

## FACT SHEET ON CUBAN HEALTH ACHIEVEMENTS

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**for the Saving Lives Campaign (Bay Area) – 15 January 2021**



### Executive Summary

Health Indicators (Cuba versus the U.S., as of December 2020)

- The Covid-19 case rate was 50+ times higher in the U.S. than in Cuba (6,649 vs 129 per 100,000).
- The Covid-19 death rate was 85+ times higher in U.S. than in Cuba (111.6 vs 1.3 per 100,000).
- Overall, the U.S. infant mortality rate was almost 1.5 times higher than that in Cuba (5.6 vs 3.8 per 1,000 live births) in 2019.

Why are Cuba's Health Indicators Better than in the U.S.?

- Cuba's health care system is community-based, prevention oriented, free and universal; health care is enshrined as a human right.
- During the Covid-19 pandemic, medical students regularly contact individuals in every neighborhood in the country, whether urban or rural, to check on possible early symptoms.
- Cuba has more than 3 times the doctors per 10,000 inhabitants than does the U.S. (84.2 versus 26.2).
- US health indicators show deep racial/ethnic inequalities: e.g., the death rate per 100,000 population from Covid-19 among Blacks is almost twice that among whites (114.3 versus 61.7).

Cuba's Biopharma Developments

- Another contributor to Cuba's impressive Covid-19 and other health indicators stems from Cuba's biopharma industry, which operates 20 research centers and 32 companies, employing 20,000 people under the umbrella of the state-run BioPharma Corporation.
- As of December 2020, Cuba had registered and initiated trials for four Covid-19 vaccines: Soberana 01, Soberana 02, Mambisa (CIGB 669), and Abdala (CIGB 66).
- Cuba has established and implemented effective treatment protocols, providing *free* medications for prevention, moderate infections, and severe infections of Covid-19.
- Historically, Cuba has developed important pharmaceutical products used in treating hemorrhagic dengue fever, hepatitis B and C, HIV/AIDS, diabetic foot ulcers, Haemophilus influenza type B (Hib), severe psoriasis, and lung cancer.
- Cuba's pharmaceutical products are offered to developing countries at fraction of the prices charged by multinational drug companies.

Cuba's International Medical Solidarity

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- a. During the Covid-19 pandemic, in the period March to early December 2020, Cuba sent 53 brigades of health workers to 40+ countries, in addition to those already working in 58 countries.
- b. These recent actions are part of a much longer history of Cuba's international medical solidarity, beginning in 1960 and including fighting Ebola in West Africa (2014-2015).
- c. Since 1960, over 400,000 Cuban medical personnel have performed 1.2 billion consultations, attended 2.2 million births, and performed 8 million surgeries in 164 countries.
- d. Cuba's Latin American Medical School (ELAM), established in 1999, has trained more than 29,000 doctors (half of them women) from 105 countries including the U.S., to serve underserved areas.
- e. Cuba has helped establish medical schools (e.g., in Venezuela, East Timor, and the Gambia) or other arrangements for training of medical personnel in other countries.

#### U.S.-Cuba Medical Collaboration

- a. In June 2016, the U.S. Department of Health and Human Services and the Cuban Ministry of Public Health signed a Memorandum of Understanding covering a range of public health issues, including global health security, R&D and IT.
- b. Cuba's Center for Molecular Immunology (CIM) and Buffalo's Roswell Park Comprehensive Cancer Center collaborated in conducting clinical trials in the US of CIMAvax, a lung cancer vaccine developed by CIM.
- c. During 2017-2018 the University of Illinois at Chicago Medical School hosted Cuban experts for a several-month consultation on how to reduce infant mortality in Chicago.
- d. As of December 2020, as part of the "Saving Lives" initiative of the U.S.-Cuba Normalization Campaign (<http://SavingLivesCampaign.org/>), the following cities and other U.S.-based organizations have adopted resolutions calling for medical collaboration with Cuba: Berkeley, Oakland, Richmond, Sacramento, San Francisco, and Santa Cruz (California); Cambridge (Massachusetts); Pittsburgh (Pennsylvania); State Labor Council (Washington).

