

## Some Ideas on How to Turn the Tide Against Global Ebola Proliferation

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### 1. The G20 could call an Emergency Meeting to Develop an International Coalition and Co-ordinated Response to Fight the Spread of Ebola.

Why should the G20 meet to convene on Ebola containment?

Because there is an international crisis unfolding - a “public health emergency of international concern”, in the words of Dr Margaret Chan, the Director-General of the World Health Organisation on the 8<sup>th</sup> of August<sup>2</sup>. The disease is proliferating at an exponential rate and could culminate in an international humanitarian and economic disaster.

On the 16<sup>th</sup> of September 2014, the UN Deputy Secretary-General Jan Eliasson, in a General Assembly during a special meeting on the West Africa Ebola outbreak at the U.N. headquarter, said in a press release that \$1 billion was required to fight Ebola<sup>3</sup>. On the 8<sup>th</sup> of October the World Bank has stated in a media release that \$30 billion will be required in 2015<sup>4</sup>.

To date the response of the international community has been reactive rather than proactive which is allowing the disease to assume momentum. One of the reasons for

this is that the global community has not found the ideal international vehicle to precipitate a global response; but the G20 could facilitate that.

The G20 is the ideal international vehicle to "turn the tide" on the Ebola wave, with the view to averting a "biological tsunami". This could be engineered by the G20 facilitating a taskforce tasked with developing a critical mass of international resources not the least of which being money, medical experts and logistical experts to defeat the advances of the disease. The G20 worked very effectively in terms of steering a course that helped avoid a Global Financial Crisis (GFC) meltdown. It can do the same thing with Ebola.

## **2. An International Task Force Augmented by the G20 to Combat Ebola.**

The G20 could resolve to establish an international "Ebola mission control" which would augment a multinational task force to develop a global and coordinated response in partnership with the peak international NGO's and Governments to fight the Ebola battle. Currently the responses are uncoordinated and to a degree "siloeed"; the question "Who is in charge?" is frequently being asked in the media and the answer is opaque. There has to be a global approach; on the one part to manage the current epidemic epicentres and on the other part to halt the disease`s risk of a pandemic.

## **3. The G20 could Encourage Members to Donate to a Central "Ebola Battle Capital" Fund.**

The G20 could resolve to encourage member nations to introduce an Ebola levy, or an Ebola tax to deploy as "Ebola battle" capital. If the will were there, \$30 billion, the amount mooted by Dr Jim Yong Kim, President of the World Bank Group<sup>5</sup>, could conceivably be raised. Funds could then be given to the task force to allocate to epidemic epicentres in desperate need of resourcing, under the supervision of responsible NGO and regional co-ordinators and medico logistics experts.

There are plenty of precedents for the establishment of crisis levies such as budgetary realignment levies, flood levies and bush fire levies are examples. Sovereign expenditure on the war against extremist elements is ramping up, the battle against Ebola is a different theatre of war, yet has similar characteristics and capacities to military altercations in that Ebola can advance, can overwhelm, can kill and defeat ill prepared targets.

#### **4. A Huge Boost to the Funding of Accelerated Ebola Vaccine Research.**

Funds could in part be allocated to the acceleration of Ebola vaccine research and an acceleration of ZMapp production and other vaccines that harbour promise.



#### **5. Best Practice Construction and Renovation Standards for Ebola Healthcare Facilities.**

The development of international best practice standards for the construction of Ebola healthcare facilities, be they permanent or temporary should be a priority. Furthermore, law makers need to synthesise the most utilitarian elements of best practice model standards and call them up in legislation such as Building Acts or Health and Safety Acts of parliament. The Centre for Best Practice Building Control is currently working on the development of a model standard. The model standard is attached<sup>6</sup>. The building of mobile facilities or the renovation of existing facilities needs to be in accordance with best practice standards and should also be legislated or called up in statute. Building controllers could receive purpose specific training to approve such facilities with alacrity,

once satisfied that the as built facilities have the required safety and anti-contagion controls.

