Information Article

EBOLA VIRUS DISEASE (EVD) - in an aviation related context

Relevance

This information article has been produced to provide aviation related organisations (primarily ***aircraft*** operators - but also including ***airport*** operators and ***ground handling*** operators) with some aviation related background information re the (2014) major outbreak of Ebola Virus Disease (EVD)

It also highlights that all required information re the *transmission* methods of EVD has not necessarily been presented by the 'authorities' and others in a clear and timely manner - thus possibly creating (to a greater or lesser degree) a false sense of security regarding EVD, amongst - e.g. the general public - and also (for the purposes of this info article) the aviation related organisations mentioned above

Important Note - this info article was written in *May 2015*. This means that anyone reading it *after* that date will need to make allowance / adaptation for some of the terminology and concepts used which, in many places, is written in the 'sense / context' of events etc. occurring *at or before* that date

Introduction

A prime issue to account for in this information article is that as at mid-November 2014 some (if not most) *publicly* targeted messages (about the current EVD outbreak) from the 'authorities' and similar - have been incomplete with regard to the methods by which EVD might be transmitted - particularly the lack of information regarding the '**droplet**' & '**indirect contact**' methods of such transmission (see 'definitions' starting page 4)

Now (early 2015) some recognition is finally forthcoming that the transmission of EVD via *droplets* (primarily via sneezing and coughing) and *indirect contact* (via door handles, handrails, toilets etc.) is a reality - and, as such, ***must*** be adequately accounted for

Accordingly, a good question to ask of the 'authorities' (international e.g. the 'World Health Organisation - WHO' and 'International Civil Aviation Organisation - ICAO'; government e.g. health agencies such as the USA's 'Centre for Disease Control - CDC' & the UK's 'Public Health England' and e.g. aviation trade bodies such as 'IATA' & 'ACI') might be *'.....why has it taken so long to start to **publicise the possibility of EVD transmission via the droplets & indirect contact routes**?.....'*

Regardless of the answer, aircraft operators in particular might be well advised to consider accounting for these 'new' possibilities in their 'public health' contingency plans e.g. how * far can droplets from a powerful sneeze *really* travel on board an aircraft in flight, with normal cabin (environmental) conditioning in operation - and what if those droplets contain the ebola virus?

* Common sense alone indicated at the time (2015) that (what was) the currently espoused distance of around 3 feet (1 metre) was way too short

Furthermore, the subjects of crew protection and interior aircraft cleaning also need more urgent attention, due the 'droplet' and 'indirect contact' EVD transmission possibilities which we are now (belatedly) becoming aware of

Note:

The World Health Organisation's 'situation assessment' of 6 October 2014 (see page 22 of the information article which you are now reading) had removed any doubt / ignorance as to the possibilities of EVD ***droplet*** transmission via coughing & sneezing and also via 'indirect' contact (one might ask again *'.....why has it taken the World Health Organisation around 10 months to finally publicise this vital information?.....')*

Yet as at mid November 2014 many 'authorities' (such as some of those mentioned on the previous page) are still pushing the 'direct contact transmission' message ***only*** - i.e. ***ignoring*** the possibilities of droplet transmission

For example, in early November 2014 the USA's Centre for Disease Control (CDC) finally acknowledged the possibilities of EVD transmission via droplets and indirect contact. Paradoxically, some of its later communications on the subject still contained no mention of droplet and indirect contact methods of transmission - i.e. still referring only to '***direct*** contact with bodily fluids'

IMPORTANT UPDATE

PANDEMIC

2019 - 2021 COVID-19 Pandemic

Coronavirus Virus Disease 2019 - [Severe Acute Respiratory System Coronavirus 2 {***SARS-CoV-2***}])

As at 11 July 2020, more than * 12.5 million cases had been reported across 188 countries and territories, resulting in more than 560,000 deaths. As at this same date the incidence of the pandemic in many countries was rapidly accelerating (e.g. USA infections on 10 July 2020 were approaching 70,000 per day)

* There was an absolute certainty (for various, valid reasons e.g. ineptness, corruption, poverty, lack of testing + associated lack of data etc.) at the time that these figures were gross underestimates, particularly re the number of infections

As at July 2020 'initial estimates' of the real 'infection to death' rate around the world were estimated to be between about 0.25 to 0.8% of those infected. Follow the link a little further above for any updates

For more information on how exhaled respriratory droplets (including aerosolised droplets) were the main transmission route of the above pandemic - see page 45

METHODS OF DISEASE TRANSMISSION (In General) - FAQs

What should I know about disease transmission?

Each disease has transmission characteristics based on the nature of the microorganism which causes it. Knowing these methods is important for implementing proper infection control measures and large scale prevention campaigns

The types of transmission described below are not mutually exclusive. Some diseases, such as anthrax, can be transmitted in more than one way e.g. through direct contact to a cut on the skin, producing cutaneous anthrax e.g. through airborne spores which are inhaled, producing a more serious type of infection e.g. gastrointestinal anthrax

What is transmission by *direct contact*? (Includes Ebola)

Direct contact transmission requires physical contact between an infected person and a potentially 'susceptible' person i.e. via the physical transfer of microorganisms. Direct contact includes touching an infected individual, kissing, sexual contact, contact with oral and other bodily secretions, contact with body lesions etc. This type of transmission requires relatively close contact with an infected individual and might more easily occur between members of the same household, close family and friends

Diseases which spread exclusively by direct contact are typically unable to survive for significant periods of time away from a host e.g. sexually transmitted diseases are almost always spread through direct contact as they are extremely sensitive to drying (which typically kills them)

What is transmission by *indirect contact*? (Includes Ebola)

Indirect contact transmission refers to situations where a susceptible person is infected from contact with e.g. a contaminated surface, object etc. (known collectively as 'fomites'). Some organisms (such as the Norwalk Virus) are capable of surviving on surfaces for an extended period of time. To reduce transmission by indirect contact, frequent touch surfaces, objects etc. should be properly and regularly disinfected

Frequent touch surfaces / objects (fomites) include (the list is far from exhaustive):

- Door knobs and handles, handrails
- Tables, beds, chairs
- Washroom and toilet surfaces
- Cups, dishes, cutlery, trays
- Medical instruments
- Computer keyboards, mice, electronic devices with buttons and / or swipe-screens etc.
- Pens, pencils, phones, office supplies
- Children's toys etc.

What is transmission by *droplet contact*? (Includes Ebola)

Some diseases can be transferred by infected droplets contacting / being inhaled by susceptible parts of the body such as the eyes, nose and mouth. This is referred to as 'droplet contact transmission'

Droplets containing micro-organisms can be generated when an infected person coughs, sneezes or even talks. Droplets can also be generated during certain medical procedures e.g. bronchoscopy (Note that airborne ***droplets*** are typically [relatively speaking] too large to stay in the air for relatively long periods of time - i.e. they quickly settle out of the air)

Droplet transmission can be reduced with the use of personal protective barriers such as face masks and goggles. Measles and SARS are examples of diseases capable of droplet contact transmission.

What is *airborne* transmission? (**Not** thought as at [late 2014] to include Ebola - although this is theoretically possible should the EVD virus be able to mutate appropriately)

Airborne transmission refers to situations where droplet nuclei (residue from evaporated droplets) or dust particles containing (e.g. infectious) micro-organisms can remain suspended in air for long periods of time (note that we are not referring to droplets here - the latter being covered further above). These nuclei / micro-organisms must be capable of surviving for long periods outside the body and must be resistant to drying

Airborne transmission allows organisms to enter the upper and lower respiratory tracts. Fortunately, only a limited number of diseases are capable of airborne transmission e.g.

- Tuberculosis
- Chickenpox
- Measles

What is *faecal-oral* transmission? (Includes Ebola)

Faecal-oral transmission is typically associated with microorganisms infecting the digestive system

Such microorganisms enter the body through ingestion of contaminated food and water. Inside the digestive system (usually within the intestines) these microorganisms multiply and are shed from the body in faeces

If proper hygienic and sanitation practices are not in place, the microorganisms in the faeces may e.g. contaminate the local water supply through inadequate sewage treatment and water filtration. Fish and shellfish that swim in contaminated water may be used as food sources

If the infected individual is a waiter, cook food handler etc. then inadequate personal hygiene may result in food being contaminated with microorganisms

Such faecal-oral transmission can be reduced by measures such as:

- Proper storage of food at proper temperatures
- Thorough cooking of food
- Frequent and thorough personal hygiene (e.g. hand washing) especially after toilet use etc.
- Adequate sewage treatment and water filtration / chlorination systems
- Disinfection of frequent touch surfaces to prevent indirect contact transmission
- Increased public awareness of proper hygiene and food handling

What is *vector-borne* transmission? (Includes Ebola e.g. via some animal carriers of the ebola virus)

Vectors are animals (including insects) which are capable of transmitting diseases. Examples of vectors are flies, mites, fleas, ticks, rats, dogs, monkeys etc.

