To: Senate Committee on Health Care
From: Dr. Brian Wong, Chair, Infectious Diseases Division, OHSU
Date: April 6, 2015

RE: Support of SB 920

Chair Monnes-Anderson, Vice Chair Kruse and members of the Committee:

For the record, my name is Dr. Brian Wong. I am Chief of the Infectious Diseases Division of the Department of Medicine and Professor of Medicine and of Molecular Microbiology & Immunology at the Oregon Health & Science University (OHSU) in Portland. I am here to testify on behalf of OHSU and the Oregon Medical Association in support of Senate Bill 920.

The discovery of antibiotics and their use for treating infectious diseases is one of the greatest achievements in the history of medicine. Many diseases that were often fatal can now be cured or controlled with antibiotics, including pneumococcal pneumonia, streptococcal and staphylococcal infections, infections of newborns and their mothers, diarrhea in infants, typhoid fever, tuberculosis, and others. But when microorganisms are exposed to antibiotics, rare drug-resistant bacteria are selected and can out-grow and replace their drug-susceptible counterparts. This resistance does not develop every time an antibiotic is used; rather, resistance tends to develop only after antibiotics are given to large numbers of individuals over prolonged periods of time.

There is now a broad consensus in the medical, scientific and public health communities that the emergence of highly drug-resistant microorganisms is a major threat to human health. Some important drug-resistant organisms include methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridium difficile* (C. diff.), drug-resistant strains of bacteria that cause gonorrhea and other sexually-transmitted infections, multiply-drug resistant enteric bacteria (eg, carbapenem-resistant Enterobacteriaciae [CREs]), and drug-resistant organisms that cause tuberculosis, malaria and AIDS. The emergence of CREs and other organisms that are resistant to all available antibiotics has led to the suggestion that we may be entering a "post-antibiotic era", which will resemble the period in history before we had antibiotics to treat common infectious diseases.

In Oregon, MRSA, C. diff. and drug-resistant gonorrhea are significant problems, but we have so far experienced fewer cases of serious CRE infections and drug-resistant tuberculosis than many other states. What can we do to protect Oregonians from the "post-antibiotic era"? One strategy is to develop new antibiotics. Unfortunately, few new antibiotics have been developed in the past 20 years, and most large pharmaceutical firms have dropped their antibiotic discovery programs. Therefore, it is imperative that we do everything we can to preserve the usefulness of the antibiotics we already have.

First, our healthcare institutions and we as health care providers must do our best to minimize the development of antibiotic resistance. This entails establishing surveillance programs to detect and report resistant organisms, promptly instituting infection control measures when we find these organisms, and practicing careful stewardship of antibiotic usage. The State of Oregon and OHSU have invested heavily in surveillance for resistant organisms and also in introducing modern antibiotic stewardship programs throughout the state. Large and small hospitals, nursing facilities and clinical laboratories throughout Oregon have all participated in these efforts. In my opinion, one reason that we have fewer drug-resistant infections in Oregon than in many other states is that we use antibiotics more wisely than practitioners in other states do.

Secondly, it is very important that we eliminate the use of antibiotics in animals for purposes other than treatment and prevention of infectious diseases. In this country, more antibiotics are given to animals than to people, and many of these antibiotics are given to promote weight gain or for prophylaxis in the absence of infection. Giving animals low doses of antibiotics increases antibiotic resistance in the bacteria circulating in the community, which increases the risk that humans will acquire antibiotic-resistant infections. Ending the practice of giving uninfected animals antibiotics has been recommended by the World Health Organization, the US Public Health Service's Centers for Disease Control and Prevention, the White House, and by professional societies such as the American Medical Association and the Infectious Diseases Society of America, among others. Giving antibiotics to healthy animals for non-therapeutic purposes has been forbidden in the European Union for many years, and the Food and Drug Administration has begun the process of regulating the practice in this country, but we should do what we can here in Oregon.

OHSU joins the organizations listed above in recommending against the routine administration of antibiotics to animals for non-therapeutic purposes. We support Senate Bill 920 as a prudent step to protect the public health and to prevent the development of antimicrobial-resistant bacteria in Oregon. We should act now, before it is too late.

Thank you for your time and the opportunity to testify in support of Senate Bill 920. I will be happy to answer any questions.