## **6. Best Practice in “Plain English” Healthcare Facility Management Protocols.**

The identification of best practice international Ebola health care regime principles and protocols, designed to minimise Ebola migration to health care workers and designed to minimise risk of contagion spread. Internationally recognised best practice Ebola standards should be generated. The CDC has published a plethora of guidelines and protocols on point and indeed is a body that is suitably placed to generate these protocols. Some of the protocols need to be refined so that they are readily accessible, multi lingual and in "plain English" or "plain Hutu", whichever the case may be.

## **7. A Massive Online Media Communication Campaign**

National and coordinated healthcare protocol campaigns then need to be launched with the view to publishing a best practice healthcare maintenance and contagion containment protocols online. A central online communication arm of government in partnership with the relevant NGO's would need to cooperate to achieve this outcome. The social mediums of the likes of Facebook and LinkedIn, podcasts, could then effectively “coagulate” very quickly to spread best practice guidelines locally, nationally and globally.

## **8. There also needs to be an Informed Debate at the Highest Levels regarding the Relationship between Air Travel and Ebola Migration.**

This is a controversial discussion, there are those at one extreme who state “cancel all international travel” or more conservatively, another view is to suspend flights to and from Ebola affected countries in West Africa. Dr Tom Frieden, director in a CDC release on the 13th of October stated that “a travel ban is not the right answer”. Gregory Hartl of the WHO in the same CDC release said “Travel restrictions don’t stop a virus. If airlines stop flying to West Africa, we can’t get the people that we need to combat this outbreak, and we can’t get the food and the fuel and other supplies that people there need to survive<sup>7</sup>.”



It does not, however, follow that the suspension of commercial flights means that Ebola health care workers and supplies will not be able to get to the Ebola epicentres. Military aircraft or chartered airline craft can perform this task, healthcare worker, food and medical supply traffic is not dependent upon tourist oriented commercial airline traffic.

There is nevertheless a mounting body of expert and popular opinion that seems to be in support of the contention that commercial airlines from Ebola epicentres to contagion free destinations should cease at the earliest opportunity. This may require legislative intervention because any sovereign resolution to abort international airline flights to and from given destinations could potentially repudiate airline agreements.



## 9. Airport Revised International Airport and Customs Ebola Guidelines and Protocols.

Global guidelines need to be developed, promoted, implemented for airports and customs sections. Ebola detection screening apparatus<sup>8</sup> needs to be made available to airports to screen both arrivals and departures. The emphasis currently is on individuals arriving particularly from Ebola regional epicentres. There should be an equally pronounced emphasis on travellers departing to ensure that those departing are screened to determine whether there are indications of Ebola symptoms.



If indeed possible carriers are identified, protocols should be in place to ensure that such individuals are escorted to temporary onsite quarantine facilities by personnel that are trained and are in possession of the appropriate rigours.

An issue that has not currently been addressed is proactive protocols for customs officials. Custom officials would be handling and stamping literally thousands of passports and immigration documents a day in any given terminal in any major transport facility. As perspiration can transmit Ebola, a “sweaty hand” could facilitate transmission of the virus onto immigration card or passport paper which in turn could be transmitted to handlers of those passports who regularly in turn could transmit the virus to travellers. Airports should give serious consideration to providing all customs officials with suitable gloves that could be replaced regularly, maybe many times an hour.<sup>9</sup> The cost impost

would be minimal but could serve to help protect customs officials from contagion and contagion proliferation.