The most common disease vector is the mosquito which transfers disease micro-organisms through their saliva (which comes into contact with the potential 'host' when they [mosquitos] are withdrawing blood from them). Mosquitoes are vectors for diseases such as Malaria, West Nile Virus, Dengue Fever and Yellow Fever

Vectors add an extra dimension to disease transmission as, since vectors are mobile, they increase the transmission range of a disease

Changes in vector behaviour will affect the transmission pattern of a disease. It is important to study the behaviour of the vector as well as the disease-causing micro-organism in order to establish a proper method of disease prevention. In the case of malaria, insecticides were historically sprayed and breeding grounds for mosquitoes were eliminated in an attempt to control the spread of the disease

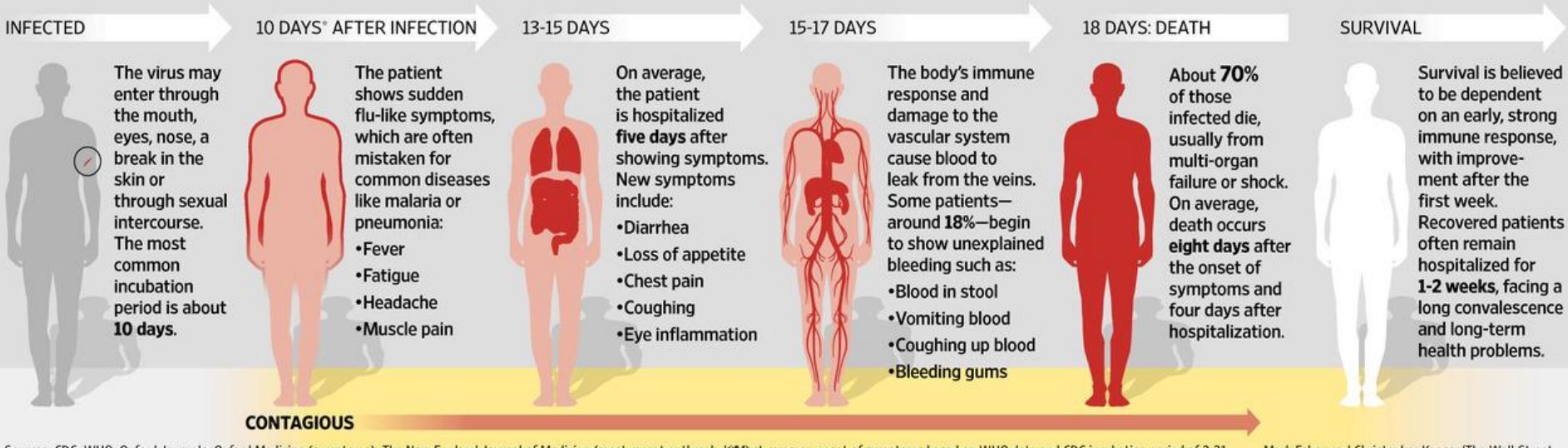
'Biting' etc. is not the only way vectors can transmit diseases i.e. they may also be spread through the faeces of a vector. Micro-organisms might also be located on the outside surface of a vector (such as a fly) and spread through physical contact with food, a common touch surface or a susceptible individual

It is thought that Ebola disease was initially 'vectored' to humans via certain members of the ape family in Africa e.g. via human contact with ape bodily fluids - particularly blood

How Ebola Affects the Body

The Ebola virus is transmitted through contact with almost any kind of bodily fluid from an infected person. Although the virus can survive for days outside the body, casual contact like a handshake is considered low-risk.

Typical time frame and symptoms based on recent Ebola outbreak ■ Major organs and systems affected



Sources: CDC, WHO, Oxford Journals, Oxford Medicine (symptoms); The New England Journal of Medicine (most recent outbreak data) *Most common onset of symptoms based on WHO data and CDC incubation period of 2-21

Mark Fahey and Christopher Kaeser/The Wall Street

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Press Release No: xx Date: *31 July 2014*

Statement on Ebola Fever Outbreak

An Ebola virus disease (EVD) outbreak has been reported in Sierra Leone, Liberia and Guinea. The International Air Transport Association (IATA) is coordinating closely with the World Health Organisation (WHO) and the International Civil Aviation Organisation (ICAO) with respect to potential implications for airline connectivity

The WHO's current risk assessment for travel & transport is not recommending travel restrictions or the closure of borders at points of entry. Further, the WHO states that "The risk of a tourist or businessman / woman becoming infected with Ebola virus during a visit to the affected areas & developing disease after returning is extremely low, even if the visit included travel to the local areas from which primary cases have been reported. Transmission requires * ***direct contact*** with blood, secretions, organs or other body fluids of infected living or dead persons or animal - all being unlikely exposures for the average traveller. However, travellers are still advised to avoid all such contacts"

* Note from author of this information article (the one you are reading now)

There is no mention in this IATA press release of '**indirect contact**' or the possibility of '**droplet** transmission' - despite the fact that this EVD outbreak had started some seven months + previously and, as at 31 July 2014, it was already common knowledge that this outbreak was far more serious and widespread than any other in the history of EVD

Similarly, the WHO advises that transmission of the Ebola virus only occurs when patients are displaying severe symptoms of the disease. Symptoms of Ebola include fever, intense weakness, muscle pain, headache and sore throat - followed by vomiting, diarrhoea, rash, impaired kidney and liver function - and at advanced stage, both internal and external bleeding

** It is highly unlikely that someone suffering such symptoms would feel well enough to travel. In the rare event that a person infected with the Ebola virus was unknowingly transported by air, WHO advises that the risks to other passengers are low. Nonetheless, public health authorities are advised to carry out contact tracing in such instances

** Note from author of this information article (the one you are reading now)

This is not necessarily a valid assumption (and it is only an assumption) as a person suffering from the initial / early symptoms of EVD (when they start to become contagious) might think that they have the flu (influenza) or similar disease - and thus may elect to still travel. This is particularly feasible where such person is ignorant of EVD + its symptoms & consequences (as was the case for many Africans impacted / potentially impacted by this crisis)

In line with WHO guidance, awareness-raising activities initiatives are being conducted for travellers to and from the affected region. As always, passengers are advised not to travel if they are unwell - and any traveller developing symptoms of Ebola within three weeks of returning from an affected region is advised to seek rapid medical attention

The air transport industry has dealt with several outbreaks of communicable diseases in recent years. The global response to communicable diseases is governed by the WHO's International Health Regulations. Airlines follow guidance material which has been developed by WHO, ICAO and IATA

*** IATA will continue to monitor developments closely in the Ebola outbreak in close coordination with the WHO and ICAO

*** Note from author of this information article (the one you are reading now)

Yet neither IATA nor ICAO appeared (as at mid November 2014) to have updated their advice to travellers, aviation in general etc. - regarding the spread of EVD via the ***droplet*** and ***indirect contact*** routes - (which even the WHO did not update until 6 October 2014 !!! [See page 22] of ***this*** info article)

Press Release No.:

Date: *18 August 2014*

Joint Statement on Travel and Transport in Relation to Ebola Virus Disease (EVD) Outbreak

The current Ebola Virus Disease (EVD) outbreak is believed to have begun in Guinea in December 2013. This outbreak now involves community transmission in Guinea, Liberia and Sierra Leone and recently an ill traveller from Liberia infected a small number of people in Nigeria with whom he had direct contact

On 8 August 2014, the World Health Organisation (WHO) declared the Ebola virus disease outbreak in West Africa a ***Public Health Emergency of International Concern*** (PHEIC) in accordance with the International Health Regulations (2005)

In order to support the global efforts to contain the spread of the disease and provide a coordinated international response for the travel and tourism sector, the heads of the World Health Organisation (WHO), the International Civil Aviation Organisation (ICAO), the World Tourism Organisation (UNWTO), Airports Council International (ACI), International Air Transport Association (IATA) and the World Travel and Tourism Council (WTTC) decided to activate a Travel and Transport Task Force to monitor the situation & provide timely information to the travel / tourism sector + also to travellers