## Introduction

This fact sheet is a resource for health professionals, policy makers, journalists and members of the general public, developed for the Bay Area contingent of the Saving Lives Campaign (<http://SavingLivesCampaign.org/>). Highlighting the area of prevention and treatment of Covid-19, it aims to present well-cited information on Cuba's medical and public health achievements. These facts highlight why it would greatly benefit people living in the US to develop medical collaboration with Cuba, ending the U.S. blockade of Cuba to face the common threat of Covid-19.

The fact sheet is organized into the following sections: 1. Health indicators (Cuba versus U.S.); 2. Cuba's health system; 3. Cuba's bio-pharma developments; 4. Cuba's international medical solidarity, and 5. existing Cuba-U.S. medical collaborations.

### 1. Health Indicators (Cuba versus the U.S.)

As can be seen in Tables 1 and 2, Cuba's health indicators related to COVID-19 and more generally are very impressive, when compared to the United States and to global figures.<sup>2</sup> Cuba's figures are

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<sup>2</sup> To illustrate, Sierra (2020) reports that while nearly 5% of all people in the US have been diagnosed with Covid-19, a miniscule 0.08% of the Cuban population has been infected.

particularly noteworthy, given that Cuba is a relatively poor, less “developed” country, one that has suffered from 60+ years of a U.S. blockade. Note, for example, that in 2019 the U.S. death rate from Covid-19 is more than 100 times higher than Cuba’s,<sup>3</sup> and the U.S. infant mortality rate is almost 1.5 times that of Cuba. In addition, in the U.S. Covid-19 indicators are much worse for Black, indigenous and people of color. For example, according to the Centers for Disease Control and Prevention (CDC, 2020), as of 30 November 2020, compared to the white, non-Latinx population, the rate of cases was 1.4 times higher among African Americans and 1.7 times higher among Latinxs, while the death rate were 2.8 times higher for both African Americans and Latinxs (see also Lerner, 2020). The comparison of figures for the number of healthcare workers dying from Covid-19 is also remarkable.

Table 1: Covid-Related Indicators: Cuba, U.S., and World<sup>4</sup>

INDICATOR	CUBA	USA	WORLD
# Covid-19 Cases/100,000	128.7	6,649.3	1,142.4
# Covid-19 Deaths/100,000	1.3 <sup>5</sup>	111.6	24.8
# Healthcare Worker Covid-19 Deaths in Country <sup>6</sup>	0	2,921	

Table 2: Comparison of Cuba and U.S. Health Indicators (in 2019)

INDICATOR	CUBA	USA
Life Expectancy (at birth) in Years <sup>7</sup>	78.1	78.6
Infant Mortality (per 1,000 live births) <sup>8</sup>	3.8	5.6

## 2. Why are Cuba’s Covid-19 and General Health Indicators Better than Those in the US?

Part of the explanation for Cuba’s impressive health indicators – in relation to Covid-19 and more generally – is that Cuba has more than three times the medical doctors per 10,000 inhabitants than does the United States (84.2 versus 26.2).<sup>9</sup> Furthermore, “even the World Bank has recognized that Cubans’ health and well-being success derives from government commitment to community-based,

<sup>3</sup> A “news flash” from MEDICC (Medical Education Cooperation with Cuba, [medicglobal@medicc.org](mailto:medicglobal@medicc.org), 14 December 2020) puts the Cuba-U.S. comparison in perspective: while “Cuba, with 11 million people, had just over 9,000 cases since March and under 150 deaths, neighboring Florida, with 22 million people, had over 1 million cases and over 19,000 deaths.”

<sup>4</sup> The figures for the first two indicators in this table are based on Covid-19 data from <https://Covid19.who.int/table> (World Health Organization, December 28, 2020) divided by population data from <https://www.worldometers.info/world-population/population-by-country/> (Worldometers.info).

<sup>5</sup> Note that “Cuba’s infection and recovery rate is still the lowest per capita in the world” (Sierra, 2020) and “Cuba ranks 114<sup>th</sup> in the world for fatality statistics in the COVID-19 pandemic” (Urra, 2020).

<sup>6</sup> While as of December 2020, it was reported that zero health workers in Cuba had died after being infected with Covid-19, The Guardian and Kaiser Health News (2020) indicates that as of 23 December, there had been “2,921 healthcare worker deaths” in the United States (see also National Nurses United, 2020, p 4).

