Unethical & inefficient*: Costly goods and services were sometimes obtained by public permanent bureaucracy connections. In this period, migration into the U.S. was mainly of educated Europeans.

Table 1. NHS' Life Support Sectors, Policies, and Outcomes. Cuba and U.S. 1900–1958/1964; 1959/1965–2016

Characteristic and Parameter	Cuba 1900 ; 1958	U.S. 1900 ; 1964	Cuba 1959 ; 2016	U.S. 1965 ; 2016
Government-size / political-ethical system	Small size, democrat, social democrat tending to autocrat	Small size, democrat, social-democrat tending to autocrat	Huge bureaucracy, totalitarian tending to monarchic	Middle size, social democrat tending to autocratic
Government socio-economic system	Capitalist oscillating between state under & over-regulation	Capitalist oscillating between state under & over regulation	Soviet Hard Socialist Central Planning / Ban private sector	Capitalist tending to Soft West Europe Socialism
Civil society free of state bureaucracy	50 ; ~80%	~60 ; ~90%	0 ; 10%	90 ; 85%
Access & opportunities for wealthy good quality of living standards/levels	1958 Wealthy & politicians 1%; middle class persons 32%	1964 Wealthy & politicians 1%; middle class persons 44%	2016 Wealthy politicians 1% ; non-poorest persons 9%	2016 Politicians/wealthy 1% ; middle class persons 33%
Global liberty index >160 freedom/rights	moderately 50 ; 65% free	mostly 60 ; 75% free	5 ; 20% repressed	mostly 80 ; 85% free
Political-civil index rights coverage	moderate 60 ; 80% mostly free	moderate 75 ; 80% free	3 ; 30% repressed	90 ; 95% freest
National economical freedom index	moderately 50 ; 65% free	70 ; 80% freest	3 ; 28% repressed	mostly 79 ; 76% free
Gross domestic product(GDP)per capita	$1 000 ; 2 406 USD	$4 015 ; 10 920 USD	$1 000 ; 5 880 USD?	$10 866 ; 55 200 USD
Kcalorie per capita daily intake	~2000 ; 2480	~2250 ; 2750	2000;2500 forced like fodder	2 800 ; 3500
Grams of protein per capita daily intake	~50 ; 80	~70 ; 100	~40 ; 50 forced like fodder	100 ; 100
Transport exercise ; variable weather	1958 ++++ ; +++ warm	+++ ; ++ cold	2016 +++++ ; ++++ warm	+ ; + cold
Nat'l educational political-ethical system	Full/Free info, intensifying old left indoctrination	Full/Free info, intensifying old/new left indoctrination	Soviet heavy censured info, old/new left indoctrination	Full-Free Info, middle-high old/new left indoctrination
Nat'l educational socioeconomic system	NES State/Private/Charity	NES State/Private/Charity	NES State Monopoly, Banned private wealth	NES State/Private/Charity, Some demonizing wealth
Access & opportunities for top quality education schools & programs	1958 Wealthy & politicians 1%; middle class persons 32%	1964 Wealthy & politicians 1% ; middle class persons 50%	2016 Wealthy politicians 1% ; non-poorest persons 9%	2016 Wealthy & politicians 1 %; middleclass persons 40%
Total education expenses share of GDP	~1 ; ~3%	2 ; 5,1%	1961 ~1,5 ; 10,5%?(5%)	5 ; 5,2%
Adult literacy index > 14 years	46 ; 79%	95 ; 99%	80 ; 99%?	100 ; 100%
Mean years of schooling	~4 ; ~8	~6 ; ~9	~8 ; ~11,5	9,1 ; 12,9
Expected years of schooling	~6 ; ~10	~8 ; ~12	~10 ; ~13,8	12,1 ; 16,5
Nat'l public health, health care & bio-medical system, business & industry	1st (1909) World 2-Tier NHS Private/Public	World Most Modern 2-Tier NHS Private/Public	NHS State Total Monopoly Ban All Private Initiatives	World Most Modern 2-Tier NHS Private/Public
Nat'l health care political-ethical system	Traditional-Scientific Med Insurance/Cash	Traditional-Scientific Med Cash/Insurance	CAM-Scientific Med Undeclared Leonine Taxes	Scientific–CAM Med Insurance/Cash
Nat'l health care socio-economic system	NHS mostly Mutual/ Private/ State/Charity/	NHS mostly Private/ Mutual/State/Charity	NHS New Slavery State in Cuba & Missions Abroad	NHS mostly State/ Private/HMO/Charity
Access & opportunities for top quality healthcare facilities & innovations	1958 Politicians/wealthy 1%; middle class persons 33%	1958 Politicians/wealthy 1% ; middle class persons 47%	2016 Wealthy politicians 1% ; middle class persons 8%	2016Politicians/wealthy1% ;middle class persons 33%
Total healthcare expenses share of GDP	~2 ; 7%	2 ; 5%	3 ; 11,1?(7%)	5,1 ; 17,1%
Government share of health expenses	~20 ; 25%	15 ; 23%	1961 100 ; 96?(99%)	25 ; 53%
Health care expenses per capita	~$50 ; ~75	$82 ; 135	1961 $3,72(73) ; 817?(400)	$140 ; 9 990

Table 1. NHS' Life Support Sectors, Policies, and Outcomes. Cuba and U.S. 1900–1958/1964; 1959/1965–2016 (Continued)

Characteristic and Parameter	Cuba 1900 ; 1958	U.S. 1900 ; 1964	Cuba 1959 ; 2016	U.S. 1965 ; 2016
Total social expenses share of GDP	~2 ; ~9%	2,6 ; 9%	10 ; 9(15)% US remittances	9 ; 19–29%
Crude human development index (HDI)	~0,320 ; ~0,658	~0,500 ; ~0,776	~0,600 ; 0,769	~0,777 ; 0,915
Author's freedom-adjusted HDI[a]	~0,240 ; ~0,600	~0,400 ; ~0,700	~0,500 ; 0,653	~0,810 ; 0,999
Military expenses share of GDP	~1 ; ~1,7%	4 ; 9%	~5 ; 3,8%?(7%)	8,9 ; 4,8%
Research expenses share of GDP	~0,1 ; 0,3%	~1 ; 2,3%	~0,3 ; 0,4%	2,5 ; 2,8%
National average worker wage-monthly	$144 > Norway, France (1958)	$308 (1958)	$30 (1960) ; $20	$ 400 ; $3 900
Nat'l average worker retirement-monthly	$42 (1958)	$90 (1958)	$ 10 (1960) ; $9	$100 ; $1 300
National social welfare coverage	10 state/private/charity 50%	20 state/private/charity 55%	60% gov 99%	70% gov/priv/charity 99%
Nat'l average welfare pension monthly	$25 (1958)	$50 (1958)	$10 - 12 monthly	$1 000 – 1 500 monthly
Net external migration ratio [x 1000 inh]	+ 4 ; + 2	+ 3,5 ; + 2	- 5 ; -5	+ 2,1 ; + 3,1

a. Author's freedom-standardized index in 2011–12 to study the neglected freedom effect in the crude HDI. Sources: Official, adjusted and author's estimated figures from various sources.