The risk of transmission of Ebola virus disease during air travel is low

Unlike infections such as influenza or tuberculosis, * Ebola is ***not*** spread by breathing air *(and the airborne particles it contains)* from an infected person. ** Transmission requires **direct contact** with blood, secretions, organs or other body fluids of infected living or dead persons or animals, all unlikely exposures for the average traveller. Travellers are, in any event, advised to avoid all such contacts and routinely practice careful hygiene, like hand washing

* Note from author of this information article (the one you are reading now)

This sentence was 'technically' correct as at late 2014 (although there is the remote possibility that the Ebola virus might mutate [at some future time] to a form which ***is*** transmissible via the airborne route [see definitions starting page 4]). The potential problem here is that the vast majority of 'non-medical and similar' persons will have no idea of the distinctions between airborne and droplet methods of transmission - and such ignorance can be dangerous in the EVD context

** This sentence remains incorrect as it ignores the 'indirect contact' method of transmission

*** The risk of getting infected on an aircraft is also *small???* as sick persons *usually???* feel so unwell that they cannot travel and infection requires *direct contact???* with the body fluids of the infected person

*** Note from author of this information article (the one you are reading now)

Note the non-precise (& incorrect in the use of the term 'direct contact') and presumptive use of the words shown in *orange font italics* above. The question marks have been inserted (for emphasis) by the author of this info article

Most infections in Liberia, Guinea and Sierra Leone are taking place in the community when family members or friends take care of someone who is ill or when funeral preparation and burial ceremonies do not follow strict infection prevention and control measures

A second important place where transmission can occur is in clinics and other health care settings, when health care workers, patients and other persons have unprotected contact with a person who is infected. In Nigeria, cases are related only to persons who had direct contact with a single traveller who was hospitalized upon arrival in Lagos

**** *It is important to note that a person who is infected is only able to spread the virus to others after the infected person has started to have symptoms*. A person usually has no symptoms for two to 21 days (the "incubation period"). Symptoms include fever, weakness, muscle pain, headache and sore throat. This is followed by vomiting, diarrhoea, rash, and in some cases, bleeding

**** Note from author of this information article (the one you are reading now)

Whilst this first sentence was believed 'by most' to be correct as at late 2014 - some informed opinion at the time was of the view that EVD might (repeat - **might**) also be transmissible ***before*** symptoms appeared

The risk of a traveller becoming infected with the Ebola virus during a visit to the affected countries and developing disease after returning is very low, even if the visit includes travel to areas in which cases have been reported

If a person, including a traveller, stayed in the areas where Ebola cases have been recently reported, he/she should seek medical attention at the first sign of illness (fever, headache, achiness, sore throat, diarrhoea, vomiting, stomach pain, rash, red eyes and, in some cases, bleeding). Early treatment can improve prognosis

Strengthened international cooperation is needed, and should support action to contain the virus, stop transmission to other countries and mitigate the effects in those affected

Affected countries are requested to conduct exit screening of all persons (at international airports, seaports and major land crossings) for unexplained febrile illness consistent with potential Ebola infection. Any person with an illness consistent with EVD should not be allowed to travel unless the travel is part of an appropriate medical evacuation. There should be no international travel of Ebola contacts or cases, unless the travel is part of an appropriate medical evacuation

Non-affected countries need to strengthen the capacity to detect and immediately contain new cases, while avoiding measures that will create unnecessary interference with international travel or trade. The World Health Organisation (WHO) does not recommend any ban on international travel or trade, in accordance with advice from the WHO Ebola Emergency Committee

Travel restrictions and active screening of passengers on arrival at sea ports, airports or ground crossings in non-affected countries which do not share borders with affected countries are not currently recommended by the WHO

Worldwide, countries should provide their citizens traveling to Ebola-affected countries with ***** accurate and relevant information on the Ebola outbreak and measures to reduce the risk of exposure

***** Note from author of this information article (the one you are reading now)

Note context of words 'accurate' and 'relevant' - in comparison with the message which this information article (the document you are reading now) is trying to impart

Tel.: +1 514-954-8150
Ref.: AN5/29-14/67

29 August 2014 - Subject: **Public Health Emergency - Ebola Virus Disease** (EVD)

Action required: Take urgent action as appropriate

Dear Ministers of Health and Ministers Responsible for Civil Aviation,

We are facing a public health emergency of international concern. The outbreak of Ebola virus disease is unprecedented in its size, severity and complexity. This is an extraordinary outbreak that requires extraordinary measures for containment. Extensive and comprehensive mobilization of the international community is needed to support the affected States in responding to the outbreak

Keeping the communication lines with the affected States open and accessible is of paramount importance for strengthening the public health response and protecting national economies, including travel, trade and tourism. Any measure implemented by a national authority needs to be well informed by the nature of the disease itself and grounded in the applicable international instruments and obligations of States under the International Health Regulations and the Standards - as contained in the Annexes to the Convention on International Civil Aviation

In accordance with the advice and recommendations of the Emergency Committee under the International Health Regulations, the World Health Organisation does not recommend any ban on international travel or trade

The fear surrounding the Ebola outbreak is understandable. However, lives are being unnecessarily lost because health care workers cannot travel to the affected countries and delivery of life saving equipment and supplies is being delayed. Measures ranging from delayed provision of necessary authorizations and clearances, to restrictions on flights and passengers, and even overflights, seriously hamper the effectiveness of relief operations and could ultimately lead to increased suffering and death of people in the affected countries

We know the mode of transmission of Ebola and how to stay protected. We have efficient measures to detect individuals who develop symptoms consistent with the Ebola virus disease and prevent further transmission. These measures are consistent with the International Health Regulations and are being put in place by many countries

We urge you to ensure that any existing or future measures implemented in your State which imposes trade or travel restrictions are commensurate with and restricted to reducing the public health risk. The World Health Organisation and the International Civil Aviation Organisation are ready to support you in responding to the challenges posed by this major public health emergency

Accept, Sir/Madam, the assurances of our highest consideration

Dr. Margaret Chan
Director General WHO

Raymond Benjamin
Secretary General ICAO

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Travel and Transport Risk Assessment: Interim Guidance for Public Health Authorities and the Transport Sector - *September 2014*

Note 1 - from author of this information article '.....It is strongly recommended that the reader studies the complete text of the above WHO interim guidance document by following the link shown immediately below. This September 2014 document was an update to / of the similarly titled WHO document dated 21 April 2014.....'

http://apps.who.int/iris/bitstream/10665/132168/1/WHO_EVD_Guidance_TravelTransportRisk_14.1_eng.pdf?ua=1&ua=1

Note 2 - In the above document the WHO is **STILL** ignoring (or getting wrong):

- That EVD can also be spread via ***droplets*** (sneezing, coughing etc.) and via ***indirect contact***
- That ***sperm can still retain the ebola virus*** (and thus that the latter can still be transmitted) ***for up to 90 days after recovery from EVD*** (above document states '7 weeks' [equates to 42 days]. They eventually get it right on 6 October 2014 [see page 22])
- The possibility that (due to the risk of transmission via *droplets* and *indirect contact*) the 'one seat' rule may not be adequate (see the quote [taken directly from the WHO document referred to above] immediately below):

  *'.....As direct contact is the main route of transmission for Ebola virus, only passengers who were seated **adjacent** to the index case (suspected person[s]) on the side (next to), in front of or behind (including across an aisle) should be included in contact tracing.....'*

  Note also the *different* advice re seat spacing given in the **IATA** (2014) guideline for cabin crew - latter document can be found at the link shown second from top on the next page (page 18)

Note 3 - what follows on below consists of *selected extracts* of the above document *only* - being of particular interest to air transport operations

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WHO - December 2014 for full version & August 2014 for Summary- "Interim Infection Prevention and Control Guidance for Care of Patients with Suspected or Confirmed Filovirus Haemorrhagic Fever in Health Care Settings, with Focus on Ebola":

http://www.who.int/entity/csr/resources/who-ipc-guidance-ebolafinal-09082014.pdf

Note: The above document represents a rapid update of the WHO 2008 "Interim Infection Control Recommendations for Care of Patients with Suspected or Confirmed Filovirus (Ebola, Marburg) Haemorrhagic Fever". This update is based upon review of the World Health Organisation's and other international reference documents being used in the current Ebola outbreak - together with consensus from international experts

