

The Indianapolis Literary Club: 2022-2023: 147th Year  
*One Health pro bono - 'Twice Blessed'*

Stephen J. Jay. Tuesday, 8:00 P.M. Park Tudor School: January 23, 2023



*Plus ça change, plus c'est la même chose.*

Alphonse Karr (1808-90) In, *Les Guepes*, 1849.

*Portia.* How far that little candle throws his beams! So shines a good deed in a naughty world."

William Shakespeare, Merchant of Venice, Act 5, Scene 1. Lines 90-91.

*The beginning of wisdom is to call things by their proper names." "If names not be correct, language is not in accordance with the truth of things."*

Confucius, Chapt XIII. *The Analects*

*From climate change to biotech to artificial intelligence, science sits at the center of nearly all decisions that civilization confronts to assure its own survival."*

Neil DeGrasse Tyson. In, Rees, *On the Future Prospects for Humanity*, Princeton U. Press, 2018.

*The mind is its own place, and in itself*

*Can make a Heaven of Hell, a Hell of Heaven"*

John Milton -1608-1674. In *Paradise Lost*, Book I, Lines 221-270

*Disillusion can become itself an illusion, if we rest in it."*

T.S. Eliot 1949, *The Cocktail Party*.

*"The quality of mercy is not strained....it is twice blessed: "It blesseth him that gives and him that takes."*

Shakespeare, in *The Merchant of Venice*. ( A philanthropist acts out of love for humankind.)



Key Words: One Health; Bono; AIDS; Shakespeare; Dickins; Pandemic; PEPFAR2003; AMPATH; Sen. Lugar; Pres. GW Bush; NASA Webb Space Telescope

yes \_\_\_x\_\_\_ I agree to allow the webmaster of the Literary Club to upload my essay to the Club's Internet website. I also agree that, after the Literary Club transfers a copy of my essay to the Indiana Historical Society, the Society may upload it to the Society's Internet website.

*Stephen J. Jay M.D.*

**Introduction:** We've all heard of the hard issues we must deal with such as climate change, pandemics, "superbugs," renewable energy, public health, and human rights. Marcus Aurelius, said 2000 years ago in *Meditations*: "Just because something is hard to master, do not think it is humanly impossible, but, if a thing is humanly possible, consider it within your reach." Big issues today are within our reach, but do we have the resolve to meet our global challenges?

For millennia, humankind has looked both outward to the heavens and inward to humans' souls and wellbeing. The U.S. has engaged for decades, with international partners in space exploration, from John F. Kennedy's, "We choose to go to the moon" speech, in '61, to the lunar landing, July 20, '69, to Ronald Reagan's call for an international space station, in '84, to the Mars Rovers' missions of *Spirit* and *Opportunity*, in 2004, confirming that the red planet once had water, and more recently, Mars mission of Perseverance, in 2021, that found signs of possible ancient microbial life in a river delta's sedimentary rocks.<sup>1</sup> Could past life on Mars share a common ancestor with life on Earth? Humans will continue to look outward to the heavens for answers to such questions.

*(For history buffs--the inspiring film, "Good Night Oppy," is about the ventures of the robot, Opportunity, designed to last 90 days on Mars - becoming silent after 15 years, June 10, '18.<sup>2,3</sup> )*

NASA has collaborated for decades in these space explorations with governments, the private sector, universities, and philanthropists, and, last August, President Biden signed the NASA Authorization Act paving the way for missions to a permanent Lunar base, then to Mars.<sup>4-7</sup>

Looking inward to humanity, the U.S. Center for Disease Control (CDC) has led public health initiatives in partnership with governments, the private sector, international agencies, faith-based institutions, and non-governmental organizations.<sup>8</sup> Their achievements include vaccination, control of infectious diseases, decline in heart and brain disease, safer foods, healthier mothers and babies, safer workplaces, and tobacco control.<sup>9-12</sup> Looking to the future, the 19<sup>th</sup> c. literary giant and public health advocate, Charles Dickens, would likely support the CDC's warning that, "Domestic and Global Health be indivisible: no country can protect the health of its citizens in isolation from the rest of the world."<sup>13</sup>