- U.S. NHS healthcare sector's policies 1900–1964. *Ethical & efficient*: Tradition of access to top public, private, mutual, and charitable standards of healthcare and outreach programs by most poor, and to top U.K., French, German, and world biomedical, pharmaceutical, vaccine, equipment, public health basic and applied scientific-technological platforms by most doctors. They invented and innovated the most comprehensive and active hospital biomedical care at top world standards, rising patient protection from disease, and bio-environment friendliness. *Ethical & inefficient*: None. *Unethical & efficient*: None. *Unethical & inefficient*: Costly research hospital beds were sometimes gotten by public permanent bureaucracy relations.

Cuban and U.S. NHS Efficiency Behaviors, 1959/1965 through 2016

In 2016, Cuba showed worse conditions in its life and health sectors, paradoxically with very good biophysical health, but covert socio-mental health outcomes that lagged most developing nations. Meanwhile, the U.S. showed the best performance regarding world life sectors and outcomes, with most powerful health sector apparently bad organized, and best biosociomental health outcomes in all developed nations. What were their key policies?

- Cuban NHS life support sectors' policies 1959–2016. *Ethical & efficient*: None. *Ethical & inefficient*: None. *Unethical & efficient*: The elite group covertly enjoys top U.S. standards of living, while the rest of the population suffers needlessly bottom North Korean ones. Cuban intelligence accesses U.S. applied scientific-technological platforms through its allies (Russia, China, North Korea, Iran), breaking the U.S. embargo. Professionals of the elite secretly own civil-military cyber technology, neuropsychiatric-technology and biotechnology firms abroad, as well as ghost companies to launder money, conduct drug-trafficking, and defraud the U.S. Medicare program. The elite misinforms the world, reporting achievements on egalitarianism and public health, as it covers up its most profound social inequities whereby the elite has access to goods and services to which the common people do not. *Unethical & inefficient*: One-party/ government bureaucracy monopolizes all Cu-

Table 2. NHS' Health Care and Public Health Sector and Policies. Cuba and U.S. 1900–1958/1964; 1959/1965–2016

Characteristic and Parameter	Cuba 1900 ; 1958	U.S. 1900 ; 1964	Cuba 1959 ; 2016	U.S. 1965 ; 2016
NHS norms of services, statistics & info of sensitive health problems	State/Private Des-centralized Norms & Open Statistics/Info	States/Private Des-centralized Norms & Open Statistics/ Info	State Over-centralized Norms & Top Secret Statistics/Info	States/Federal Centralized Norms & Open Statistics/ Info
NHS population preventive orientation by force/ education-freedom to choose	Democratic based-on personal education/choice	Democratic based-on personal education/choice	Totalitarian based-on forced life standards setback to1898	Democratic based-on state & personal education/ choice
Public Health Departments Visible & Invisible Financing	100% State Visible Taxes	100% 50 States/Federal Visible Taxes	100% Invisible Leonine Tax on Wages & Life Standards	100% Federal/50 States Visible Taxes
Primary Community Care Visible & Invisible Financing	Mutual/Private/Charity/ State Insurances & Out of Pocket	Private/Mutual/Charity/50 States Insurances & Cash	100% Invisible Leonine Tax on Wages & Life Standards	Medicare-Medicaid/Private/ H MO Insurances, Charity, Cash
Primary Emergency Care Visible & Invisible Financing	Mutual/Private/Charity/ State Insurances & Out of Pocket	Private/Charity/50 States Insurances & Out of Pocket	100% Invisible Leonine Tax on Wages & Life Standards	Medicare-Medicaid/Private/ H MO Insurances, Charity, Cash
Secondary & Tertiary Cares Visible & Invisible Financing	Mutual/State/Private/ Charity Insurances & Out of Pocket	Private/Charity/50 States Insurances & Out of Pocket	100% Invisible Leonine Tax on Wages & Life Standards	Medicare-Medicaid/Private/ H MO Insurances, Charity, Cash
Primary Community Clinical Care Cover for Illness Consultation/Health Checkup	100 ; 100%	100 ; 100%	Common Poorest Population 100 ; 100%	100 ; 100%
Primary High-Quality Clinical Care Cover for Illness Consultation/Health Checkup	25 ; 33%	33 ; 50%	Gov. Elite + non-poorest-persons 10 ; 10%	50 ; 70%
Hospital Care Cover for Injuries, Acute & Chronic Diseases' Complications	100 ; 100%	100 ; 100%	Common Poorest Population 100 ; 100%	100 ; 100%
Hospital/Institute High-Quality Care Cov er for Chronic Disease Screening/ Care	25 ; 67%	33 ; 80%	Gov. Elite + non-poorest-persons 10 ; 10%	80 ; 90%
Use of New Top Biomedical/ Information Tech in Hospital, Clinic, Home Care	25 ; 67%	33 ; 80%	Gov. Elite + non-poorest-persons 10 ; 10%	80 ; 90%
Patient-Doctor Relationship Modality	Collegial-market, patient/ con sumer-practitioner/ provider	Market-collegial, consumer/ pa tient-provider/ practitioner	Bureaucratic tending sacred, client/patient-prof/shaman	Collegial tend bureaucratic, pat/client-practitioner/ provider
Population Public Health Promotion %	80% Democratic Health Dept progress tends t authoritarian	90% Democratic Health Dept progress tends to authoritarian	90% Totalitarian central-plan return to slow life stand=1898	99% Democratic Health Dep progress tends t authoritarian
Population Public Health Protection %	80% Democratic Health Dept progress tends t authoritarian	90% Democratic Health Dept progress tends to authoritarian	90% Totalitarian central-plan return to slow life stand=1898	95% Democratic Health Dep progress tends t authoritarian
Patient Bio disease Protective Care %	67% Educational med team progress tends t authoritarian	75% Educational med team progress tends to authoritarian	80% STASI state& med team keep disease to control life	85% Educational med team progress tends t authoritarian
Patient Bio disease Screening Care %	67% Educational med team progress tends t authoritarian	75% Educational med team progress tends to authoritarian	33% STASI state& med team keep predisease t control life	85% Educational med team progress tends t authoritarian
Patien Biodisease Rehabilitation Care %	50% Educational med team progress tends t authoritarian	67% Democratic med team progress tends to authoritarian	33% STASI state& med team keep disability to control life	85% Educational med team progress tends t authoritarian

Source: Official, adjusted and author's estimated figures from various sources.