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Public Health - Passenger Locator Form

http://www.icao.int/safety/aviation-medicine/guidelines/AvInfluenza_guidelines_app.pdf

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In case of a passenger presenting with symptoms compatible with Ebola Viral Disease EVD (fever, weakness, muscle pain, headache, sore throat, vomiting, diarrhoea, bleeding) on board an aircraft, the following measures, which are based on operational procedures recommended by the International Air Transport Association (**IATA**), should be immediately considered

(IATA [March 2015] - Suspected communicable disease - guidelines for cabin crew [as updated]):

http://www.iata.org/whatwedo/safety/health/Documents/health-guidelines-cabin-crew.pdf

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A dedicated crew member(s) assisting the ill traveller on board an aircraft should use suitable personal protective equipment such as is documented in the *universal precaution kit* recommended by ICAO (ICAO Health Related Documents known as Collaborative Arrangements for the Prevention & Management of Public Health Events on Civil Aviation **[CAPSCA]** refers):

http://www.capsca.org/CAPSCARefs.html

…… the same information re the 'universal precaution kit' is also contained in IATA's 'Operational Safety Audit (IOSA) Standards Manual' - and is reproduced immediately below for convenience:

Ref - IOSA Standards Manual (ISM - September 2014 version [as updated]) Section5, Cabin Operations:

CAB 4.2.3 (page 'CAB 35' / PDF page 335). If the Operator conducts passenger flights with cabin crew, the Operator should ensure that all passenger aircraft in its fleet are equipped with one or more ***universal precaution kits*** for use by cabin crew members in managing:

(i) Episodes of ill health associated with a case of suspected communicable disease

(ii) Cases of illness involving contact with body fluids

Guidance

One or two universal precaution kits per aircraft would typically be adequate for normal operations; additional kits would be carried at times of increased public health risk (e.g. an outbreak of a serious communicable disease with pandemic potential). The contents of an aircraft universal precaution kit would typically include:

- Dry powder that can convert small liquid spill into a granulated gel
- Germicidal disinfectant for surface cleaning
- Skin wipes
- Face/eye mask (separate or combined)
- Gloves (disposable)
- Protective apron
- Large absorbent towel
- Pick-up scoop with scraper
- Bio-hazard disposal waste bag
- Instructions

Template of Script *(Ebola specific)* to be read to Passengers by Cabin Crew - prior to Arrival

(IATA [2014 {as updated}] - Suspected communicable disease - guidelines for cabin crew):

http://www.iata.org/whatwedo/safety/health/Documents/health-guidelines-cabin-annoucement-scripts.pdf

Note - if a 'Windows Security' window 'pop-up' displays when trying to open this document, click on the 'cancel' box in the pop-up - and then the document should be available to open

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Staff cleaning the affected aircraft sections (where the sick passenger was seated together with any other potentially contaminated area, such as toilets) should be instructed to treat any remains of blood or other body fluids as infectious. Cleaners should be trained to put on and remove personal protective equipment

See again (first link below) WHO 2014 "Interim Infection Prevention and Control Guidance for Care of Patients with Suspected or Confirmed Filovirus Haemorrhagic Fever in Health-care Settings, with Focus on Ebola", available at:

http://www.who.int/entity/csr/resources/who-ipc-guidance-ebolafinal-09082014.pdf

See also the associated IATA guidance for aircraft cleaning crew at:

(IATA [2015 {as updated}] - Suspected communicable disease - guidelines for cleaning crew):

http://www.iata.org/whatwedo/safety/health/Documents/health-guidelines-cleaning-crew.pdf

Note - if a 'Windows Security' window 'pop-up' displays when trying to open this document, click on the 'cancel' box in the pop-up - and then the document should be available to open

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Other References

ACI Airport preparedness guidelines for outbreaks of communicable disease (ACI & ICAO 2009):
http://www.aci.aero/About-ACI/Priorities/Health/Documentation

WHO (2009) Guide to Hygiene and Sanitation in Aviation which includes information on sanitizing of aircraft:
http://www.who.int/water_sanitation_health/publications/aviation_guide/en/

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World Health Organization

What we know about transmission of the Ebola virus among humans

Ebola situation assessment - *6 October 2014*

The Ebola virus is transmitted among humans through close and direct physical contact with infected bodily fluids, the most infectious being blood, faeces and vomit

The Ebola virus has also been detected in breast milk, urine and semen. In a convalescent male, the virus can persist in semen for ***at least*** 70 days; one study suggests persistence for ***more than*** 90 days

Saliva and tears may also carry some risk. However, the studies implicating these additional bodily fluids were extremely limited in sample size and the science is inconclusive. In studies of saliva, the virus was found most frequently in patients at a severe stage of illness

The whole, live virus has never been isolated from sweat

* The Ebola virus can also be transmitted ***indirectly***, *by contact with previously contaminated surfaces and objects*. The risk of transmission from these surfaces is *low* and can be reduced even further by appropriate cleaning and disinfection procedures

* Note from author of this information article (the one you are reading now)

The above would appear to be the **first public acknowledgement** (by the WHO) that EVD can be transmitted ***indirectly***

Not an airborne virus

Ebola virus disease is not an airborne infection. Airborne spread among humans implies inhalation of an infectious dose of virus from a suspended cloud of small ***dried*** droplets. This mode of transmission has not been observed during extensive studies of the Ebola virus over several decades

Common sense and observation tell us that spread of the virus via coughing or sneezing is ** *rare, if it happens at all*. Epidemiological data emerging from the outbreak are not consistent with the pattern of spread seen with airborne viruses, like those which cause measles and chickenpox - or the airborne bacterium which causes tuberculosis

** Note from author of this information article (the one you are reading now)

At last! - An admission from the World Health Organisation that EVD **droplet transmission** (associated with sneezing, coughing, laughing, talking etc.) is possible (albeit rare in their opinion)

*** **Theoretically**, ***wet*** and ***bigger*** droplets from a heavily infected individual, who has respiratory symptoms caused by other conditions or who vomits violently, could transmit the virus, over a *short distance*, to another nearby person(s). This could happen when virus-laden heavy droplets are directly propelled, **by coughing** or **sneezing** (***which does not mean airborne transmission***) onto the mucus membranes or skin with cuts or abrasions of another person(s)

*** Note from author of this information article (the one you are reading now)

As this outbreak of EVD was killing more than 50% of persons infected, '**theoretically**' should be a good enough reason to take the appropriate, associated precautions required to prevent spread of EVD via the **droplet** method of transmission. This was (as at late November 2014) exactly what the WHO had implemented (better late than never!!!)

The WHO (+ ICAO & IATA also) now needs to define what is meant by the term 'short distance' as used above

For aircraft operations in particular, it is just plain common sense that droplets from a powerful sneeze must travel considerably further than 1 metre / 3 feet i.e. further than adjacent seats (side to side + 1 or 2 seats in front and 1 or 2 seats behind) - especially when considering high density seating

**** The WHO is not aware of any studies that actually document the latter mode of transmission. On the contrary, good quality studies from previous Ebola outbreaks show that all cases were infected by direct close contact with symptomatic patients

**** Note from author of this information article (the one you are reading now)

Things have moved on. This EVD outbreak is obviously **not** the same type as per previous outbreaks - as an example take the ***massive increase*** in persons infected compared to previous outbreaks

No evidence that viral diseases change their mode of transmission

Moreover, scientists are unaware of any virus that has dramatically changed its mode of transmission. For example, the H5N1 avian influenza virus, which has caused sporadic human cases since 1997, is now endemic in chickens and ducks in large parts of Asia. That virus has probably circulated through many billions of birds for at least two decades. Its mode of transmission remains basically unchanged

Speculation that Ebola virus disease might mutate into a form that could easily spread among humans through the air is just that (speculation), unsubstantiated by any evidence. This kind of speculation is unfounded but understandable as health officials race to catch up with this fast-moving and rapidly evolving outbreak

To stop this outbreak, more needs to be done to implement, on a much larger scale, the well-known protective and preventive measures. Abundant evidence has documented their effectiveness

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Natural News

W.H.O. contradicts CDC (by admitting that Ebola can spread via coughing, sneezing and by touching contaminated surfaces)