Two recent major successes, one in space technology, the other in public health, both with roots in Indiana, demonstrate that America and partners can get the 'humanly possible' big things done. The stakes are high. Neil DeGrasse Tyson quotes the Cambridge Astronomer, Martin Rees regarding humankind's creativity and actions to address threats "so the next generation will think of us not as reckless custodians of their inheritance, but as brilliant shepherds of their birthright."<sup>14</sup>

On December 25, 2021, the European Space Agency's Ariane 5 rocket launched the James Webb Space Telescope to join the Hubble launched three decades ago.<sup>15</sup> The Webb is 100 times more powerful than Hubble and its orbit, 1.5 million miles from Earth. This was an international partnership - with NASA's Goddard Space Center, the European Space Agency, (ESA) and the

Canadian Space Agency (CSA) - Northrop Grumman the primary contractor and Ball Aerospace, with Hoosier roots, manufactured Webb's 21 ft. telescope with 18 gold - plated hexagonal mirrors.<sup>16</sup> Thousands of engineers and scientists from 300 universities and companies from 29 U.S. States and 14 countries worked twenty years to create this space marvel - the cost- \$10 billion.<sup>17</sup> The Webb uses the infrared spectrum to view deep space and give clear images of where stars, planetary systems, and galaxies formed 13.5 billion years ago. After launch and just 12.5 hours of collecting infrared light, Webb produced the sharpest images of the universe in history - a profound cosmic perspective of deep space informed by science.<sup>18</sup>

Of the first images July 12, 2022, a scientist said: Webb's performance is an example of "people in a broken world managing to do something right to see some of the majesty that's out there."<sup>19-21</sup> NASA's multinational approach used to achieve this milestone has major relevance for how America and its partners resolve current global crises. You may think that the moon landing or launch of the Webb Space Telescope, while marvelous technological feats, are easily accomplished compared with the more complex global health crises: pandemics and climate change, where solutions require contentious and complex socio-political interactions.

But the good news: we have recent examples of successful one health collaborative partnerships.<sup>22-25</sup> For example, in 1993, public health leaders urged President Clinton to call for partnerships of governments and the private sector to tackle the AIDS humanitarian crisis in Africa. The first national AIDS Strategy was established, NIH funding for prevention and treatment was increased, and three years later, in 2003, President George W. Bush signed the 'President's Emergency Plan for AIDS Relief', the historic PEPFAR Bill.<sup>26-27</sup>

Both the Webb mission and PEPFAR were organized for success with international collaboration - for the Webb, in high- tech science and engineering, and, for PEPFAR, in One Health partnerships to achieve "Global Health Diplomacy", where science, the rule of law, and public health intersect with foreign affairs.<sup>28-31</sup>

### **My aims this evening are:**

- To describe the evolution of our AIDS Policies in the early 2000s regarding the humanitarian crisis in sub-Saharan Africa.
- To share the remarkable story of how Hoosiers disproportionately played critical roles in these sentinel health policies with an anecdote of our IUSM Department of Public Health visit with AIDS activist, philanthropist, humanitarian - the Irish Rock Star, Bono.
- And finally, to summarize our challenges for building on our successful policies.

**AIDS:** The AIDS pandemic started in the Congo, in 1920, when HIV jumped from chimps to humans,<sup>32-34</sup> and by 1980, this African diaspora had infected 75 million people globally.<sup>35-36</sup> But the pandemic was not recognized in the U.S. until 1981, when the CDC reported a rare fatal pneumonia in five young gay men in Los Angeles.<sup>37-39</sup> Called the Acquired Immunodeficiency

Syndrome, 42,000 people had been infected. But America was mired in political controversies and slow to address the crisis.<sup>40</sup>

President Reagan said AIDS was a religious and moral problem; scientists at NIH called it a public health threat, not confined to gay people. But, politics prevailed, and AIDS research and public health budgets were cut.<sup>41</sup> In 1982, the CDC discovered HIV was transmitted heterosexually and by IV drugs and transfusions - not by casual contact.<sup>42</sup> It was four years before the President publicly mentioned AIDS. But, when President Reagan and Nancy Reagan's friend, movie star, Rock Hudson, was dying of it, in 1986, the President admitted it was a public health priority, and he asked Surgeon General C. Everett Koop to address the problem. A conservative evangelical Christian, Dr. Koop, in the privacy of his basement study, wrote the first Surgeon General's Report on AIDS, October (1986) - with input from NIH expert, Dr. Anthony Fauci and Indiana's own Otis Bowen.<sup>43</sup>