<sup>7</sup> Figures obtained from World Health Organization (2019): [https://www.who.int/data/gho/data/indicators/indicator-details/GHO/life-expectancy-at-birth-\(years\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/life-expectancy-at-birth-(years)).

<sup>8</sup> Figures obtained from UN Inter-agency Group for Child Mortality Estimation (2019): <https://childmortality.org/data>.

<sup>9</sup> Figures obtained from World Health Organization (2020): [https://www.who.int/data/gho/data/indicators/indicator-details/GHO/medical-doctors-\(per-10-000-population\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/medical-doctors-(per-10-000-population)).

For earlier comparisons, see Kirk (2015, p. 2) and Ubieta Gómez (2019, p. 25).

scientifically driven policies, the overwhelming dominance of public spending, and the prioritizing of equity” (Birn, 2017, p. 155).<sup>10</sup> Moreover, by being focused on people rather than profit and by being a government provision rather than one organized through private insurance companies, Cuba’s medical system “spends only 4% per person” compared to what is spent in the U.S. (Fitz, 2020, p. 205). For these and other reasons, “according to the UN’s World Health Organization, Cuba’s health care system is an example for all countries of the world” (Lamrani, 2014). And in 2015, Cuba “became the first country in the world to receive validation from WHO that it has eliminated mother-to-child transmission of HIV and syphilis” (WHO, 2015).

With regard to Covid-19, on a regular and frequent basis, medical students and medical staff contact individuals in every neighborhood in the country, whether urban or rural, to check on possible early symptoms of Covid and other health issues, and to determine what residents might need. Then, if there are any medical or other problems, staff at the local medical clinic and other community organizations follow up with them. When someone tests positive for Covid-19, for example, there is immediate contact tracing (Fitz, 2020).

This strategy reflects the overall functioning of Cuba’s health system. As Kirk (2015, p. 275) observes, in Cuba “access to healthcare [is] seen as a basic human right... From the Cuban perspective, the state has a fundamental and permanent obligation to ensure that all citizens have access to public healthcare, free of charge, and not just in wealthy sectors of major cities.” Cuba’s healthcare system:

- is free and universally accessible (in rural as well as urban areas);
- focuses on prevention and health promotion;
- deals with the whole person – physical, psychological, family, and social/community issues;
- consists of a neighborhood-based primary care doctor and nurse system, serving approximately 700 persons and involving home visits and close follow-up of those with health problems as well as mothers and newborns;
- includes multi-specialty clinics for these primary care doctors to use for resources and referrals;
- has a tertiary care level which offers highest level specialty care, and which is also accessible to primary care physicians for referrals; and
- features a system of medical education (courses and extensive field practica) that prepares doctors, who after graduation work for at least two years as primary care physicians before deciding whether or not to specialize. (Fitz, 2020)

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<sup>10</sup> Additionally, Kirk (2015, p. 14) reports that during an interview former U.S. President Jimmy Carter stated: “Of all the so-called developing nations, Cuba has by far the best health system. And their outreach program to other countries is unequalled anywhere.”

### 3. Cuba's Biopharma Developments

Another contributor to Cuba's impressive Covid-19 and other health indicators stems from Cuba's biopharma industry, which operates 20 research centers and 32 companies, employing 20,000 people under the umbrella of the state-run BioPharma Corporation (Rivas-Seul, 2020). In 2005, the World Health Organization recognized Cuba "as a worldwide leader in biotechnology, having made 'significant contributions to the international medical field'" (Sacramento City Council, 2020).

As of December 2020, Cuba had registered and initiated trials for four Covid-19 vaccines: Soberana 01, Soberana 02, Mambisa (CIGB 669), and Abdala (CIGB 66) (Cuba Business Report Staff, 2020). Moreover, as Urra (2020) notes, Cuba has established and implemented effective treatment protocols, using the following medications for prevention, moderate infections, and severe infections of Covid-19:

#### *Preventive medications:*

- PrevengHo®VIR: a homeopathic preparation whose function is to strengthen the immune system ...;
- Biomodulin T®: a natural origin immunomodulator ... effective in the treatment of respiratory conditions in older adults ...;
- Hebertrans® (Transference Factor): a hemoderivative ..., which transfers immunity from an immune donor to a receptor with an immune deficiency; and
- Nasalferon®: a formulation of recombinant Interferon-alpha-2b-human for nasal administration ...