Wednesday, *October 08, 2014* by Mike Adams, the Health Ranger

The World Health Organisation has issued a bulletin which confirms what 'Natural News' has been asserting for weeks i.e. that Ebola can spread via indirect contact with contaminated surfaces and also via aerosolized droplets, produced e.g. by coughing or sneezing

".....wet and bigger droplets from a heavily infected individual, who has respiratory symptoms caused by other conditions or who vomits violently, could transmit the virus over a short distance to another nearby person(s)" says a W.H.O. bulletin released this week. [1] *"This could happen when virus-laden heavy droplets are directly propelled, by coughing or sneezing....."*

That same bulletin also says, *".....The Ebola virus can also be transmitted indirectly, by contact with previously contaminated surfaces and objects....."*

In other words, the WHO just confirmed what the CDC (USA's 'Centre for Disease Control') says is impossible - that Ebola can be acquired by touching a contaminated surface. CDC remains in total denial, spreading dangerous disinformation about Ebola transmission vectors. This information published by the WHO directly contradicts the ridiculous claims of the CDC which continues to insist Ebola cannot spread through "indirect" means

According to the CDC, Ebola can only spread via "direct contact" - but the CDC is basing this assumption on the behaviour of the Ebola outbreak from 1976 - nearly four decades ago

The CDC, in fact, continues to push five deadly assumptions about Ebola, endangering the lives of Americans in the process by failing to communicate accurate safety information to health professionals and the public

Because of the CDC's lackadaisical attitude about Ebola transmission, the Dallas Ebola outbreak may have been made far worse by people walking in and out of the Ebola-contaminated Duncan apartment while wearing no protective gear whatsoever

Because the CDC sets the standards for dealing with infectious disease in the United States, when the CDC claims Ebola can only spread via "direct contact," that causes emergency responders, Red Cross volunteers and even family members to conclude, *"Then we don't even need to wear latex gloves as long as we're not touching the patient!"*

Not "airborne" - but can spread through the air

Both the CDC and the WHO continue to aggressively insist that Ebola is not an "airborne" disease. "Ebola virus disease is not an airborne infection," says the WHO bulletin. But that same bulletin describes the ability of Ebola to spread through the air via aerosolized droplets

The medical definition of "airborne," it turns out, is a specific, narrow definition that ***defies*** the common understanding of the term. To most people, "airborne" means it can spread through the air, and Ebola most certainly can spread through the air when it is attached to aerosolized particles of spit, saliva, mucus, blood or other body fluids

The CDC has now admitted there is a slight possibility of Ebola mutating to become "airborne" but says that chance is very small. [2] However, all honest virologists agree that the longer Ebola remains in circulation in West Africa, replicating among human hosts, the more chances it has to mutate into an airborne strain

But the virus doesn't need to mutate to continue to spread. It has already proven quite capable of spreading via indirect contact in a way that all the governments of the world have been utterly unable to stop. Despite the best efforts of the CDC and WHO, Ebola continues to replicate out of control across West African nations. Even in the United States, the Dallas "patient zero" incident has reportedly caused 100 people to be monitored for possible Ebola infections

This is why the government claim that "we have this under control" is just as much hogwash as the claim that Ebola can only spread via "direct contact."

But that seems to be the default response of government to all legitimate threats: first, deny reality and misinform the public. Keep people in the dark and maybe the whole thing can be swept under the rug... at least until the mid-term elections.

Sources for this article include

[1] http://www.who.int/mediacentre/news/ebola/06...

[2] http://thehill.com/policy/healthcare/220046-...

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As at *22 October 2014*

Ebola Transmission

Facts About Ebola in the U.S. (Infographic)[PDF - 1 page]

Because the natural reservoir host of Ebola viruses has not yet been identified, the way in which the virus first appears in a human at the start of an outbreak is unknown

However, scientists believe that the first patient becomes infected through contact with an infected animal, such as a fruit bat or primate (apes and monkeys), which is called a 'spillover' event. Person-to-person transmission follows and can lead to large numbers of affected people

In some past Ebola outbreaks, primates were also affected by Ebola, and multiple spillover events occurred when people touched or ate infected primates

When an infection *does* occur in humans, the virus can be spread in several ways to others. Ebola is spread through direct contact (through broken skin or mucous membranes in, for example, the eyes, nose, or mouth) with:

- blood or body fluids (including but not limited to urine, saliva, sweat, faeces, vomit, breast milk, and semen) of a person who is sick with Ebola
- objects (like needles and syringes) that have been contaminated with the virus
- handling infected fruit bats or primates (apes and monkeys)

Ebola is not spread through the air, by water or, in general, by food. However, in Africa, Ebola may be spread as a result of handling bushmeat (wild animals hunted for food) and contact with infected bats. There is no evidence that mosquitos or other insects can transmit Ebola virus. Only a few species of mammals (for example, humans, bats, monkeys, and apes) have shown the ability to become infected with and spread Ebola virus

Healthcare providers caring for Ebola patients and the family and friends in close contact with Ebola patients are at the highest risk of getting sick because they may come in contact with infected blood or body fluids of sick patients

During outbreaks of Ebola, the disease can spread quickly within healthcare settings (such as a clinic or hospital). Exposure to Ebola can occur in healthcare settings where hospital personnel are not wearing appropriate personal protective equipment including masks, gowns, gloves, eye protection etc.

Dedicated medical equipment (preferably disposable) should be used by healthcare personnel providing patient care. Proper cleaning and disposal of instruments, such as needles and syringes, is also important. If instruments are not disposable, they must be sterilized before being used again. Without adequate sterilization of the instruments, virus transmission can continue and amplify an outbreak

Once someone recovers from Ebola, they can no longer spread the virus. However, Ebola virus has been found in semen for up to 3 months. Abstinence from sex (including oral sex) is recommended ***for at least 3 months***. If abstinence is not possible, condoms may help prevent the spread of disease

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News release

31 October 2014 - GENEVA

The WHO updates Personal Protective Equipment Guidelines for Ebola Response

As part of WHO's commitment to safety and protection of healthcare workers and patients from transmission of Ebola virus disease, it has conducted a formal review of personal protective equipment (PPE) guidelines for healthcare workers and is updating its guidelines in context of the current outbreak

About the PPE guidelines

These updated guidelines aim to clarify and standardize safe and effective PPE options to protect health care workers and patients, as well as provide information for procurement of PPE stock in the current Ebola outbreak. The guidelines are based on a review of evidence of PPE use during care of suspected and confirmed Ebola virus disease patients

The Guidelines Development Group convened by WHO included participation of a wide range of experts from developed and developing countries - together with international organisations including the United States Centres for Disease Control and Prevention, Médecins Sans Frontières, the Infection Control Africa Network and others

"These guidelines hold an important role in clarifying effective personal protective equipment options that protect the safety of healthcare workers and patients from Ebola virus disease transmission," says Edward Kelley, WHO Director for Service Delivery and Safety. "Paramount to the guidelines' effectiveness is the inclusion of mandatory training on the putting on, taking off and decontaminating of PPE, followed by mentoring for all users before engaging in any clinical care"

Guidelines were developed from an accelerated development process that meets WHO's standards for scientific rigour and serves as a complement to the 'interim infection prevention and control guidance for care of patients with suspected or confirmed filovirus haemorrhagic fever in health-care settings, with focus on Ebola' - published by WHO in August 2014

Use of the personal protective equipment

Experts agreed that it was most important to have PPE that protects the mucosae - **mouth, nose and eyes** - from ***contaminated droplets*** and fluids. Given that hands are known to transmit pathogens to other parts of the body, as well as to other individuals, hand hygiene and gloves are essential, both to protect the health worker and to prevent transmission to others. Face cover, protective foot wear, gowns or coveralls and head cover were also considered essential to assist in prevention of transmission to healthcare workers

"Although PPE is the most visible control used to prevent transmission, it is effective only if applied together with other controls including facilities for barrier nursing and work organisation, water and sanitation, hand hygiene and waste management," says Marie-Paule Kieny, Assistant Director-General of Health Systems and Innovation. Benefits derived from PPE depend not only on choice of PPE, but also adherence to protocol on use of the equipment

A fundamental principle guiding the selection of different types of PPE was the effort to strike a balance between the best possible protection against infection while allowing health workers to provide the best possible care to patients with maximum ease, dexterity, comfort and minimal heat-associated stress