The Koop report of AIDS deaths shocked Americans, becoming the most controversial public health issue in American history.<sup>44,45</sup> The White House said the Koop report would corrupt schoolchildren by teaching promiscuity; AIDS activists hailed the report---that AIDS was a chronic disease, preventable and treatable. In 1987, the drug Azidothymidine (AZT) was approved for treating AIDS, and Koop called for national education, increased condom use, and voluntary testing and sent a synopsis of his report with explicit sex information to 107,000,000 households, the largest mailing in U.S. history.<sup>46</sup> But by this time, 700,000 persons were living with HIV; it took fifteen years before prevention and treatment strategies decreased AIDS deaths.<sup>47</sup>

When George H.W. Bush assumed the Presidency, in 1989, he followed President Reagan's dismissal of AIDS, and didn't mention it for a year after taking office. AIDS deaths in the thousands were doubling every six months but funding for research and public health was cut. The White House said people should change their behavior to not become infected.<sup>48</sup> But, in 1990, policy changed with the tragic death of Indiana's Ryan White; policy makers quickly responded, and the President Bush signed the Ryan White AIDS Act, Aug 18, 1990. Sen. Edward Kennedy sponsored the Bill, and, with Elizabeth Taylor and Republican Orrin Hatch of Utah, announced it to the nation.<sup>49</sup>

A turning point in the pandemic occurred when President Clinton declared AIDS a threat to national security and signed the Global AIDS and Tuberculosis Relief Act of 2000, a plan to control infectious diseases in sub-Saharan Africa, where 5,000 impoverished persons were dying daily of AIDS.<sup>50-55</sup> This act was co-authored by Senators John Kerry (D. Mass) and Bill Frist (R.TN) and coincided with the Jubilee 2000 coalition, a call by 40 countries to cancel third world debt, called the "new slavery" by Pope John Paul and human rights activist and philanthropist, Paul David Hewson, U2's Bono.<sup>56-58</sup>

But the AIDS pandemic was drowning economies and required action; The Indianapolis Star November 2002, said: "The AIDS epidemic continues to rage, threatening to become a true biological weapon of mass destruction."<sup>59</sup> Senators Kerry and Frist built on their earlier legislation—the result in 2003, PEPFAR, the *President's Emergency Plan for AIDS Relief Bill*.<sup>60,61,31</sup>

This legislation followed post WWII traditions of collaboration to control infectious diseases in children.<sup>62,63</sup> President John F. Kennedy created the U.S. Agency for International Development, (USAID) in '62, to coordinate partnerships to vaccinate kids, strengthen health security, project a positive global image of the west and defend against authoritarianism.<sup>64</sup> For 20 years, PEPFAR has been supported across four presidencies and 10 U.S. Congresses, the largest monetary commitment made by Congress to deal with AIDS; it interfaces in 50 countries with 'one health' initiatives of the UN, WHO, CDC, the Global Fund, and private philanthropists.<sup>65,39,</sup>

In America, more than 2 million people have been infected with HIV 'since 1981, and 700,000 have died with AIDS.<sup>66</sup> Today, in the U.S., there're 35,000 new infections annually, and 1.2 million are living with it.<sup>42,67-68</sup> Two million Americans have died from the AIDS and Covid-19 pandemics with disproportionate impacts on the poor.<sup>69-71</sup> In 2023, the harmful compounding economic and public health effects of the AIDS and Covid-19 pandemics, and climate change are massive and symptomatic of America's chronic, severe underinvestment in public health infrastructure and research.<sup>72-75</sup>

The good news, the U.S. investment (\$110 billion) in PEPFAR, has saved 21 million lives;<sup>76</sup> five and one-half million babies have been born HIV-free, and more than 15 million orphan children worldwide are cared for. These humanitarian actions are viewed positively by people suffering in need. The global death rate from AIDS has decreased 68% since the peak in 2004, and today America's partnerships support the UN Sustainable Development Goal of ending the HIV/AIDS pandemic by 2030.<sup>77,78</sup>

**Hoosiers' Roles:** Many persons were engaged in changing opinions, attitudes, and actions regarding AIDS and paving the way for evidence-based policies. It was surprising how many Hoosiers played critical roles in advancing these milestones, in a state that has chronically less than admirable policies regarding public health.