## **10. Greater Air Traffic Centre Transit Controls.**

A boost in the funding of airport and sea port Ebola detection facilities to ensure that travellers can be screened is paramount. There is a belief that passengers from countries like Liberia and Sierra Leone should be the only parties checked upon arrival in Western nations. Yet the greatest sources of contagion could potentially emanate from the international travel hubs, the transit hubs where connecting flights and stop overs occur. These hubs need to have at their disposal Ebola screening technology, for if transiting carriers board airlines and symptoms are not detected in transit then the opportunity for disease migration is increased significantly. Furthermore should a passenger develop symptoms in flight, the disease through either use of sanitary facilities or in the worst case (albeit according to the experts unlikely scenario) by the medium of air borne droplets being circulated by coughing, sneezing or vomiting, it is not inconceivable that the disease could spread.

Regard needs to be had to the mounting level of anxiety particularly among flight attendants regarding the possibility of airborne transmission. In an article posted on the myfoxdetroit.com on the 17<sup>th</sup> of October which also featured a video interview a flight attendant expressed her concerns about risk of contracting the disease as a flight

attendant. The flight attendant who wished to remain in anonymous stated “she believes she is at risk...on a daily basis...we’re working on the front line with Ebola and we don’t have enough protection”<sup>10</sup>.



Regardless of one’s point of view, it is a fact - an irrefutable fact, that Ebola arrived in Spain and America via air travel. Governments must engage in this discussion, come up with a considered position rather than "just seeing how it plays out", because reticence and non-decisiveness will act as enablers for the proliferation of the virus.

#### **11. The Deployment of Statisticians and Growth Rate Predictors to Identify Exponential Growth Regions and likely scenarios of Ebola.**

The task force could employ or interact with experts who can identify contagion trends, so that resources can be brought to bear to quell those trends. Embryonic contagion regions or centres could rapidly trend upwards and trending experts could recommend significant resource deployment to contain and eliminate disease spread at the earliest time.

#### **12. Determining Whether Those that have Recovered from Ebola have an Immunity that will Enable them to be Healthcare Workers on account of possible Resilience to the Disease.**

For those patients who have recovered from the disease regardless of the part of the world, be it developed, or be it developing; could they be encouraged to become health care workers if it can be established that they cannot contract the disease again. It is

axiomatic that contagion disease medical experts would need to determine whether those that have recovered from Ebola can indeed develop such immunity. The logic may be attractive because if indeed there are those that have developed an immunity then it would follow that the risk of them contracting the disease would be negligible to non-existent. If such constitutions do indeed exist they would appear to be best designed for health work deployment. Of course their consent would be paramount.

When the writer first gave consideration to this idea he was concerned that such an idea may be considered far too “left field”, (this is an antipodean expression for another metaphor “out there”) but on the 17<sup>th</sup> of October he chanced upon an article published by Medical News Today titled “How Widespread is Natural Ebola Immunity” which seemed to reinforce the merits in this view. The article stated that “there may be large numbers of people in West Africa-as yet unidentified-who are coming into contact with Ebola but never fall ill or infect others, and who may also be tempted from future infection.”...“and if the effect of such immunity can be affirmed, say the authors, it could have a significant impact on projections on how widely Ebola will spread. It could also help contain the outbreak...if such individuals can be readily identified, they could be recruited to help with the disease control, reducing risk of infection to those who are not immune.”<sup>11</sup> It was reassuring to find out that the idea or the concept of Ebola immune individuals is not a fanciful notion. It would follow that it is paramount that urgent investigations should be done on point because those through a quirk of nature who may be endowed with a natural Ebola immunity could become the “perfect Ebola healthcare warriors”.