#### *Moderate Covid-19 infections:*

- Heberon®: a recombinant human interferon alpha-2b) ...; and
- Heberferon®: a combination of proactive proportions of IFN alpha-2b + IFN gamma ... [which achieves] a higher antiviral effect and increased the antiproliferative effect from five to 10 times more than each individual interferon, with less adverse reactions.

#### *Severe Covid-19 infections:*

- Jusvinza®: an immunomodulator peptide, ... [which] has anti-inflammatory properties;
- Itolizumab®: an anti-CD6 monoclonal antibody ... [useful in] the treatment of cytosine release syndrome associated with Covid-19 ...; and
- CIGB 325®: a peptide with antiviral effect that achieves a significant decrease in the severity and number of pulmonary inflammatory lesions.

These vaccines and treatment protocols for Covid-19 are part of a longer history of successful biopharma developments undertaken by Cuban scientists (see Table 3). Importantly, these medicines are provided to Cuban citizens for free, and offered to developing countries "at fraction of the prices charged by multinational drug companies" (Kirk, 2015, p. 38; see also Fitz, 2020, p. 217). However,

because of the six-decade-old blockade, *none* of the medications listed are available to people in the United States.

Table 3: Cuba’s Bio-pharma Achievements<sup>11</sup>

<u>Pharmaceutical</u>	<u>Use and Effectiveness</u>
Interferon Alpha 2b (1981)	An antiviral drug that boosts the immune system, used for many years to treat conditions such as hemorrhagic dengue fever, hepatitis B and C. <sup>12</sup>
Zidovudine (1998)	A drug used to treat/prevent HIV/AIDS.
Heberprot B	A medication used to treat diabetic foot ulcers; has reduced amputations by 80 percent.
Polyribosylribitol Phosphate (sPRP)–HSA	A synthetic or conjugate vaccine used to prevent Haemophilus influenzae type B (Hib), which causes almost half of pediatric bacterial meningitis infections.
Racotumomab	A vaccine used to treat advanced lung cancer.
Itolizumab	An antibody drug initially used to fight severe psoriasis, but now being used in combination with standard therapy to reduce inflammation and prevent COVID-19 from worsening
CIMAvax-EFT	A vaccine used for immunotherapy to delay recurrences of lung cancer

#### 4. Cuba’s International Medical Solidarity

Beyond Cuba’s accomplishments in combatting Covid-19 and other health issues within the country, Cuba has an exemplary track record of combatting Covid-19 and, more generally, contributing to addressing healthcare issues internationally. This includes undertaking international medical missions, providing medical and healthcare training, and (as noted above) distributing bio-pharma products to other countries at much lower prices. As Fidel Castro Ruiz (1995) expressed it: “We may have little, but what we do have is shared in all fairness. How different would the world be if everything it has or might have was shared in all fairness?”

In terms of the focus on Covid-19, between March and early December 2020, Cuba had “sent 53 brigades of health workers ... to over 40 countries ..., in addition to Cuban [medical personnel]

<sup>11</sup> Derived from Fitz (2020, p. 217), Neeley (2020), News18 Staff (2020), Verez-Bencomo et al. (2004), and Yaffe (2020, pp. 138-139).

<sup>12</sup> It is noteworthy that at least 80 countries have expressed interest in buying Cuban-produced Interferon Alpha 2b for treating Covid-19 (Telesur Staff, 2020). Additionally, Interferon Alpha 2B has been successfully used as part of a cocktail of medications by the Chinese in preventing and treating Covid-19 and Cuban technology is being used to produce the medication at a joint-venture facility in China (Marsh, 2020).

already working in 58 countries (*Granma*, Nov. 23)” (Durkin, 2020). The actions of medical solidarity included more than 3,700 Cuban doctors, nurses and technicians deployed worldwide to address the Covid-19 pandemic, including in Angola, China, Italy, Jamaica, Peru and Spain, treating more than 360,000 people and saving over 10,000 lives (International Committee, 2020).