Ryan Wayne White, (1971-1990) from Kokomo, in 1984, at 13, with an engaging smile and personality and supported by his mother, Jeanne White, shaped the heart and soul of AIDS policy in America amid inhumane bigotry and prejudice when he was infected with HIV contaminated Factor VIII, that he took to relieve symptoms of hemophilia.<sup>79,80</sup> As one of the first teens banned from school because of AIDS, Ryan became a 'larger than life' evangelist.<sup>81-84</sup> He interacted with famous Hoosiers, Michael Jackson and John Mellencamp, who raised millions of dollars for AIDS relief. Ryan's PBS special, "*I Have AIDS -- A Teen-ager's Story*," won the Peabody Award, and *The Ryan White Story* aired on television, in 1989, with 15 million viewers.<sup>85-87</sup>

Policy makers responded and the Ryan White Care Act, introduced by Senator Edward Kennedy (D. MA), was signed by President George H.W. Bush after Ryan's death, April 8, 1990 - the largest federal program providing care for people with AIDS.<sup>88-90</sup> Near the end of his life, Ryan asked to spend his last days with his friend and physician, Dr. Kleiman, at Riley Hospital;<sup>91</sup> At his funeral at Second Presbyterian Church, Ryan's pallbearers included Elton John, football star, Howie Long,

and Phil Donahue. First Lady, Barbara Bush attended; and Elton John, played and sang, *Skyline Pidgeon* for Ryan:

*...Turn me loose from your hands  
Let me fly to distant lands...  
....Fly away skyline pigeon fly  
Towards the dreams  
You've left so very far behind.....*

Another Hoosier, Dr. 'Woody' Myers Jr., Indiana's Health Commissioner, (1986-89) advocated for Ryan to attend school and for citizens to learn about AIDS.<sup>92,93</sup> Surgeon General Koop lauded Dr. Myer's leadership, and when Ryan's admission to school was denied, Dr. Myers held a press conference and touched Ryan, making the point: you don't get AIDS from touching a person infected with HIV.<sup>94,95</sup>

Indiana's Senator Richard Lugar as Chairman of Senate Foreign Relations Committee helped steer the bipartisan PEPFAR Bill through the Senate to President George W. Bush.<sup>96,97</sup> Lugar's rationale for the bill? to address the "crushing burden on the African economy, and the moral and humanitarian crisis causing political instability." Lugar said, "The U.S. must have partners ... to stop AIDS, and ... this bill will maximize the President's ability to enlist other nations."<sup>98-100</sup>

Another sentinel figure in PEPFAR was Indiana's two-time Governor Otis "Doc" Bowen MD, Secretary of the DHHS, in 1985, and strongly supportive of Surgeon General Koop's beleaguered assessment of AIDS and Koop's recommendations to the reluctant Congress, President, and Cabinet.<sup>45</sup> But the Bowen-Koop team prevailed -- a milestone in advancing America's AIDS policies. Dr. Bowen helped Dr. Koop communicate the threat to Americans with his warning: "Remember, when a person has sex, they're not just having it with that partner, they're having it with everybody that partner had it with for the past 10 years."<sup>101</sup>

Hoosier Randall Tobias, (2003-2006) former CEO of Eli Lilly, was Ambassador for U.S. Agency for International Development (USAID) and launched PEPFAR with distribution of \$15 billion to address 50% of the HIV infections in the world in 15 countries. Tobias communicated the significance of the AIDS pandemic when he asked people to imagine waking up to headlines that 20 Boeing 747's had disappeared the previous day, losing all passengers, then the next day and the next.<sup>102-105</sup>

Jim Morris (2002-2007) Indiana humanitarian and philanthropist became Director of the United Nations World Food Program (2002-2007) and supported international partnerships in a civil rights campaign to stem childhood death from malnutrition by merging TB and AIDS medicines with food for those starving. Research showed that without adequate nutrition, the medicines were ineffective.<sup>106</sup>

**Hoosiers-AMPATH:** Perhaps the most important of these many remarkable contributions of Hoosiers began in 1988, long before PEPFAR, when IU School of Medicine faculty with Peace