### **13. Resolution on the Question of whether Ebola can spread through Airborne Means.**

The prevailing view is that Ebola cannot spread through airborne means; yet the Centers for Disease Control Prevention Guidelines for Environmental Infection Control in Health-Care Facilities on page 12 has this to say about the possibility of airborne migration of

Ebola, “airborne transmission may play a role in the natural spread of hantaviruses and certain haemorrhagic fever viruses (e.g., Ebola, Marburg, and Lassa), but evidence for airborne spread of these agents in health-care facilities is inconclusive...whether these viruses can persist in droplet nuclei that might remain after droplet production from coughs or vomiting in the latter stage of illness is unknown... Current CDC guidelines recommend negative-pressure rooms with anterooms for patients with haemorrhagic fever and use of HEPA respirators by persons entering these rooms when the patient has prominent cough, vomiting, diarrhoea, or haemorrhage. Face shields or goggles will help to prevent mucous-membrane exposure to potentially-aerosolized infectious material in these situations.”<sup>12</sup>



The question of whether or not Ebola can be transmitted through airborne means is a very important question and the prevailing view is that it cannot. The writer has no medical qualification, rather his qualifications are in law and philosophy, so the writer for one cannot proffer any expert opinion on point. Nevertheless as a lawyer and law reformer, the writer observes that the guideline states that “airborne transmission may play a role in the natural spread of...Ebola...but evidence of airborne spread of the agents in health-care facilities is inconclusive...”<sup>13</sup> A sceptic may volunteer that the hesitation in use of language of ‘may’ and ‘inconclusive’ is disquieting and not conducive to instilling confidence in the idea that the disease is not airborne.

The sceptic would add that if indeed Ebola can be transmitted by the medium of airborne droplets emanating from coughing, vomiting or sneezing then this raises serious issues. In staying on message it would follow that were a patient to board a plane in

circumstances where screening technology did not pick up any Ebola symptomology but whilst in flight developed Ebola symptoms which culminated in sneezing, coughing and/or vomiting, then the Ebola droplets could conceivably rapidly circulate in the temperature controlled environment of the airplane and this could turn the plane into a “flying incubator”.

A contrary and far more optimistic view to the flying incubator if worst case contention is profited by Dr Donald G. McNeil Jr in the New York Times in an article titled “Ask Well: Ebola on Airplanes, Ebola in Sneezes. The article states that “top Ebola experts have said they would not expect to be infected even if they were sitting next to another passenger with Ebola-unless that passenger actually vomited or bled on them Patrick Sawyer, the Liberian-American who brought the virus to Nigeria in July, was so sick he had to be helped off the plane in Lagos. He had vomited while on board. There were about 200 passengers on the plane, according to Nigerian health authorities, and not one of them got infected”<sup>14</sup>.



Nevertheless, if the above worst case scenario were to occur, it is not inconceivable that a great many passengers on that flight could contract the disease and become Ebola migration enablers. Again for fear of labouring the point, the writer does not purport to be an expert on Ebola transmission, he has neither the qualifications nor the skills, least of all in a close proximity contained environment, but these question need to be posed and answers by experts on point need to be forthcoming.

## 14. The Use of Ebola Robotics

There are robots that are used for contagion and virus control that are able to generate high concentration ultraviolet rays that destroy contagious diseases. These can be used most effectively in the decontamination or detoxification of Ebola healthcare facilities, wards, transport facilities and the like. An article titled “Germ-zapping Robot Gigi Sets its Sights on Ebola” revealed that there is a robot that is highly adept at “blasting ultraviolet light that’s 25,000 times more powerful than sunlight in killing contagion”. [Dr Ray Casciari in the same article] stated that “when we use the ultraviolet light we can clean that room to 99.9%”.<sup>15</sup>

A couple of these robots are now used in the hospital in Dallas the deceased Thomas Eric Duncan, the first person who died of the virus in the US. The robots were deployed “in a clean-up of the patient’s treatment area, which helped keep Ebola from spreading within the hospital and helped make it a safer workplace”<sup>16</sup>.

It would seem axiomatic that this robotic innovation should be widely deployed in any environments that harbour Ebola or potentially harbor Ebola.

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<sup>2</sup> WHO Statement on the Meeting of the International Health Regulations Emergency Committee Regarding the 2014 Ebola Outbreak in West Africa, 8 August 2014, <http://www.who.int/mediacentre/news/statements/2014/ebola-20140808/en/>.