Table 2. NHS' Health Care and Public Health Sector and Policies. Cuba and U.S. 1900–1958/1964; 1959/1965–2016 (Continued)

Characteristic and Parameter	Cuba 1900 ; 1958	U.S. 1900 ; 1964	Cuba 1959 ; 2016	U.S. 1965 ; 2016
Patien Mentaldisorder Protective Care%	50% Democratic Health Dep progress tends t authoritarian	67 % Democratic Health Dep progress tends to authoritarian	80% STASI state& med team create/keep disor t control life	90% Democrat Health Dept progress tends t authoritarian
Popul Mental disorder Screening Care%	33% Educational med team progress tends t authoritarian	67% Educational med team progress tends to authoritarian	33% STASI state& med team create/keep disor t control life	80% Educational med team progress tends t authoritarian
Patient Mental disor rehabilitation care%	67% Educational med team progress tends t authoritarian	75% Educational med team progress tends to authoritarian	33% STASI state& med team aggravate disord t control life	80% Educational med team progress tends t authoritarian
Population Completely Urbanized %	30 ; 53%	40 ; 67%	54 ; 77?(60%)	68 ; 82%
Pop Improved drinking water sources %	50 : 80%	75 : 90%	81 ; 95?(85%)	91 ; 99%
Pop Improved sanitation facilities %	45 ; 75%	70 ; 85%	76 ; 93?(80%)	86 ; 100%
Pop Trustable information sources %	67 ; 75%	75 ; 85%	50 ; 20%	86 ; 90%
Etiopatogeny of Socio-Mental Sense of Incoherence with the Real World	Falling by progression of free/full, true/false info	Falling by progression of free/full, true/false info	world top by regression to equal censured/false info	world lowest by progression of free/full, true/false info
Etiopatogeny of socio-mental chro indiv, fam life cycle crises functional disorders	Falling by progress of freedoms/living standards	Falling by progress of freedoms/living standards	highest by involution to equal oppression/misery	moderating by progression of freedoms/living standards
Etiopatogeny of socio-mental acute/chro personality/ neurotic/psychotic disorders	Falling by progress of freedoms/living standards	Falling by progress of freedoms/living standards	highest by involution to equal oppression/misery	moderating by progression of freedoms/consumption
Etiopatogeny of Bio Acute/ Chronic/ Complicated Organic Diseases	Falling by progress of freedoms/living standards	Falling by progress of freedoms/living standards	highest by involution to equal oppression/misery	high-mod by progression of freedoms/consumption
Etiopatogeny of Socio-Mental-Bio Chronic/ Complicated Organic Diseases	Falling by progress of freedoms/living standards	Falling by progress of freedoms/living standards	highest by involution to equal oppression/misery	high-mod by progression of freedoms/consumption
Etiopatogeny of Uncivilized Addictive Disorders/Injuries/ Diseases	Rising by progress of freedoms/living standards	Rising by progress of freedoms/living standards	highest by involution to equal oppression/misery	high-mod by progression of real freedoms/equity
Etiopatogeny of Uncivilized Violent Disorders/Injuries/Diseases	Rising by progress of freedoms/living standards	Rising by progress of freedoms/living standards	highest by involution to equal oppression/misery	high-mod by progression of real freedoms/equity
Contraceptive Use rate [women 15–49 yr]	66 ; 69	67 ; 70	69 ; 74?	71 ; 77
Induced abortion ratio[x1000wom15-49y]	0,00 ; 1	0,00 ; 0,01	2; 30?(60) menstrual regul.	0,01 ; 15
Induced Aborted Pregnancies percent	0,00 ; 2%	0,00 ; 0,01%	3 ; 40%?(80)	0,01 ; 19%
Blood donations for hospital admissions	voluntary; voluntary	voluntary; voluntary	Enforced x hosp admission	voluntary; voluntary
Blood donations in the neighborhoods	voluntary; voluntary	voluntary; voluntary	enforced politically	voluntary; voluntary
Infant Quality of Care Coverage	progressed with other cares	progressed with other cares	progressed at expense of other cares (for 12 months)	progressed with other cares
Maternal Quality of Care Coverage	progressed with other cares	progressed with other cares	progressed at expense of other cares (for 9 months)	progressed with other cares

Source: Official, adjusted and author's estimated figures from various sources.

Table 2. NHS' Health Care and Public Health Sector and Policies. Cuba and U.S. 1900–1958/1964; 1959/1965–2016 (Continued)

Characteristic and Parameter	Cuba 1900 ; 1958	U.S. 1900 ; 1964	Cuba 1959 ; 2016	U.S. 1965 ; 2016
Children Immunization Coverage %	60 voluntary; 80 voluntary	70 voluntary; 90 voluntary	>81volunt; >96 compulsory	>91% voluntary;> 94% volunt
Teen-adult, elder immunization Coverage	60 voluntary; 80 voluntary	70 voluntary; 90 voluntary	>51 volunt; >81 voluntary	>71% voluntary;> 91% volunt
Adult Quality of Health Care Coverage	progressed accelerated with other cares	progressed accelerated with other cares	progressed very slowed to benefit infant/mother cares	progressed accelerated with other cares
Elder Quality of Health Care Coverage	progressed accelerated with other cares	progressed accelerated with other cares	progressed most slowed to benefit infant/mother cares	progressed accelerated with other cares
Physico/Mental Disability Quality of Care Coverage	progressed accelerated with other cares	progressed accelerated with other cares	Progressed very slowed to benefit infant/mother cares	progressed accelerated with other cares
Causal Health-Genesis of Socio-Mental-Bio Sense of Coherence with Real World	world highest by progression of free/full, true & false info	world highest by progression of free/full, true & false info	*world 2nd lowest by forced equal censured & false info	world highest by progression of free/full, true & false info
Causal Health-Genesis of Patient Centered Health Situation/Outcome	unusual approach by the individual preventive med	Unusual approach by the patient preventive med	blocked approach by the communal preventive med	approach advancing along with patient preventive med

Source: Official, adjusted and author's estimated figures from various sources.

ban businesses. The people lack water, food, housing, arms, phones, transportation, electricity, dignity, and hope of humanizing their socio-economic condition. They suffer from oppression, impoverishment, forced labor, compulsory marches, and queues for everything. The elite demoralizes and robotizes the common people through public indoctrination and corruption. The elite manipulates GDP per capita, growth performance by sectors, and all other statistics. The elite lies to the UN Assemblies, blaming the U.S. embargo for its disastrous economic performance. Costly goods and services are often available through bureaucratic politicking and corruption. Immigration into the island ended; massive emigration of talent, in all sectors, started.