Corps and missionary backgrounds sought to partner with a school in a developing country to create a novel system of community - based patient care, education, research, and public health.<sup>107-110</sup> This idea was consistent with the legacy of Indiana University under the leadership of Herman Wells who for decades engaged IU and international partners to advance education, research, and cross-cultural diversity and understanding to address global challenges.<sup>111</sup> And, the idea intrigued Hoosier Marty Moore, (1935-2016), a philanthropist, who taught history for 30 years at my alma mater, Indianapolis North Central High School. Moore gave \$30,000 for Drs. Mamlin, Einterz, Kelley, and Van Reken to find a medical school partner in the developing world to address the crises of extreme poverty and disease.<sup>79,112</sup> After meeting with a visionary Kenyan professor, Haroun Mengech, (haroon mengetch) in Eldoret, the IU - Moi University-Kenya partnership was founded on a principle of “accompaniment” - the process of “learning to walk together.”<sup>113</sup>

Today, thirty years later, this partnership is named: the *Academic Model Providing Access to Healthcare* or AMPATH 2001, a program that has improved health of Kenyan communities and strengthened academic institutions and public health infrastructure.<sup>114-118,145</sup> In 2007, AMPATH was nominated for the Nobel Peace Prize, recognized as one of the “world’s most comprehensive and innovative AIDS control programs” – supported by the Gates Foundation among others, a replicable model of U.S. - African collaboration.<sup>119</sup>

Under the current leadership of Dr. Adrian Gardner, MD, at IU Center for Global Health, who first visited Eldoret as a medical student, AMPATH serves twenty-four million people in 800 clinics in Western Kenya. HIV transmission rates have been decreased sharply and Kenyans are empowered to achieve self-sustaining livelihoods in farming and by other means. Digital data - processing was needed to manage the AMPATH program, and the pioneering Medical Records Systems at IUSM were adapted by Dr. Tierney and colleagues and operate at 26 AMPATH sites and more a million patient encounters have been logged.<sup>120</sup> Thousands of AMPATH students, doctors, and Kenyan community health workers have been trained. Original research has produced 1000 peer - reviewed articles from 20 university and institutional partners with awards totaling, \$210 million.<sup>121</sup>

AMPATH’s successes have buttressed the rationale for America’s investments in sub-Saharan Africa. To Hoosier, Jim Morris, the “IU-Moi partnership was a model for tackling the challenges of HIV/AIDS and poverty...and one of the most inspiring examples of humanitarian partnership I have ever seen.”<sup>145</sup> Marty Moore’s gift gave birth to one of the most successful public health partnerships, and reflecting on AMPATH’s successes, Harvard’s Paul Farmer, co-founder of *Partners in Health*, said that “all those who care about making the world a healthier place have reason to be grateful.”<sup>122-124</sup> The late, Dr. Farmer’s prescient advocacy for a humanized global public health is reflected in AMPATH’s academic model partnership.<sup>125,126, 80</sup>

**Bono-humanitarian, philanthropist and public health advocate:** I’ll conclude this summary of Hoosiers who played central roles in creating PEPFAR with an anecdote about AIDS advocacy when IUSM hosted the Irish rockstar, U2’s Bono, during his seven - state *Heart of America Tour*, in 2002: called, *Africa’s future and Ours*.<sup>127-129</sup> An Indiana University Business School graduate

and colleague, Hoosier, Nick Arena, helped organize Bono's Midwest Tour; a banker and leader in the NGO *RESULTS*, that focuses on global poverty, Mr. Arena recommended that our School of Medicine Department of Public Health host the Indianapolis event.<sup>130,131</sup>

Called one of the world's 50 greatest leaders, Bono was TIME Magazine's 2005 Person of the Year with Bill and Melinda Gates.<sup>132-135</sup> Last December, Bono and U2 were named by President Biden recipients of the 45<sup>th</sup> Annual Kennedy Center Awards for contributions to American Culture - a bridge between Ireland and the U.S.<sup>136-142</sup> Bono's love for America was reflected at his presentation at Georgetown University, when he spoke of "the American idea: ... that you and I are created equal - one of the greatest ideas in human history." Bono said: "This country was the first to claw its way out of darkness and put that on paper. And God love you for it."<sup>143,144</sup>

Bono has met with prominent world leaders, from Popes<sup>145</sup> to Presidents and Premiers, but he's also spent time in the homes of impoverished and starving families in developing countries, including sub-Saharan Africa.<sup>146-151</sup> Like the literary public health advocate, Charles Dickens, a century ago, Bono has used his poetic genius at creating music while passionately advocating for eliminating preventable disease and suffering. He's a man of action as was Dickens, who, in his classic, *A Christmas Carole*, wanted not just sympathy for the waif, Tiny Tim, but action to save his life and in so doing the dismal existence of the cold-hearted miser, Ebenezer Scrooge. His story accomplished both and Bono and Dickens shared the idea that health advocacy must embody action, not just words.<sup>86,152,153</sup>