In this situation where evidence is still being collected, to see what works best and on an effective sustainable basis, it was considered prudent to provide options for selecting PPE. In most cases, there was no evidence to show that any one of the options recommended is superior to other options available for healthcare worker safety

Further work is needed to gather scientific experience and data from the field in systematic studies, in order to understand why some health workers are infected in the current outbreak and to increase effective clinical care. The WHO is committed to working with international partners on these issues in order to build up such an evidence base

WHO - Personal Protective Equipment in the Context of Filovirus Disease Outbreak Response
Rapid advice guideline - October 2014
http://apps.who.int/iris/bitstream/10665/137410/1/WHO_EVD_Guidance_PPE_14.1_eng.pdf?ua=1&ua=1

WHO PPE technical specifications
Personal protective equipment (PPE) in the context of filovirus disease outbreak response
Technical specifications for PPE equipment to be used by health workers providing clinical care for patients - October 2014

https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0CCUQFjABahUKEwi8t42m-bTIAhVCKh4KHXIUCfY&url=http%3A%2F%2Fnosobase.chu-lyon.fr%2Frecommandations%2Foms%2F2014_WHO_EVD_Guidance_SpecPPE.pdf&usg=AFQjCNGF-BRsIGO7PPneSHqiegsT_80_iQ

CDC

Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, Including Procedures for Putting On (Donning) and Removing (Doffing) - August 2015

http://www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance.html

Daily Mail (UK Newspaper) Article - 02 Nov 14

Can you catch Ebola from a sneeze?

(The USA's 'Centre for Disease Control - CDC') withdraws poster explaining how deadly virus can be transmitted through the air by contaminated droplets which can remain infectious for hours

- (The withdrawn) CDC poster claimed Ebola virus could be spread via contaminated droplets
- Droplets could be spread by sneezing and any associated virus could live on contaminated surfaces for hours

Experts say Ebola only transmitted by contact bodily fluids such as blood. CDC pulled the poster from its website, says it is 'being updated'

A U.S. health authority poster (see page 35) claiming Ebola can be transmitted by droplets through the air has been removed from its website, prompting concerns the deadly virus can be caught through a sneeze.

The poster, which caused alarm because it seems to go against medical advice that the virus ***cannot*** be transmitted by air, said Ebola could be contracted if someone came into contact with objects that had been 'sneezed upon' by people who were infected. The CDC poster said droplets, such as those from a sneeze, carried the virus and could remain infectious on surfaces for up to several hours

Debate about government-imposed quarantines for people exposed to the virus has grown over the past few weeks, as isolated cases are diagnosed in the U.S. and it continues to spread across West Africa. So far, more than 4,900 people have been killed - the vast majority in Liberia, Sierra Leone and Guinea - in the deadliest outbreak of the virus on record

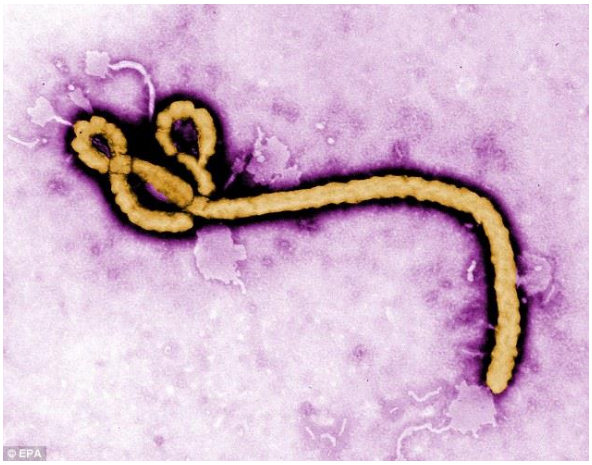
The CDC poster, now removed, stated: *'Droplet spread happens when the germs traveling inside droplets that are coughed or sneezed from a sick person enter the eyes, nose or mouth of another person,'* the New York Post reported. It warned someone could become infected should they accidentally touch the sneeze droplets and then touch their eyes, nose or mouth

Today, the CDC internet page dedicated to the subject stated it was being updated. It read:

"The *'what's the difference between infections spread through air or by droplets?'* fact sheet is being updated and is currently unavailable. Please visit cdc.gov/Ebola for up-to-date information on Ebola"

Note from author of this information article - this updated CDC fact sheet (as at 02 Nov 14) is now shown on page 36 of the document that you are now reading

Medical experts have repeatedly stated the Ebola virus is not transmittable by air. It is contracted when someone comes into contact with the body fluids, such as urine, saliva, sweat, faeces, vomit, breast milk and semen, of a person who is infected. But experts have repeatedly warned of the frightening possibility the Ebola virus could mutate and become airborne. Although the risk of it doing so is thought to be low, experts cannot discount it entirely



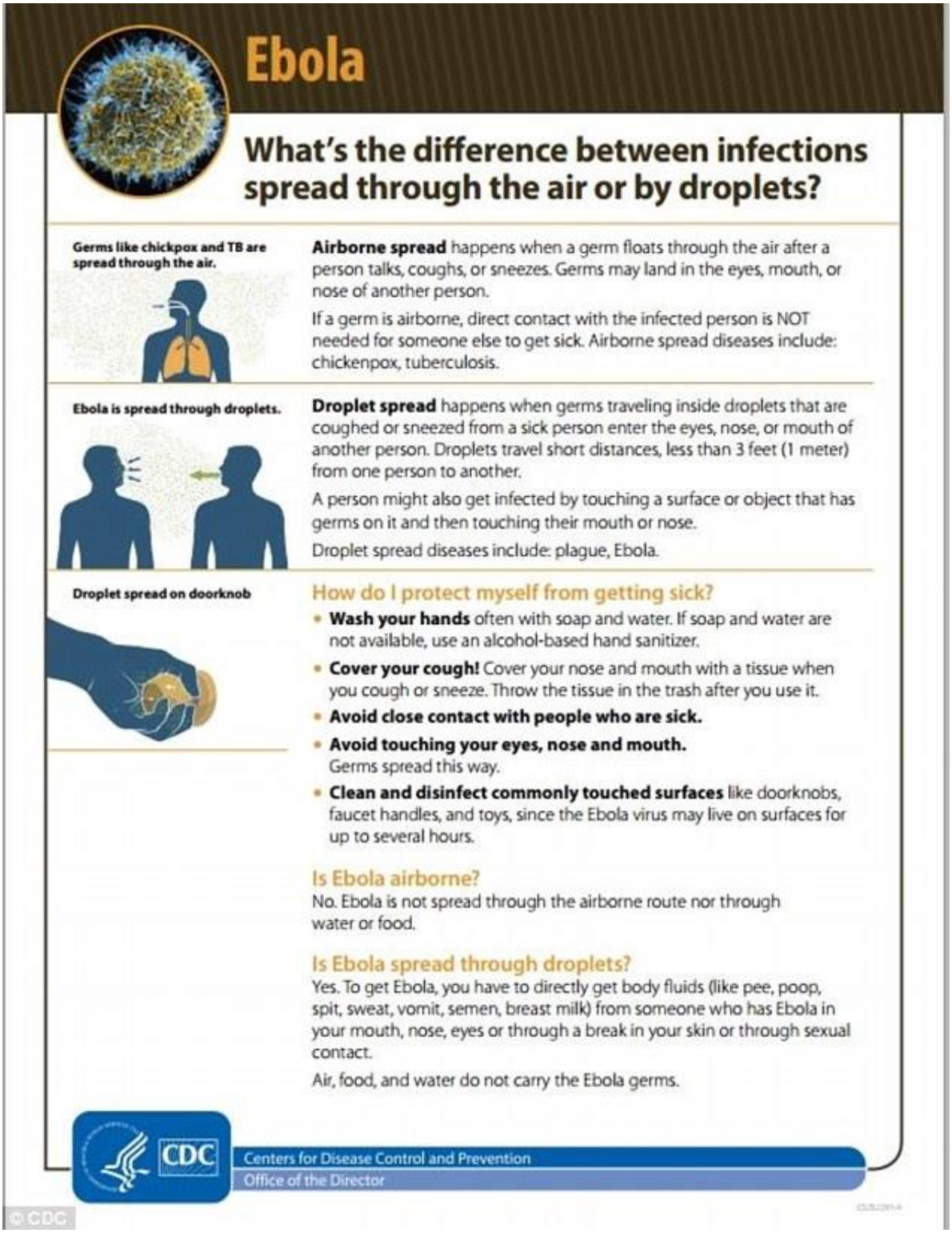
An image of the Ebola virus, which has killed nearly 5,000 people in West Africa and recently reached the USA

Two weeks ago leading UK scientist Lord Robert Winston warned that the risk of Ebola spreading could dramatically increase if it becomes airborne. In a House of Lords debate, the fertility doctor demanded answers from the (UK) government about how closely they were monitoring the virus

Lord Winston said: 'We know that viruses mutate, we know that the Ebola virus can mutate. We know perfectly well that it is not airborne at the moment, and we know that the pharyngeal and upper respiratory tract cells are unlikely to harbour the virus. However, can you assure us that people are looking at the risk of mutation of this virus so that we can make certain that its mode of transmission does not change?'