These recent actions are part of a much longer history of Cuba’s international medical solidarity.<sup>13,14</sup> As can be seen in Table 4, these efforts in collaboration with local healthcare personnel began in 1960 in Chile.<sup>15</sup> To illustrate, since 1960, over “400,000 Cuban medical professionals have worked overseas in 164 countries ... Cuban medical professionals had performed 1.2 billion consultations overseas, attended 2.2 million births and performed 8 million surgeries” (Yaffe, 2020, p. 150; see also Kirk, 2015, p. 1). Furthermore, since 2005, when these actions became the responsibility of Cuba’s Henry Reeve Brigades,<sup>16</sup> “more than 13,500 Cuban healthcare professionals have participated in 71 brigades and 53 missions ... delivering medical care to approximately 4 million people and saving the lives of more than 93,000 in 45 nations and 5 non-self-governing territories following natural disasters from earthquakes to floods and during cholera and Ebola outbreaks” (International Committee, 2020).

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<sup>13</sup> According to Kirk (2015, p. 271), Cuba’s “medical internationalism program [was] so successful that the administration of George W. Bush sought to embarrass the Cuban government by encouraging Cuban medical personnel to defect and come to the United States through its Cuban Medical Professional Parole program (CMPP), inaugurated on August 11, 2006.”

<sup>14</sup> More recently, the U.S. government has attempted to undermine Cuba’s medical solidarity initiatives by claiming that they involved “human trafficking,” that is, the Cuban medical personnel are forced to participate in such missions for under “slave-like” conditions. Such propaganda should be seen in light of the facts that indeed Cuba does charge *some* countries for the medical services and that this is the largest source of foreign currency for Cuba. However, while the revenue generated is more than what is paid to Cubans medical personnel, Cubans’ do receive pay during such missions that is higher than what they would normally receive for their work at home; that is, they receive a mission-related stipend in addition to their regular salary (Birn, 2017. P. 158; Kirk, 2015, pp. 12 and 36; Yaffe, 2020, pp. 168-169).

<sup>15</sup> Kirk (2015, p. 5) reports that in 2009 at the Summit of the Americas, held in Trinidad and Tobago, “President Barack Obama drew attention to the role of Cuba’s medical cooperation program, even suggesting that Washington could learn from the co-operative approach used by Cuba in developing countries.”

<sup>16</sup> Cuba’s Henry Reeve International Contingent, named after the American, Henry Reeve, was a hero killed in battle in Cuba’s first war for independence (1868–78), was launched in 2005 with the (U.S. government-rejected) proposal to send medical personnel to New Orleans in the wake of Hurricane Katrina (Calero & Waters, 2019, p. 21; see also Birn, 2017, p. 158; Durkin, 2020; Fitz, 2020, p. 149; Kirk, 2015, p. 10; Yaffe, 2020, pp. 164-165)

Table 4: Partial History of Cuba’s International Medical Missions<sup>17</sup>

<u>Year</u>	<u>Country/Region</u>	<u>Context/Impact</u>
1960	Chile	Earthquake
1963	Algeria	Recently achieved independence
1986	Soviet Union	Chernobyl nuclear plant accident <sup>18</sup>
1991	Nicaragua	Major flooding
1992	Nicaragua	Volcano eruption
1998	Central America	Hurricane Mitch
1998	Haiti	Hurricane Georges
1999	Venezuela	Major flooding
2014-2015	West Africa	Ebola “virtually eradicated” <sup>19</sup>

In addition to Cuba’s international medical missions, Cuba has provided healthcare services to citizens of other countries<sup>20</sup> (with many missions without cost) as well as engaged in preparation and professional development of medical personnel of other countries. In Cuba, the Latin American Medical School (*Escuela Latinoamericana de Medicina* or ELAM), which was established in November 1999, represents an impressive initiative. “By 2019, 29,000 doctors from 105 countries had graduated. Half of them women, 75 per cent the children of workers of *campesinos* (peasants or farmers), representing 100 ethnic groups. ... By 2017, 170 students from the United States [from and with commitments to serve poor communities] had graduated” (Yaffe, 2020, p. 159; see also Fitz, 2020, pp. 148-149; Kirk, 2015, p. 11).<sup>21</sup>