We met with Bono December 5, 2002, in the fourth - floor conference room (RG 4147) of the Regenstrief Building on the Indiana University School of Medicine campus. With two dozen public health experts and community leaders, our focus was AIDS advocacy and public health action<sup>154-157</sup>. An hour-long dialogue ensued with Bono and his entourage, including actress - humanitarian, Ashley Judd, the Global Ambassador for YOUTH AIDS,<sup>158,159</sup> her husband, race driver, Dario Franchetti, the actor-producer-comedian and philanthropist, Chris Tucker<sup>93</sup> and a Ugandan nurse, Agnes Nyamayarwo, an HIV positive advocate whose family had been ravaged by AIDS. When our meeting ended, we presented Bono with a "Certificate of Appreciation for Exemplary Leadership and Outstanding Contributions to Global Public Health."<sup>160</sup> (Image by Carol Kacius, PhD)

That evening, Bono and Ashley Judd gave insightful talks on the AIDS crisis to a packed auditorium at Madam Walker Theatre. The audience was thrilled when he sang a tune he had just written, accompanied, not by the U2 band, but by a "boom box."<sup>161</sup> Bono said that AIDS in Africa was a moral crisis brought on by inaction of wealthy countries—in effect, 'genocide by inaction'.<sup>162</sup> President George W. Bush shared this conclusion, and Bono's advocacy was to help the President gain support of the religious right that was critical in advancing this policy.<sup>151,31</sup> Bono shared with Sen. Helms that there were 2,103 verses of Scripture regarding the poverty theme, as: "I was naked, and you clothed me." But sexual behavior was mentioned only twice, in the Old Testament. A surprised Sen. Helms responded and gave his active support for PEPFAR, providing a path for President Bush to sign the bill.<sup>164</sup>



After our meeting with Bono, Dr. Kent Millard, then Senior Pastor, St. Luke's United Methodist Church, arranged for us to meet at St. Luke's with Senator Lugar to brief him on our Bono meeting and share our thoughts regarding the ethical, public health, and science merits of PEPFAR. Sen. Lugar (R-Ind.) guided the Bill to the President,<sup>165,166</sup> who presented the proposal in his State of the Union Speech (Jan 23, 2003); and five months later, he signed the Bill.<sup>158,159,167,168</sup> Today, many attribute the success of PEPFAR to Bono's informed, passionate, and persistent interactions with his friend, President Bush, and other world leaders and scholars. Bono said that Barbara Bush was the 'mother' of PEPFAR and made her husband "an AIDS activist," which delighted the President.<sup>169</sup>

**Challenges ahead:** Today, America's challenge is to increase our capacity for creating partnerships and the rate for accomplishing this goal. How can we meet the challenges as we face significant barriers in troubled times? Shakespeare's Portia in the *Merchant of Venice* says: "How far that little candle throws his beams! So shines a good deed in a naughty world." We need to collectively shine bright lights of good deeds regarding the merits of democracy now threatened in a "naughty world". We need to promote civility, the rule of law, truth - seeking and the support of science and human rights.<sup>170,171</sup> Thomas Jefferson urged that democracy be guided by reason and truth and cited John Locke's definition of truth - not hope, faith or opinion but fact-based truth. Our founding fathers were science enthusiasts, but many leaders today embrace anti-science authoritarianism at a time when America and its global partners are highly dependent upon truth-seeking and scientific discovery.<sup>172,173</sup> Restoring traditions of non-partisan politics that have promoted past successful transnational collaboration is critical today.<sup>174,174a,23,175</sup>

Many economists and policy leaders suggest the U.S. revise the budgeting process to balance the relative risks and benefits of investing in domestic and military programs.<sup>176</sup> Scientific American posited that "in an era of pandemics and climate change, we need to reconsider what 'national security' means" to make wise investments to promote health.<sup>177,178,179,180-182</sup> As one of the richest countries in the world, America ironically is unsafe and unhealthy, a reflection of inadequate investments in well-being. Life expectancy is 25<sup>th</sup> among the 37 OECD (Organization for Economic Cooperation and Development) countries, and the CDC reported in December 2022 that life expectancy in the U.S. fell to the lowest level in 25 years (76.4 yrs).<sup>183-184</sup> Indiana's Public Health investments are among the lowest in the U.S.<sup>185</sup> The growing wealth gap is considered by many leaders to be another destabilizing drag on economic growth that disproportionately impacts the poor and minorities.<sup>186-189</sup>