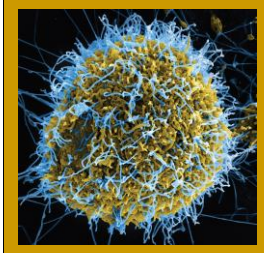
And the chief of the UN's Ebola mission, Anthony Banbury, also warned earlier this month ***that the virus could become airborne***

He said aid workers were racing against time to control the epidemic in case it mutates in a 'nightmare scenario'



Above - the 'withdrawn' CDC fact sheet poster (dated 27 Oct 14) which shows the warning that sneeze droplets could transmit Ebola. Below (next page) - the subsequent (updated - 01 Nov 14) fact sheet poster issued a few days later

HOW EBOLA IS SPREAD



Human cell infected with Ebola virus

Is Ebola airborne?

Ebola is not a respiratory disease and is not spread through the airborne route

Can Ebola be spread by coughing or sneezing?

There is no evidence that Ebola is spread by coughing or sneezing. Ebola is transmitted through direct contact with the blood or body fluids of a person who is sick with Ebola; the virus is not transmitted through the air (like measles virus). However, large droplets (splashes or sprays) of respiratory or other secretions from a person who is sick with Ebola could be infectious, and therefore certain precautions (called standard, contact, and droplet precautions) are recommended for use in healthcare settings to prevent the transmission of Ebola from patients to healthcare personnel and other patients or family members

Is Ebola spread through droplets?

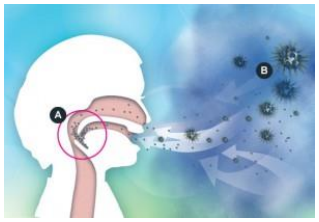
To get Ebola, you have to directly get body fluids (blood, diarrhoea, sweat, vomit, urine, semen, breast milk etc.) from someone who is sick with Ebola - in your mouth, nose and eyes, through a break in your skin or through sexual contact. That can happen by being splashed with droplets or through other direct contact, like touching infectious body fluids. Healthcare providers caring for Ebola patients and the family and friends in close contact with Ebola patients are at the highest risk of getting sick when they touch or are splashed by infectious blood or body fluids from a sick patient.

How do I protect myself from getting sick?

- Wash your hands often with soap and water. If soap and water are not available, use an alcohol-based hand sanitizer
- Avoid close contact with people who are sick
- Avoid touching your eyes, nose and mouth. Germs spread this way
- Routinely clean and disinfect commonly touched surfaces like bathroom surfaces, since some germs can stay infectious on surfaces for hours or days and lead to transmission

What's the difference between infections spread through the air or by droplets?

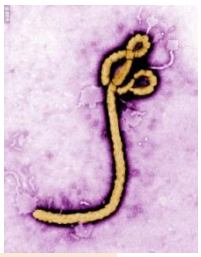
AIRBORNE SPREAD



Airborne spread happens when germs float through the air after a person talks, coughs, or sneezes. Those germs can be inhaled even after the original person is no longer nearby. Direct contact with the infectious person is NOT needed for someone else to get sick. Germs like chicken pox and TB are spread through the air

DROPLET SPREAD

Droplet spread happens when fluids in large droplets from a sick person splash the eyes, nose, or mouth of another person or enter through a cut in the skin. Droplets may cause short-term environmental contamination, like a soiled bathroom surface or handrails, from which another person can pick up the infectious material



Germs like plague and meningitis can be spread through large droplets. Ebola might be spread through large droplets but only when a person is very sick

November 1, 2014 CS252291

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World Health Organization

Statement from the Travel and Transport Task Force on Ebola virus disease outbreak in West Africa

7 November 2014

The WHO does not recommend general bans on travel or trade

Leading international organisations and associations from the transport, trade and tourism sector stand firmly with the WHO against general bans on travel and trade, as well as restrictions that include general quarantine of travellers from Ebola-affected countries

The Travel and Transport Task Force, established in August 2014, calls for international cooperation of governments and the transport sector in following the recommendations of the International Health Regulations Emergency Committee on Ebola, convened by the WHO

The WHO does not recommend general bans on travel or trade, or general quarantine of travellers arriving from Ebola-affected countries, as measures to contain the outbreak. Such measures can create a false impression of control and may have a detrimental impact on the number of health care workers volunteering to assist Ebola control or prevention efforts in the affected countries. Such measures may also adversely reduce essential trade, including supplies of food, fuel and medical equipment to the affected countries, contributing to their humanitarian and economic hardship

Exit screening for Ebola

Current exit screening of all persons departing affected countries through international airports, seaports and major land crossings is recommended by the WHO and can reduce the numbers of people with symptoms from travelling from the countries with high levels of Ebola transmission. While screening upon entry into non-affected countries may provide an opportunity to further increase public awareness about Ebola, such screening also can require significant resources including staff, facilities and systems to care for ill travellers who might be suspected of having Ebola

Preparedness for non-affected countries

The best protective measures for non-affected countries are adequate levels of preparedness, including heightened surveillance to detect and diagnose cases early and well prepared staff and operational planning to ensure that suspect cases of Ebola are managed safely and in ways to minimize further spread

Communication campaigns should be conducted to inform travellers, airlines, shipping crews, staff working at points of entry, and health workers everywhere about the symptoms of Ebola virus disease and what to do if a person has symptoms. Data on the efficiency of exit screening should be made available

Advice to travellers

People who have travelled to 1 of the 3 West African countries currently affected by Ebola virus disease (Guinea, Liberia and Sierra Leone) should take the following precautions for 21 days after returning:

- stay within reach of a good quality health care facility
- be aware of the symptoms of infection (sudden fever, intense weakness, muscle pain, headache, vomiting, diarrhoea, rash, and sometimes bleeding)
- immediately report a fever of 38° C or higher to their local medical emergency service (ideally by phone) and mention their travel history

Note

Early treatment improves the chance of recovery. To catch Ebola requires ***direct contact*** with the body fluid of an Ebola-infected person. Asymptomatic individuals are not infectious, even if they are incubating the disease.

Attending international meetings

The IHR Emergency Committee agreed that there should not be a general ban on participation of people from countries with transmission of Ebola from attending international meetings and events. The decision of participation must be made on a case by case basis by the host country. This country may request additional health monitoring of participants

The Travel and Transport Task Force, which includes WHO, is working together to:

- develop guidance on exit screening recommendations for affected countries
- provide a set of considerations and steps for planning entry screening at point of entry for countries that wish to introduce this as part of their preparedness plan
- inform the aviation and maritime sectors on procedures for caring safely for travellers who are suspected to be infected with Ebola on board an aircraft or ship, or at arrival points
- provide information on Ebola to travellers arriving at or leaving airports, ports or other transit points
- develop protocols for the passenger shipping sector
- collect data and work with authorities to reduce restrictions to port arrivals and ship and aeroplane movements

The Task Force is concerned about reports of denial of medical care for ill seafarers on board ships which had previously called at ports in the Ebola-affected region

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About the Travel and Transport Task Force

Members of the Travel and Transport Task Force include the World Health Organisation (WHO), the International Civil Aviation Organisation (ICAO), the World Tourism Organisation (UNWTO), Airports Council International (ACI), International Air Transport Association (IATA), World Travel and Tourism Council (WTTC) International Maritime Organisation (IMO), the International Chamber of Shipping (ICS) and the Cruise Lines International Association (CLIA)

The Task Force was set up in August 2014 to support the global efforts to contain the spread of Ebola virus disease and provide a coordinated international response for the travel, trade and tourism sector

