TESTIMONY OF

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BEFORE

THE COMMITTEE ON HOMELAND SECURITY

U.S. HOUSE OF REPRESENTATIVES

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Thank you, Chairman Thompson for holding this important hearing. My name is Patricia A. Friend and I am the International President of the Association of Flight Attendants – CWA (AFA-CWA), AFL-CIO. AFA-CWA represents over 55,000 flight attendants at 20 different airlines throughout the United States and is the world's largest flight attendant union. We would like to submit the following testimony for the record. Flight attendants, as the first responders in the aircraft cabin and as airline safety professionals, are very concerned possible transmission of communicable diseases onboard passenger aircraft.

Growing numbers of passengers are flying to and from regions of the world where tuberculosis (TB), avian flu, and other infectious communicable diseases are endemic. A 1998 report by the World Health Organization (WHO) estimated that "[a]pproximately one third of the world's population is infected with Mycobacterium tuberculosis, and TB is the leading cause of death from a single infectious agent in adults worldwide[1]."

Anecdotally, passengers and crew report an association between infectious disease transmission and air travel. Certainly, these reports are consistent with the close proximity of cabin occupants, low ventilation rates on aircraft, and contact with potentially contaminated surfaces; however, for commonplace infections it is often difficult to substantiate these claims because of the latency period between infection and symptoms, and the challenge of contacting passengers and crew after any given flight.

The recently documented case of a passenger with multi-drug resistant TB flying unchecked on international flights is a wake up call about the risks of exposure to potentially lethal infectious diseases on commercial aircraft. This case reminds us that airlines need to be required to train their workers to better screen ill passengers before boarding, and to contain or at least minimize the spread of infection if such passengers are only identified in-flight. Airlines must also develop and implement action plans for notifying, testing, and treating individuals who may have been exposed and infected. Simple and proactive standards, as proposed below, will help to maintain the confidence of the flying public and will limit both the economic and human costs of infectious disease spread in the air.

Last week's news of the passenger with TB is by no means the first such case; rather, there is a history of considerable interest in the risk of transmitting TB on aircraft. One of the more conclusive investigations was conducted by the US Centers for Disease Control and Prevention (CDC) and involved 802 (87%) of passengers and crew who had traveled on one of four flights with a person who had multi-drug resistant TB[2]. The infectious passenger flew on two outbound flights and then, one month later by which time the patient's condition was reported to have worsened, on two return flights. On the first three flights, a total of 14 contacts had positive tuberculin skin prick tests, although of these, 13 had other risk factors for TB. However, on the last flight that lasted 8.75 hours, 15 contacts had positive tuberculin skin tests, and of these, six had no other risk factors for TB and were seated in the same cabin section as the index case, four within two rows of her. The observed pattern of infection within the cabin suggests the potential

[1] Valway, S; Watson, J; Bisgard, C et al. (1998) "Tuberculosis and air travel: guidance for prevention and control." WHO/TB/98.256

[2] Kenyon TA, Valway SE, Ihle WW, et al (1996) "Transmission of multi drug-resistant Mycobacterium tuberculosis during a long airplane flight", NEJM 334:933-938

for "drift" of infected air between rows, and the absence of reported skin-test conversions in other cabin sections implies that bacteria were not transmitted through the aircraft's air recirculation system.

A less conclusive investigation into the risk of TB transmission on aircraft involved 225 (73%) passengers and crew on a 14-hour flight with one person who was highly infectious[3]. Of these, 184 had positive tuberculin skin prick tests for TB, although only nine had skin conversions. Of those nine, the possibility of transmission from the index patient could not be ruled out in three cases, although all three were sitting between 15 and 23 rows from the index patient, not a compelling finding. The authors concluded that the risk of TB transmission on aircraft was no greater than those in other confined settings, noting that "TB outbreaks often occur as a result of overcrowded conditions in poorly-ventilated facilities when there is prolonged close exposure to an infectious person."

Finally, a documented investigation into a pilot with active TB who had flown with 48 other pilots over a six-month period found no risk of transmission[4]. It is possible that this reduced risk is explained by the approximate 20-fold increase in the supply rate of outside air in the cockpit, compared to the economy section of the cabin.

TB is not the only disease at risk of being spread on commercial flights. To this end, there are documented reports of cases of SARS[5,6,7,8], meningococcal disease[9], measles[10], and colds/flu[11,12,13] associated with air travel.

In the media, high efficiency particulate (HEPA) filters have been billed as the cure-all for airborne transmission of TB and other infectious diseases. Currently, there is no minimum requirement to install or properly maintain HEPA filters on aircraft; however, some of the major US airlines report that they have done so. Assuming that HEPA filters are installed and maintained properly, they should be effective at removing the bulk of small particulate from the portion of air that is recirculated, including bacteria. Viruses are smaller than the pores of a HEPA filter, but if they travel in clusters or on big water droplets (e.g., generated by a sneeze or cough), then they should be trapped by a properly fitted HEPA filter.