America must also consider investing more in international organizations that have been addressing population health challenges for decades.<sup>190,191</sup> The 17 UN Sustainable Development Goals adopted by all member nations in 2015, are only achievable by 2030, if there is significant increased support for global partnerships to achieve these goals.<sup>192,193</sup> America's leadership is vital.

Perhaps the Webb and PEPFAR projects will serve as a beacon for new and expanded partnerships.<sup>194-198</sup> The U.S. has an invaluable asset to support such collaboration – our nations'

146 doctoral universities. The long-standing commitment of Indiana's universities is noteworthy. IU has the third highest number of international students in the U.S., Purdue the seventh highest. IU President Whitten noted that IU has 7,293 international students enrolled from 141 countries.<sup>199,200</sup>

I began this essay with the question "can America, get big things done"? Looking outward to space exploration and inward to human advances in public health, we have reason for optimism. If we follow the blueprints of our successes and accelerate their implementation, we'll be successful.<sup>201,202</sup> But we need to better communicate our successes in the U.S. and abroad to spark optimism, excitement, commitment, and hope, particularly among youth. Both the Webb and PEPFAR projects have generated public interest.

For example, NASA's Webb Space Telescope Program Director, Greg Robinson, was named to TIME Magazine LIST of the 100 most influential people in the world, and the senior scientist of NASA's Webb Telescope, Nobel Laureate John Mather, said of the Webb project: "It was worth the 25 year wait – our immense golden telescope is seeing where none have seen before."<sup>203</sup>

And regarding communicating the successes of PEPFAR, the Nobel Prize winner and former Director of the NIH, Harold Varmus, said "the PEPFAR Bill is a Triumph in Medical Diplomacy. ... that should inspire further efforts to confront ... problems of the developing world with similar determination and success."<sup>31</sup>

**In Conclusion:** One health partnerships are within our reach; we know how to do this, but we now need the consensus, resources and resolve to meet today's challenges with tenacious teamwork and action, reflected in U2's famous song, *One*: "We're one life but we're not the same, We get to carry each other". In this spirit, we're reminded that Captains of planes, ships or of Plato's "ships of state" who embark on treacherous voyages may return safely if their journeys have been guided by the beacons of facts, truth, morality, wisdom, and the harmony in 'carrying each other.'

None of the programs and policies I've mentioned this evening would have been successful without a measure of mercy and philanthropic giving which are "twice blessed" in Shakespeare's sonnet from Merchant of Venice (1600).<sup>204</sup>

The quality of mercy is not strained.  
It droppeth as the gentle rain from heaven  
Upon the place beneath. It is twice blessed:  
It blesseth him that gives and him that takes."

Thank you. End essay: *One Health Pro Bono- 'twice blessed.'* Stephen J. Jay

Jan 23, 2003

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- Joe Mamlin, MD, Prof Emeritus of Medicine. One of the founders of the Indiana University -Moi University-Kenya program (now AMPATH” Academic Model Providing Access to Healthcare)
- Bob Einterz, MD One of co-founders, Indiana University--Moi University-Kenya program (now AMPATH” Academic Model Providing Access to Healthcare). Donald E. Brown Professor of Global Health and Associate Dean for Global Health at Indiana University School of Medicine. Past Director of the Indiana University Center for Global Health. Health Officer, St. Joseph County Department of Health. 2020-present.
- Adrian Gardner, MD Associate Dean for Global Health. Indiana University School of Medicine and Director IU Center for Global Health, 2020-present. Executive Director, AMPATH Consortium. Associate Professor of Clinical Medicine; Donald E. Brown Scholar in Global Health.
- Richard Lugar, (1932-2019) Indiana Senator for 36 years – a major U.S. foreign policy luminary.
- Kent Millard, former senior pastor of St. Luke’s United Methodist Church in Indianapolis (October 1993-2011) President of United Theological Seminary 2016 - . A leader and human rights advocate.

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