About Ebola virus disease

* The risk of transmission of Ebola virus disease during travel is low. Unlike infections such as influenza or tuberculosis, Ebola is not spread by breathing air (and the airborne particles it contains) from an infected person. Transmission requires direct contact with blood, secretions, organs or other body fluids of infected living or dead persons or animals, all unlikely exposures for the average traveller

* Note from author of this information article (the one you are reading now)

Despite the information regarding droplet and indirect contact methods of EVD transmission provided in the WHO 'situation assessment' of 6 October (see page 22 of this information article) the 'travel and transport task force (which includes the WHO) seems (in this statement) to *have reverted to ignoring these methods of transmission*

It has also failed to clarify the vital difference between breathing air contaminated with airborne particles - and breathing or otherwise contacting (e.g. via mucous membranes such as eyes, mouth and nose) ***contaminated airborne droplets*** *expelled from the mouth and nose - typically via sneezing and coughing, but also e.g. via speaking and laughing*

People are only infectious after they have started to have symptoms, which include fever, weakness, muscle pain, headache and sore throat. This is followed by vomiting, diarrhoea, rash and, in some cases, bleeding. If a person, including a traveller, may have been exposed to the Ebola virus, he/she should seek medical attention at the first sign of illness. Early treatment improves chance of survival

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WHO media contact:
Tarik Jasarevic - Communications Officer WHO
Telephone: +41 22 791 50 99; Mobile: +41 79 367 62 14; Email: jasarevict@who.int

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WHO - Ebola Situation Update

(It would appear that the 'worst' is now over???)

http://www.who.int/csr/disease/ebola/situation-reports/archive/en/

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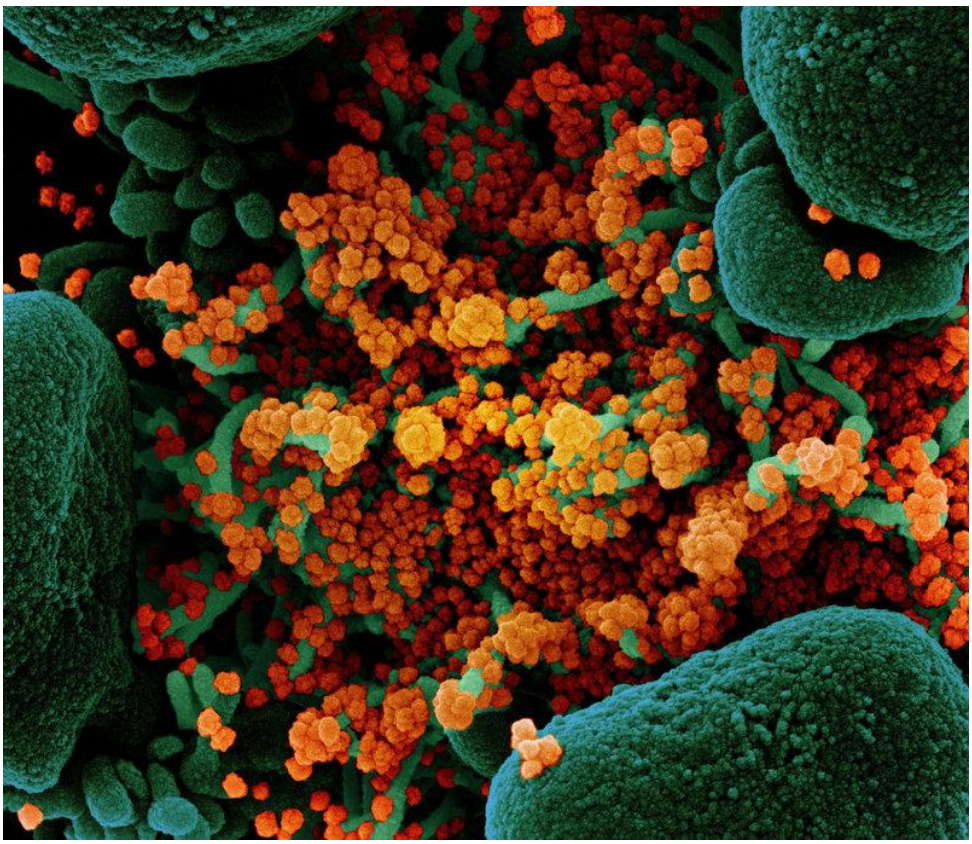
The Coronavirus (COVID-19) Crisis / Pandemic (2019 - 2021)

WHO: Airborne Transmission Plays Limited Role in Coronavirus Spread???

9 July 2020 - 6:10 PM ET - by Pien Huang / NPR (USA)



A colorized scanning electron micrograph of a cell (green) heavily infected with particles (orange) from the virus that causes COVID-19, isolated from a patient sample / NIAID (National Institute of Allergy & Infectious Diseases - USA)

The * World Health Organization (WHO) has issued (9 July 2020) a new scientific brief summarising what's known about the different ways that coronavirus (Covid-19 Pandemic of 2019 - 2021) can transmit

* https://www.who.int/news-room/commentaries/detail/transmission-of-sars-cov-2-implications-for-infection-prevention-precautions

The brief considers how researchers think coronavirus may be able to spread i.e. a). Via close contact with ***droplets*** (5 microns or greater in size) expelled when an infected person coughs, sneezes, speaks, breathes etc; b). Via similar expulsion of small (aerosolised) ***micro-droplets*** (less than 5 microns in size) having the potential to spread (and persist) over (considerably) greater distances (than droplets) - and c). Via contact with contaminated surfaces (fomites)

The brief also looks at the possibilities for the virus to be transmitted from mother to child, from animals to humans and through contact with urine, faeces and blood

Weighing the evidence, WHO maintains that the virus is mostly spread through close contact with infected people ***BUT*** calls for more research into the matter of transmission via ***aerosolised*** particles / droplets

The WHO brief follows the publication Monday (6 July 2020) of an ***open letter*** from 239 scientists asking the agency (WHO) to reconsider its position on aerosol transmission of COVID-19. The latter term refers to microscopic (aerosolised / micro-droplet) viral particles that can linger in the air and infect people who inhale them

"There is some evidence emerging, but it is not definitive," said Dr. Benedetta Allegranzi, WHO's technical lead for infection prevention and control, at a press conference Tuesday. "The possibility of airborne (aerosolised) transmission in public settings, especially in very specific conditions - crowded, closed, poorly ventilated settings - cannot be ruled out"

The briefing references some (real) outbreak reports related to indoor crowded spaces, suggesting the possibility of aerosol transmission combined with droplet transmission e.g. during a choir practice, in a restaurant, in a fitness class etc." - but says that transmission in these cases could also be explained by respiratory droplets alone and via contact with contaminated surfaces

WHO only currently recommends taking specific precautions against aerosols in hospital settings during specific procedures such as insertion / removal of breathing tubes. That's been its position since its first brief on COVID-19 infection prevention and control was issued on 10 January 2020

But the 9 July 2020 update does emphasise additional WHO guidance, including the wearing of fabric masks when physical distancing is difficult - and avoiding crowded, enclosed spaces with poor ventilation

Dr. Donald Milton (an aero-biologist at the University of Maryland and a lead author on the open letter pushing for more attention to COVID-19 aerosol transmission) says he still believes that aerosols could be responsible for super-spreading events. He says he has "mixed feelings" about the latest WHO brief: "I'm glad to see they've moved a little bit. I'm disappointed they didn't move further."

END

For further 'takes' on the article shown further above (starting page 45) - see the 2 articles below:

'What you need to know about the airborne transmission of COVID-19'

(Scientists argue that the virus can float in the air for extended lengths of time)

7 July 2020

https://www.sciencenews.org/article/covid-19-coronavirus-airborne-aerosol-transmission

COVID-19 Transmission Dynamics

https://asm.org/Articles/2020/April/COVID-19-Transmission-Dynamics

20 April 2020

For many years prior to the start of the COVID-19 pandemic (and even for several months during the early stages of that same pandemic) the World Health Organisation did not 'officially' recommend the use of face coverings / masks (in appropriate circumstances) by the 'general public' at risk. Even 'unofficial' support of same was not forthcoming

See the below article for the contrasting and much more realistic view that face coverings / masks should have been used in such circumstances and, going forward, such use (in appropriate circumstances) should now be recommended by WHO

Oxford COVID-19 study: face masks and coverings work - act now

https://www.ox.ac.uk/news/2020-07-08-oxford-covid-19-study-face-masks-and-coverings-work-act-now#

8 July 2020