- Cuban NHS' healthcare sector's policies 1959–2016. *Ethical & efficient*: Exaggerated Swedish-style 9-month monitoring and early detection and evaluation of biogenetic and socio-mental fetal viability; newborns receive a 12-month follow-up. *Ethical & inefficient*: None. *Unethical & efficient*: None. *Unethical & inefficient*: Cuba controls data related to all births, diseases, and deaths, in addition to all decisions including the doctor-patient relationship. If a woman's pregnancy may result in the infant's death, then the gestation is forcibly terminated, regardless of its term, and the woman sterilized if needed, to avoid adversely affecting Cuba's ALE and HALE. Cuban intelligence and its allies provide elite research doctors with U.S. bioinfomedical, pharmaceuticals, neuropsychiatric-equipment, genetic-engineering/biotech products, immuno-vaccines, and public health applied scientific-technological platforms otherwise banned by the U.S. embargo. Most common people have access to a level of partial and expectant medical care similar to that of the 1950s. Lack of transportation forces most people to go to Soviet-style polyclinics instead than to hospitals. There is very limited hospital care available to adults, but worst to the elder and dying patients, as a result of under-testing/diagnosis and therapy/procedures, mismanagement, and under-supplied elderly asylums. There are unpublicized clinics in Havana (and abroad) that provide the elite and foreigners who travel to the island with near Cleveland or Mayo Clinics' comprehensive and active-style medical care, and luxury elder care homes. There is an excess of doctors graduated in 13 Community Polyclinic-Medical Schools, after receiving inferior quality education than in the Latin American School of Medicine. The elite has banned private medical practice and forced doctors to live as indigents with the lowest wages in the world. Most missions abroad are

operated by physicians who give away Cuba's medicines to foreign people trying to gain favor with pro-socialist leaders in those countries, while Cubans suffer shortages of physicians and medicines to buy. Misleading disease and death rates of fetuses, infants, mothers, persons suffering from malnutrition, stunting, HIV/AIDS and sanitation/vaccine-eradicated epidemics, chronic diseases, homicides, ALE, and HALE, are manipulated to advertise the Cuban NHS. Beds in luxury elite and tourist clinics are usually available by politicking and corruption.

Table 3. NHS' Medical Schools, Centers, and Physicians' Conditions. Cuba and U.S. 1900–1958/1964; 1959/1965–2016

Characteristic and Parameter	Cuba 1900 ; 1958	U.S. 1900 ; 1964	Cuba 1959 ; 2016	U.S. 1965 ; 2016
School of Medicine (SOM)	UHavana (1728)	UPenn (1765),160 ; 83	1 MD ; 24 MD-DO/1 LASM	92 ; 200 MD/DO
School of Pharmacy (SOP)	UHavana (1842)	100 ; 50	1 Hav; 3 Hav/Santiago/LV	60 ; 150
National Academy of Medical Sciences	1861 (NAMS)	1863 (NAS), 1944 (NAMS)	1 new bldg; 1 old bldg	2 updated; 1970 IOM
Clinical Studies Society & Journal	1881 Havana Society; 15	160 ; 83	16 ; 25	60 ; 200
School of Professional Nursing (SON)	UHavana (1899)	1 900 ; 1 110	10 ; 15	1 110; 2 000
School of Dentistry (SOD)	UHavana (1901)	57 ; 46	1 ; 1	47 ; 65
National Department of Public Health	1909 (world first)	1798 local/state-1944 first HHS	1 new bldg ; 2 old bldgs	1 ; 1
Nat'l Public Health/ Preventive Med Inst	1848 applied R&D inst;1911–27 Finlay I - Las Animas Hosp	1 in 1948	1 new bldg; old houses	1 Updated & 100 others
School of Hygiene or Public Health (SPH)	UHavana (1927)	UJohns Hopkins (1916)	1 new bldg; 1 old bldg	60
Nat'l Cancer, Radiobiology, Oncology, & Nuclear Medicine Institutes	Cancer, Radium & Oncology Inst 1925,1929,1957 & cancer units in Santiago & Villaclara	Buffalo Memorial, Sloan-Kettering, Yale, NCI, MD Anderson, Silvester, others	Fused 3 old Institutes in one erasing old names	Network of >100 Cancer Comprehensive Centers
Nat'l Tropical Medicine Institute	Calixto Garcia Hosp 1937-	1 in 1948	Old houses/new bldg	1 Updated & 100 others
Nat'l Congenital Heart Diseases Institute	Vedado Infantil Hosp 1935–55-	1 in 1948 & 10 0thers	Vedado/AltaHabana Hosps	1 Updated & 100 others
Nat'l Cardiology/Cardiovasc Surgery Inst	Reina Mercedes Hosp 1953-	1 in 1948 & 10 others	Reina Mer/Antonnety Clinic. Centro-Havana & CIMEQ H	1 Updated & 100 others
Nat'l Hygiene & Vaccines Institute	1887 Histo-Bact laboratory; 1944-Finlay inst & plant	Developed most scie/tech platforms, hygiene/vaccines	Assimilated US techs deve loping some vaccines	Developed most world vaccines
Natal Eye / Ophthalmological Institute	1 in 1957-	1 in 1948- & 10 others	1 Updated in 1980s	1 Updated & 100 others
Pharmaceutical R&D Lab Centers/Plants	50 ; 500 laboratories Accelerated the industry	1 000 ; 10 000 Accelerated the industry	500 : 250 & new center Slowed the industry	10 000; 100 000 Accelerated the industry
Equipment R&D Lab Centers/Plants	Assimilated US scientific knowledge & tech platforms	Developed new scie/tech platforms & equipments	Assimilated & developed neuro & C-V equipment	Developed most world equipment
Biotechnological R&D Lab Centers/Plants	Assimilated US scientific knowledge & tech platforms	Developed most scie/tech platforms for biotechnology	Assimilated & developed some US biotechs	Developed most world biotechnologies

Source: Political based means been of the PCC, UJC or trustworthy for the leadership. Sources: Official, adjusted and author's estimated figures from various sources.