Moreover, Cuba has collaborated with other countries to establish medical schools or other arrangements for training of medical personnel. Perhaps most notable is the institution similar to ELAM that was established in Venezuela and by 2015 had graduated “60,000 doctors for Latin America and the Caribbean” (Kirk, 2015, p. 11). And Cuba has collaborated in creating “almost a dozen medical schools abroad” (Birn, 2017, p. 157), including in East Timor and The Gambia (Kirk, 2015, p. 66) in addition to organizing preparation and in-service programs for medical personnel in the many countries in which Cuba has dispatched medical missions.

## 5. Existing U.S-Cuba Medical Collaboration

Despite the difficulties posed by the U.S. blockade on economic and travel relations involving Cuba, some important medical collaborations have been established. For example, In June 2016, the U.S.

<sup>17</sup> Based on information from Calero & Waters (2019, p. 15); Fitz (2020, pp. 145-148); Kirk (2015, p. ix-x and 11); Ubieta Gómez (2019, p. 25); and Yaffe (2020, pp. 147-149).

<sup>18</sup> In addition to providing in-country medical services, from 1990 Cuba brought thousands of survivors of the nuclear accident to Cuba to receive medical and other services (Kirk, 2015, p. 33; Yaffe, 2020, pp. 157-158).

<sup>19</sup> Moreover, “by January 2015, Cuba had trained over 13,000 people to deal with Ebola in 28 African countries, plus 68,000 in Latin America and 628 in the Caribbean. [Additionally,] a training programme in Havana was attended by 278 specialists in infectious diseases from 34 countries, including the United States” (Yaffe, 2020, 149; see also Kirk 2015, p. x).

<sup>20</sup> For example, Cuba performed “millions of cataract surgeries ... through ‘Operación Milagro’ (Birn, 2017, p. 157)

<sup>21</sup> While initially attending ELAM was free of charge for all students, “[s]ince 2012 ... some students have been charged for their education, [based on] a means tests” and often paid for by their home government (Kirk, 2015, p. 65).



Department of Health and Human Services and the Cuban Ministry of Public Health signed a Memorandum of Understanding covering a range of public health issues, including global health security, R&D and IT. Additionally, Cuba's Center for Molecular Immunology (CIM) and Buffalo's Roswell Park Comprehensive Cancer Center collaborated in conducting clinical trials in the US of CIMAvax, a lung cancer vaccine developed by CIM. And during 2017-2018 the University of Illinois at Chicago Medical School hosted Cuban experts for a several-month consultation on how to reduce infant mortality in Chicago. Moreover, Cuban personnel have worked with colleagues at the Massachusetts Institute of Technology in a project to making ventilator replacement parts through 3D printing. Furthermore, in December of 2020, the University of Minnesota Medical School held a symposium co-sponsored with MEDICC, to promote dialog between medical experts in Cuba and the US.

Finally, as part of the "Saving Lives" initiative of the U.S.-Cuba Normalization Campaign,<sup>22</sup> the following cities and other U.S.-based organizations have adopted resolutions calling for medical collaboration with Cuba (as of December 2020): Berkeley, Oakland, Richmond, Sacramento, San Francisco, and Santa Cruz (California); Cambridge (Massachusetts); Pittsburgh (Pennsylvania); State Labor Council (Washington).<sup>23</sup>

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<sup>22</sup> <http://savinglives.us-cubanormalization.org/>.

<sup>23</sup> In addition, as of December 2020, the following cities and other U.S.-based organizations have adopted resolutions calling for an end to the U.S.'s trade and travel restrictions on Cuba: State Legislature (Alabama); Berkeley, Oakland, Richmond, Sacramento, San Francisco, and State Labor Council (California); Hartford (Connecticut); Brookline (Massachusetts); Detroit, Meridian Township, and State Legislature (Michigan); Minneapolis, Saint Paul, and State Legislature (Minnesota); Helena (Montana); Cleveland (Ohio); Pittsburgh (Pennsylvania); and Seattle and State Labor Council (Washington).

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