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[3] Wang PD (2000) "Two-step tuberculin testing of passengers and crew on a commercial airplane" Am J Infect Control 28:233-238
[4] Parmet AJ (1999) "Tuberculosis on the flight deck" Aviat Space Environ Med 70:817-818
[5] World Health Organization (4 April 2003) Weekly epidemiological record 78:97-120
[6] World Health Organization (7 May 2003) WHO update 49
[7] World Health Organization Communicable Disease Surveillance and Response (4 May 2003) Technical report on stability and resistance of SARS coronavirus
[8] World Health Organization (22 May 2003) WHO update 62
[9] CDC (15 June 2001) Morbidity and Mortality Weekly Report 50:485-9
[10] CDC (9 Apr 2004) Morbidity and Mortality Weekly Report 53:1-2
[11] Whelan EA, Lawson CC, Grajewski B, et al (2003) "Prevalence of respiratory symptoms among female flight attendants and teachers" Occup Environ Med 62:929-934
[12] Nutik-Zitter J, Mazonson PD, Miller DP, et al (2002) "Aircraft cabin air recirculation and symptoms of the common cold" JAMA 28:483-486
[13] Hocking MB and Foster HD (2002) "Upper respiratory tract infections among airline passenger (Letter to the Editor)" JAMA 288:2972

As front line first responders sharing the airplane cabin for up to 18 hour periods in close proximity to passengers who may be carrying infectious diseases (including the recent case of multi-drug resistant TB), flight attendants are understandably concerned. Passengers at risk of contracting infectious disease have been described as those sitting within a few rows of an infectious person, but flight attendants, by definition, are within a single row of every person in their section during a food or beverage service, at a minimum. Also, ill passengers may congregate near the lavatories which are typically located next to a galley where flight attendants are stationed to work. Finally, and perhaps most importantly, flight attendants are the authority in the cabin during a flight and must make decisions about how to best minimize the spread of infectious disease, not only to themselves, but to other passengers. To this end, AFA-CWA offers the following recommendations:

1. The first and most important line of defense is to prevent infectious passengers from boarding in the first place. This could be accomplished by the CDC expediting and expanding their proposed rulemaking on infectious disease control[14]. As written, the proposed rule would expand the ability of public health authorities to obtain data on passengers carrying communicable infectious diseases which should allow for more rapid notification and quarantine, as necessary. In adopting the proposed rule, AFA-CWA recommends that the CDC require airlines to provide appropriate initial and recurrent training for all airline personnel who come in contact with passengers. Such training should include, but not be limited to, methods for workers to properly identify ill passengers pre-flight and in-flight, explicit instructions on who has authority to prevent ill passengers from boarding and on what basis, measures that workers can apply to protect the health of other airplane occupants if the ill passenger is not identified until a flight is underway, and workers' rights and responsibilities for notification, testing, and medical care after a potential exposure.

2. Airlines should be required to provide a TB test to all prospective flight attendant hires to establish a baseline and minimize the spread of infection in the cabin. If the test is positive, then airlines should be required to provide a follow up chest x-ray to determine if the disease is active or latent. If the disease is latent, there is no reason to deny employment.

3. In the event of a confirmed case of an infectious passenger or crewmember, the airline should be required to notify all onboard crew and passengers using language approved by the CDC within 24 hours of the airline being informed, and must provide testing, treatment, and medical leave as necessary to all potentially affected airline personnel.

4. To enable crewmembers to minimize the spread of infection (or a bioterror threat) onboard if a suspected case is identified during a flight, airlines must be required to provide adequate stocks of personal protective equipment (e.g., disposable gloves, surgical masks and N-95 respirators, CPR masks with one-way valves, biohazard disposal bags, etc.) on every aircraft in locations that are accessible to flight attendants

[14] CDC (2005) Control of Communicable Diseases; Proposed Rule. Department of Health and Human Services. Federal Register, Vol 70(229)

(i.e., not in the emergency medical kit, which can only be accessed by licensed medical personnel).

5. To reduce the risk of recirculating infectious agents in the aircraft air supply system, Congress should require that all recirculated air systems on commercial aircraft be fitted with HEPA filters, and that airline operators install, operate, and maintain these systems according to approved maintenance plans.

In closing, we thank Congress for considering these comments intended to protect the health of the traveling public and crewmembers, to maintain consumer confidence, and to minimize the economic impact posed by infectious disease transmission during commercial flights.