Table 3. NHS' Medical Schools, Centers, and Physicians' Conditions. Cuba and U.S. 1900–1958/1964; 1959/1965–2016 (Continued)

Characteristic and Parameter	Cuba 1900 ; 1958	U.S. 1900 ; 1964	Cuba 1959 ; 2016	U.S. 1965 ; 2016
Medical Informatics, Telematics, Internet	Assimilated US scientific knowledge & tech platforms	Developed most scie/tech platforms &equipment	Terror to open internet info blocked development	Developed most world info med techs
NIH & Medicine (Gov/ Private/Charity)	6 old ; new 11	12 old ; 20 new	11 ;12 most in old hospitals	20 ; 50
General & specialized hospitals	50 ; 90	4 000 ; 7 000	90 ; 151	7 000 ; 6 000
Private/mutual community clinic	150 ; 260	12 000 ; 21 000	260 ; 400 polyclinics	21 000 ; 25 000
Hospital/Clinics Beds [x 1 000 inhabitant]	3 ; 5,3	4 ; 9,1	5,3 ; 4,1	9,0 ; 8,0
Outpatients Drugstores	1958 Wide net 400	1 000; 10 000	400 ; the same old ones	10 000; 100 000
Pharmaceuticals	10 000; >40 000	15 000; >50 000	>40 000; 30 000 w/shortage	>50 000; >100 000
Physicians Rate [x 10 000 inhabitants]	14 ; 10	15,7 ; 13,2	9 ; 78?(~½ work abroad)	14 ; 29,4
Generalist GP/FPs Share of Physicians	75 ; 40%	67 ; 33%	41 ; 48% (~½ work abroad)	34 ; 12%
Dentists Rate [x 10 000 inhabitants]	1 ; 3,3	3,9 ; 5,9	2,6 ; 15?(~½ work abroad)	5 ; 6
Nurses & Aides Rate [x 10 000 inhabit]	7 ; 13	9 ; 27	11 ; 80?(~½ work abroad)	30; 84
Midwives/Aides R [x 10 000 inhabitants]	10 ; 6 (home/hosp)	13,2 ; 0,35	32 (ho/hosp); 40 (hosp)	0,30 ; 0,2
Dr. in Pharmacy Rate [x 10 000 inhabita]	10 ; 10	10 ; 8	3 ; 2?	9 ; 9?
Med student access to visit other nation	Free to chose	Free to chose	political based 0,00001 %	Free to chose
Med stu access to Scholarship overseas	Free to chose	Free to chose	political based 0,00001 %	Free to chose
Med stu access to attend meeting abroad	Free to chose	Free to chose	political based 0,00001 %	Free to chose
Med stu access to publish journal paper	Free to chose	Free to chose	political based 0,001 %	Free to chose
Med stu access to be assistant instructor	Free to chose	Free to chose	political based 0,001 %	Free to chose
Med stu military training/ mobilizations	Free to chose	Free to chose	Enforced for 100%	Free to chose
Med stu work in agriculture/ construction	Free to chose	Free to chose	Enforced for 100%	Free to chose
Med stu graduation with agriculture work	Free to chose	Free to chose	Enforced for 100%	Free to chose
Physician access to some med specialty	Free to chose	Free to chose	political based 0,001 %	Free to chose
Phys access to teaching tenure/privilege	Free to chose	Free to chose	political based 0,001%	Free to chose
Phys access to educational initiatives	Free to chose	Free to chose	political based 0,001 %	Free to chose
Phys access to Nat'l institute R&D job	Free to chose	Free to chose	political based 0,001%	Free to chose
Phys access to research initiatives	Free to chose	Free to chose	political based 0,001 %	Free to chose

Source: Political based means been of the PCC, UJC or trustworthy for the leadership. Sources: Official, adjusted and author's estimated figures from various sources.

Table 3. NHS' Medical Schools, Centers, and Physicians' Conditions. Cuba and U.S. 1900–1958/1964; 1959/1965–2016 (Continued)

Characteristic and Parameter	Cuba 1900 ; 1958	U.S. 1900 ; 1964	Cuba 1959 ; 2016	U.S. 1965 ; 2016
Phys access to healthcare initiatives	Free to chose	Free to chose	political based 0,0001 %	Free to chose
Phys access to Fellowships overseas	Free to chose	Free to chose	political based 0,01 %	Free to chose
Phys access to Masters & PhD overseas	Free to chose	Free to chose	political based 0,00001 %	Free to chose
Phys access to attend Nat'l congresses	Free to chose	Free to chose	political based 0,001 %	Free to chose
Phys access to publis Nat'l journal paper	Free to chose	Free to chose	political based 0,001 %	Free to chose
Phys access to publish chapter of Book	Free to chose	Free to chose	political based 0,0001 %	Free to chose
Phys access to publish a Book he wants	Free to chose	Free to chose	political based 0,0001 %	Free to chose
Phys access to publ World Journal paper	Free to chose	Free to chose	political based 0,0001 %	Free to chose
Phys access to attend meeting abroad	Free to chose	Free to chose	political based 0,00001 %	Free to chose
Phys access to WHO Consultant Job	Free to chose	Free to chose	political based 0,00001 %	Free to chose
Phys access to Sabbath year abroad	Free to chose	Free to chose	political based 0,001 %	Free to chose
Phys access to Private Medical Practice	Free to chose	Free to chose	0 %	Free to chose
Phys average Nat'l work-monthly income	At least $100–300; 500–1 000	At least $1 000 ; 4 000	$50 ; 25(1991–2013), 55 (2014–6)	At least $13 500
Phys aver InterNat'l work-monthly income	- ; $1 500	- ; $6 000	$10 (1964–90);55 pocket money	- ; At least $27 000
Phys retirement pension-monthly	At least	At least	$14 ; $20	At least $1 700-$2 400
Phys access to rent/buy apart/ house	Free to chose	Free to chose	political based 0,001 %	Free to chose
Phys access to rent/buy car/ motorcycle	Free to chose	Free to chose	political based 0,001 %	Free to chose
Phys access to rent/buy plane/boat	Free to chose	Free to chose	political based 0,00001 %	Free to chose
Phys access to rent fix/cell phones	Free to chose	Free to chose	0%; (2008-) polit bas 10 %	Free to chose
Phys access to hotels in tourist poles	Free to chose	Free to chose	0 %; (2010-) polit bas 10 %	Free to chose
Phys access to personal travel visas	Free to chose	Free to chose	political based 0,001 %	Free to chose
Phys access to buy PC/ Laptop/Tablet	Free to chose	Free to chose	0%; (2010-) polit bas 10 %	Free to chose
Phys access to Email-box / Intranet	Free to chose	Free to chose	0%; (2002-)polit bas 90 %	Free to chose
Physician full access to Internet connect	Free to chose	Free to chose	political based 0,0001 %	Free to chose

Source: Political based means been of the PCC, UJC or trustworthy for the leadership. Sources: Official, adjusted and author's estimated figures from various sources.