<sup>3</sup> UN: Nearly \$1 billion Needed to Combat Ebola Outbreak, UN News Centre, 16 September 2014 <http://www.un.org/apps/news/story.asp?NewsID=48728#.VDynNLCUeSo>.

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<sup>4</sup> “The Economic Impact of the 2014 Ebola Epidemic: Short and Medium Term Estimates for West Africa”, The World Bank, 8 October 2014, <http://www.worldbank.org/en/region/afr/publication/the-economic-impact-of-the-2014-ebola-epidemic-short-and-medium-term-estimates-for-west-africa>.

<sup>5</sup> World Bank/IMF Annual Meetings Press Conference, 8<sup>th</sup> of October 2014, <http://www.worldbank.org/en/news/speech/2014/10/09/transcript-world-bank-group-president-jim-yong-kims-opening-press-conference-world-bank-imf-annual-meetings-2014>.

<sup>6</sup> The Centre for Best Practice Building Control, <http://www.centre-for-best-practice-building-control.com/>.

<sup>7</sup> Frieden, Dr Tom, Director of CDC, ‘CDC Director Why I Don’t Support a Travel Ban to Combat Ebola’, CDC Our Global Voice, 13 October 2014 <http://blogs.cdc.gov/global/>.

<sup>8</sup> These include infrared thermometers and thermal scanner cameras. “Non-Contact Temperature Measure Devices: Considerations for Use in Port of Entry Screening Activities, CDC, 22 August 2014, <http://wwwnc.cdc.gov/travel/pdf/ebola-non-contact-temperature-measurement-guidance.pdf>.

<sup>9</sup> Expert advice would need to be obtained to determine how often gloves should be replaced and discarded.

<sup>10</sup> ‘Flight Attendant Speaks out about Ebola Risk in Air Travel’, myfoxdetroit.com, 17 October 2014, <http://www.myfoxdetroit.com/story/26809128/flight-attendant-speaks-out-about-ebola-risk-in-air-travel>.

<sup>11</sup> Paddock, Catharine PhD, “How Widespread is Natural Ebola Immunity”, Medical News Today, 17 October 2014, <http://www.medicalnewstoday.com/articles/284037.php>.

<sup>12</sup> Guidelines for Environmental Infection Control in Health-Care Facilities: Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee, p 12, 1 August 2014, [http://www.cdc.gov/hicpac/pdf/guidelines/eic\\_in\\_hcf\\_03.pdf](http://www.cdc.gov/hicpac/pdf/guidelines/eic_in_hcf_03.pdf).

<sup>13</sup> Guidelines for Environmental Infection Control in Health-Care Facilities: Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee, p 11, 1 August 2014, [http://www.cdc.gov/hicpac/pdf/guidelines/eic\\_in\\_hcf\\_03.pdf](http://www.cdc.gov/hicpac/pdf/guidelines/eic_in_hcf_03.pdf).

<sup>14</sup> McNeil Jr, Dr Donald G, “Ask Well: Ebola on Airplanes, Ebola in Sneezes”, New York Times, 13 October 2014, <http://well.blogs.nytimes.com/2014/10/03/ebola-ask-well-spread-public-transit/>.

<sup>15</sup> Martinez Michael, Vercammen Paul, and Hannah Jack, “Germ-zapping Robot Gigi Sets its Sights on Ebola”, CNN, 18 October 2014, <http://edition.cnn.com/2014/10/16/us/germ-zapping-robot-ebola/index.html>.

<sup>16</sup> Martinez Michael, Vercammen Paul, and Hannah Jack, “Germ-zapping Robot Gigi Sets its Sights on Ebola”, CNN, 18 October 2014, <http://edition.cnn.com/2014/10/16/us/germ-zapping-robot-ebola/index.html>, quoted by Mark Stibich, the firm's (Xenex Disinfectant Services) co-founder and chief scientific officer.