- U.S. NHS life support sectors' policies 1965–2016. *Ethical & efficient*: Increased traditional access to top world standards of living of most population, and of basic and applied scientific-technological platforms of most professionals. They invented and innovated goods and services at top world standards. *Ethical & inefficient*: Federal-state-local excessive subsidies for the poor weaken their will to work for a living. An increase in regulations and taxes on industries slowed production and middle class growth in the U.S. *Unethical & efficient*: None. *Unethical & inefficient*: Costly goods and services were often gotten by public permanent bureaucracy connections. Immigration to U.S. was predominantly less educated Asians and Latin Americans.

1. U.S. NHS healthcare sector's policies 1965–2016. *Ethical & efficient*: Increased traditional access to top public, private, HMO, charitable healthcare and outreach programs for most of the population; also to world-leading bioinfomedical, pharmaceuticals, equipment, genetic-engineering/biotech, immunology-vaccine, and public health basic-applied scientific-technological platforms by most doctors. They invented and innovated the most comprehensive and active bioinfomedical hospital and general care at top world standards. These have increased patient risk protection of disease and survival-free of suffering-disability, and bio-social environment friendliness. Top world standard licenses for medical schools, hospitals, pharmacies, physicians, and safety and effectiveness' regulations for Food and Drug Administration's approval of new products, caused adoption of large, prolonged, costly, but most trustable randomized clinical trials. *Ethical & inefficient*: Increased subsidies to Medicaid up to 100% and Medicare 80% for people over 64 years old. This stimulates illness and disability, and fosters fraudulent claims and irresponsible self-healthcare in most people. Consequent, there is over-testing/diagnosis and therapy/procedure of diseases, over-demand of mismanagement, and over-payments. Public overregulation of the health insurance industry encourages patient irresponsibility towards his health. *Unethical & efficient*: None. *Unethical & inefficient*: Expensive research hospital beds got often by public permanent bureaucracy relations.

DISCUSSION

In 1791, Menuret during the French revolution dreamt of ending private individual medicine and hospital care, with a state-police absolutely controlling all human life, epidemic medicine, physicians, and home care.[14] Marx's economic ideology of class struggle encouraged a reform in Germany in 1883, and a revolution in Russia in 1917. These focused on government trying to equalize access to income and health care for the poor, forgetting the individual freedom to choose between life and health goods and services, inherent to his socio-mental health. From 1920 forward, Gramsci modified Marxism, as a cultural ideology, to remove U.S. libertarian values. It created and implanted "false memories and perceptions of the world's life realities" in Western academia and media, which have had a confusing mission rather than a clarifying one.[15]

What Current WHO National Level of Health Indices Do Not Measure

ALE and HALE assess 19,000 lethal diseases and injuries. HALE also assesses disabilities of 292 biophysical diseases-injuries, 8 substance abuse conditions, and 15 mental disorders. But it places most biophysical and socio-mental wellbeing, ability, and positive health of the humane WHO definition of health,[16] in a large residual category not classified yet. HALE

14. Foucault M. *The birth of clinic; an archeology of medical perception,* 1963. NY: Pantheon Books, 1973.

15. Stusser R. Cuba-US academic exchanges in health Cuba 1962–2009 and US 2010–2015. *Proc Cuba in Trans ASCE Conf* 2015;(25):325–34; Idem. [Involution of healthcare quality in Cuba 1959–2015. Distorted perception created in the US academy to deceive Cubans and foreigners]. Cultural Congress in UM ICCAS, Dec 6, 2015 Miami, Fl. (youtube.com, two videos)

16. WHO. Definition of Health. Preamble to the Constitution of the World Health Organization. In: International Health Conf. New York, 19–22 June, 1946; WHO. Health Level Measurement. *WHO Tech Rep.* 1957;137:1–32.

Table 4. NHS' Life and Health Sectors and Health Outcomes. Cuba and U.S. 1900–1958/1964; 1959/1965–2016

Characteristic and Parameter	Cuba 1900 ; 1958	U.S. 1900 ; 1964	Cuba 1959 ; 2016	U.S. 1965 ; 2016
Very good/good self-perceived health	30 ; 60	40 ; 70	30 ; 50	71 ; 88
Average life expectancy [ALE] @ birth yr	32 ; 64?(66)	47,3 ; 69,4	64?(65);1990(74,7;79?(78)	70 ; 1990(75,2); 79
ALE @ 60 yr	12 ; 14	14 ; 16	15 ; 22? (19)	17 ; 23
ALE fatal injuries-adjusted @ birth yr	-	48 ; 68	-	69 ; 80 [world highest]
ALE @ 65 yr	10 ; 12	11 ; 13	11 ; 18? (16)	14 ; 20
ALE @ 80 yr	3 ; 4	5 ; 6	4 ; 7? (5)	7 ; 10
Healthy ALE HALE@B yr [disability-adju]	- ; -	- ; -	49;1990(64,7); 69?(66)	55 ; 1990(65,8) ; 69
HALE @ 60 yr	- ; -	- ; -	8 ; 17? (14)	10 ; 18
HALE @ 65 yr	- ; -	- ; -	5 ; 14? (11)	7 ; 15
Gross mortality rate (GMR) [x 1 000 pop]	32 1904(20) ; 6,5	17,2 ; 9,5	6,6 ?(7,6) ; 9?(10)	8 ; 8
1st Cause of GMR	gastrointestinal;heart dis	neum/influe; heart-dis	heart dis; heart dis	heart ; heart dis
2nd Cause of GMR	malaria ; cancer	tuberculosis; cancer	cancer ; cancer dis	cancer ; cancer dis
Asiatic cholera death ra [x 100 000 pop]	(1871) - ; -	- ; -	- ; - ?(0,1)	- ; -
Yellow fever death rate [x 100 000 pop]	120 ; 1908(-) -	<0.1 ; -	- ; - ?(0,1)	- ; -
Malarial fever death rate [x 100 000 pop]	59 ; 1907 (8) 1,0	< 5 ; -	2,1 ; - ?(0,1)	< 0.01 ; -
Smallpox death rate [x 100 000 popul]	0,1 ; (1923) -	< 4 ; (1948) -	- ; - ?(0,1)	- ; -
Tuberculosis death rate [x 100 000 pop]	155 ; 16	175 ; 7,1	17,2 ; 0,3?(3.0)	6,5 ; 3,0
Poliomyelitis death rate [x 100 000 pop]	0,1 ; 1,6	3 ; 8	0,5 ; - ? (0.1)	0,3 ; -
Meningococcal dis death[x100000 pop]	0 ; <0,01	5,9 ; 0,4	<0,01 ; 0,0?(0,3)	0,4 ; 0,3
AIDS mortality rate [x 100 000 popul]	-	-	- ; 3? (5)	- ; 2
Low birth weight (LBW) percent	15 ; 12	13 ; 10	11 ; 5,3%? (8)	10 ; 8
Infant mortality rate (IMR)[x1000livebirth]	175 ; 34	165 ; 27,1	35 ; 5 ? (7)	26,4 ; 6
1st Cause of < 1 year IMR	perinatal ; perinatal dis	perinatal ; perinatal dis	perinatal; perinatal dis	perinatal; congenital dis
2nd Cause of < 1 year IMR	diarrheal ; diarrheal dis	diarrheal ; congenital dis	diarrheal ; congenital dis	congenital; preterm/LBW
Late fetal (> 19 week) MR [x 1000 l.b.]	60 ; 23	50 ; 15	25 ; 9,4? (11)	14 ; 6
Child mortality rate 1–4 yr [x 1000 child]	19,8 ; 2,9	23 ; 1,1	3 ; 0,3? (0,6)	1.1 ; 0,25
1st Cause of 1–4 yr CMR	diarrhea; influe/neumo	diarrhea ; accident	influe/neumo; accident	accident; accident
2nd Cause of 1–4 yr CMR	Influe/neumo; accident	influe/neumo; influ/neum	accident; cancer	influe/neumo ; cong dis
Birth or natality rate [x 1 000 inhab]	26,4 ; 26	32 ; 24	31 ; 11	24 ; 12,5
Adolescent birth rate [teen girls 15–19 yr]	45 ; 40	40 ; 35	45 ; 52? (56)	34 ; 24,2
Total fertility ratio [per woman]	5 ; 3,5	3,3 ; 3,5	4,6.5 ; 1,6?	3,4 ; 1,9
Population (million inhab)	1 587 792; 5 763 061	76 ; 175 million	6 900 888?; 11,4? million	180,5 ; 321,8 million

Table 4. NHS' Life and Health Sectors and Health Outcomes. Cuba and U.S. 1900–1958/1964; 1959/1965–2016 (Continued)

Characteristic and Parameter	Cuba 1900 ; 1958	U.S. 1900 ; 1964	Cuba 1959 ; 2016	U.S. 1965 ; 2016
Maternal mort ratio (MMR)[x100 000 l.b.]	800 ; 125? (100)	700 ; 38	126 ; 39?(60)	38 ; 14
1st Cause of MMR	puerper fev; hemorrhage	puerperal fever; toxemia	hemorrhage; puerper fev	toxemia ; heart dis
2nd Cause of MMR	oth puer cause; toxemia	oth puer ca; hemorrahge	toxemia; abortions	hemorrha; non-heart dis
Author's IMR/MMR ratio[a]	30 ; 28	?30 ; 63?	27 ; 7 [world lowest]	62 ; 29
Male mortality rate (15–49 yr)[x 1000 pop]	-	-	260? ; 120?	240 ; 130
Suicide mortality rate [x 100 000 popul]	2,2 ; 14	10,2 ; 10,7	16 ; 14,5? (21)1995	9,7 ; 12,3
Homicide mortality rate [x 100 000 popu]	2 ; 8	1,2 ; 4,5	16? (20) ; 5,4? (7)	4,8 ; 4,7
Motor vehicle accident mort[x 100000 p]	0,1 ; 14	0,2 ; 21,3	7,8 ; 8,1? (10)	22 ; 10

a. Author's created ratio in 2011–12 to study the discrepancy between both declining figures. Sources: Official, adjusted and author's estimated figures from various sources.

does not assess patient-people social environment-caused mental disorders, suffering, and disabilities attributable to totalitarian oppression. The WHO IELH substitutes 10 UN standards of living measures putting in their place the education and health expenses per head indices by analogy with the UN human development index.[17] Thus, HALE and IELH, exclude most socio-mental suffering, disability, wellbeing, ability, and all tridimensional positive levels of health of every nation measured.

Hidden Causes of Supposed High Cuban NHS Efficiency 1959–2016

Since 1959, Cuban life and health sectors gradually collapsed from high baselines that placed Cuba ahead of Hong Kong and Singapore. The elite credited the apparent good health outcomes in the 2000s to the family physician plan. My family and I experienced it, and I worked to improve it. So, what truly occurred?

- In the life sector: (1) Appalling and slowly improving living conditions were achieved through terror, censure, captivity, and misinformation, degrading Cuba from 1959 to 1990 to a poor Soviet central Asia republic. (2) The wealthy U.S. was "demonized" as the enemy, and blamed its commercial embargo as the source of all of Cuba's hardships. (3) The island in 1991–1999 unnecessarily became like a Nazi "concentration camp" suffering epidemic optic and peripheral neuritis from forced hunger, physical work, beriberi, toxic cigarettes, and homemade liquors. The suicide rate rose to the highest world ranks. However, atherosclerosis, diabetes, and some cancer death rates fell. (In 1946, a similar "chronic disease cleaning" was noted in necropsies of Jews who had faced forced hunger and energy spending during the Holocaust). (4) In 2000–2016, Cuba resembled devastated Germany after World War II—where hundreds of new hotels for foreign tourists and the covert elite contrasted with the collapsing homes of the common people.
- In the health sector: (1) Most medical supplies and medicines were missing. There was mainly the consoling action of an excess number of doctors working (often as nurses and sanitation workers), most of them suffering from Stockholm's syndrome. (2) Communal leaders forced doctors to appease psycho-ideologically and prescribe herbs and psycho-pharmaceutics to the patients, to avoid rebellions against the repressive state. They had to validate the ill environment and patients as healthy to keep up Cuba's NHS

17. U.N. Report on International Definition and Measurement of Living Standards and Levels. New York: U.N. Publ., 1954.

prestige. (3) Conditions at most medical schools, clinics, and hospitals were abysmal. (4) Compared to doctors' bad conditions, the condition of patients were even worse. (5) The slow rise of ALE and HALE did not reflect these oppression-caused socio-mental sufferings and disabilities. So much atrocity was hidden thanks to Cuba's elite success in avoiding censure in the UN and WHO classification of its auto-caused human rights abuses and social disasters such as epidemic plagues.[18]

Unfounded Causes of Apparent Decline in U.S. NHS Efficiency 1965–2016

During 1990–2016, the U.S. NHS appears absurdly with lower IELH results than Cuba. Experts explain this simply due to Cubans more accessible primary care of doctors, similar slow rise in ALE and HALE in both countries and faster U.S. rise of GDP and health expenditures per capita than in Cuba. Actually, this is the effect of a hyper-complex web of interactions of U.S. freedom and Cuba's coercion in their respective life and health sectors, policies, and statistics. No health index is yet able to capture the real biophysical and socio-mental quantity, quality, and true equality of population global health dynamics of the wealthy progression of the U.S. compared with Cuba's ruinous regression. Since 1945, U.S. and Western biomedical research programs have created the highest world standards of comprehensive and active hospitals and general care of patients, but more impersonal and costly. Since 1965, excessive financed social support programs encouraged the reporting of illnesses and disabilities, augmented by misdiagnosis and fraud, and fostered patient inconsistent self-healthcare. Since 1966, the U.S. family medicine was strengthened with bioinfomedical systems. But, the clinical method of patient primary care remains restricted to assess-diagnose-treat-prevent better biophysical-mental diseases and risks. It cares less about socio-mental disorders, risks, wellbeing, ability, and positive health. It leaves a hard job to the impersonal public health promotion of the patient.

A Patient Global Health Index Can Help Rise NHS Health Efficiency

The U.S. must urgently fuse the biosociomental health comprehensive observation and measurement clinical methods of Hippocrates and Euryphon. This fused method can assess, diagnose, and care for all patient and environment health indicators, encompassing a patient-centered life complete health. It shall balance negative health effects (suffering, disease symptoms-risks, disability, pathogenic parameters, senescence, dying, and death) with positive ones (wellbeing-ability, health manifestations-enhancers, *healthgenic* parameters, gestation, birth, and growth). Patient global health is the complex most probable inter-working of many quantitative and qualitative degrees of negative and positive biosociomental health, rather than a simpler least likely "all or nothing" absence of illness or presence of wellness.[19] Physicians must bridge clinically and epidemiologically the patients' negative and positive health matrices of biosociomental variables. Health shall be enhanced as patients become more informed and educated, are able to take on responsibility and delay the onset of chronic disorders. Patient's global health and enhancer causes can raise the statistical power of clinical trials. The author works on the medical algebra of

18. Franco M, Orduñez P, Caballero B et al. Impact of energy intake, physical activity, and people weight loss on cardiovascular and diabetes mortality in Cuba, 1980–2005. *Am J Epidemiol.* 2007;166(12):1374–80; Anon Cuban. Letter. Health consequences of Cuba's special period. *CMAJ* 2008;179(3):257. (Jul 29); Stusser R. Cuban physicians' (brain) drain or waste, captivity, slavery and use abroad as merchandise and agents of propaganda and subversion. Miami, Sep. 13, 2010; Franco M, Bilal U, Orduñez P et al. Population-wide weight loss and regain in relation to diabetes burden and cardiovascular mortality in Cuba 1980–2010. *BMJ* 2013;346:f1515; Stusser R. Population trial of extreme coercive physical healthism Cuba 1989–2010. *BMJ.* 2013 (26 Apr.). www.bmj.com/content/346/bmj.f1515/rr/642829; Stusser, op. cit., on note 12: Realities of Cuba health progress 1959–2013.

19. Upgraded WHO health definition of 1946, with Merrell M, Reed L. 'The epidemiology of health'. In: Galdston, *Social Medicine, Its Derivations and Objectives*. NY: The Commonwealth Fund, 1949; Jahoda M. *Current Concepts of Positive Mental Health*. NY: Basic Books, 1958; and Ryff C, Singer B. The contours of positive health. *Psychol Inquiry*. 1998;9:1–28.

the patient negative and positive global health equation.[20]

CONCLUSIONS

Usual NHS analyses exclude life and health gains of persons covered or costs of suppressed human rights, other than the right to healthcare. Human rights-adjusted NHS analysis shows the U.S. and Swiss systems competing for top human efficiency, while the Cuban and North Korean NHS compete for the bottom. Policies of democratic-autocratic Cuba in 1900–1958 showed higher human life and health efficient outcomes than totalitarian Cuba in 1959–2016, despite efforts of this government to hide unacceptable unethical and inhumane policies. Totalitarian Cuba has only first-class human life and health for the foreign tourists overtly and the elite covertly. Cuba's NHS shall improve with human rights observation, privatization and mutualism competition again.

From 1945 to 2016, the U.S. life, health, industry, education, and research systems have expanded and diffused the most essential package of scientific-technological inventions and innovations to reach its entire population, imperceptibly improving human life and health quantity, quality, and equality in the whole planet too --incredibly without proper recognition of the UN and U.S. experts. The U.S. model challenges the Marxist logic of reform, resulting in an induced and free diffusion of the patient not well measured but enhanced positive and global health, besides the well-measured partial negative health.

Physicians have a big potential for discoveries in the scientific areas of patient biosociomental wellbeing, positive health outcomes, causes, and methods. Research in bioinfomedical paradigm/programs with primary mobile health care, shall gradually result in an optimum quantity, quality, and equality of population health, and reduce all preventable costs for young and mature patients. The U.S. should invest more on bio-behavioral primary care medical research of the patient, creating math-cyber-informatic tools to assess, diffuse, educate, support decision-making, and enhance patient health in near real-time.

Patient health magnitude and enhancer factors can facilitate the trials of greatly needed new clinical scientific-technologies. Composing a living patient global health index will allow building better human population health levels and bottom-up efficiency indices.

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