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TO: Chair Senator Deb Patterson
Vice-Chair Senator Cedric Hayden
Senate Health Care Committee

FROM: André Ourso, MPH, JD
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SUBJECT: HB 2996, Dental Assistants

Chair Patterson and Vice-Chair Hayden, and members of the committee, this testimony letter regards House Bill 2996 which would prohibit the Oregon Health Authority (OHA) and Oregon Board of Dentistry (OBD) from requiring an applicant for certification as a dental assistant to pass a written examination for radiological proficiency in order to operate an X-ray machine.

While OHA has no position on HB 2996, the bill would result in dental assistants being the only dental professional group not required to pass a Board examination (or comparable examination) in Radiation Health and Safety to operate dental X-ray devices. This would require a change to current OHA and OBD Oregon Administrative Rules (OARs). The majority of states require passing a Board examination to maintain X-ray operator professional standards and measure knowledge competency.

The OHA Radiation Protection Services (RPS) section is the state's sole radiation control agency charged with promulgating beneficial uses of radiation while, at the same time, also eliminating unnecessary and harmful radiation effects. The health and safety of every Oregonian is impacted by positive applications of radiation. RPS OARs are designed to ensure radiation is used safely and properly by operators to benefit patients and the public.

All medical and dental professionals in Oregon, who work with X-ray machines, are required to demonstrate a working knowledge competency of radiation use and safety through completion of formal academic education, clinical and applications training. RPS also verifies that X-ray operators are licensed/certified through their respective professional licensing boards.

By OAR reference, RPS relies upon national licensing organizations and state licensing boards [i.e., Oregon Board of Medicine, Oregon Board of Medical Imaging and Oregon Board of

Dentistry (OBD)] to assure that all practicing physicians, medical physicists, radiologic technologists, radiation therapists and dental professionals (dentists, dental therapists, dental hygienists and dental assistants), have completed formal academic and clinic programs, and obtained their appropriate state professional licenses and/or certificates.

Obtaining the above professional licenses/certificates requires passing National Board examinations which serve to maintain professional standards and measure knowledge competency to *practice* a given specialty.

For Dental Assistants, performance of radiography procedures is regulated by OBD which requires earning a certificate in radiologic proficiency (OAR 818-042). The Dental Assistant National Board (DANB), on behalf of the OBD, administers the Radiologic Proficiency Certificate program which includes passing a DANB written examination.

In concert with OBD OAR requirements, RPS OAR 333-106-0055 defines general requirements for dental assistants to be X-ray operators. Requirements include being certified by OBD in radiologic proficiency and completing an OHA/RPS approved radiation use and safety use course. Graduating from an OBD-approved dental assisting program meets the RPS -approved radiation use and safety course requirement.

What are the practical implications and potential health and safety concerns of HB 2996?

Modern day dental and maxillofacial surgery clinics have the choice of four different types of sophisticated digital diagnostic x-ray imaging machines, each offering different levels of radiation output and dental patient effective radiation dose. Depending upon the need, dental and oral surgery X-ray operators use fixed intra-oral, hand-held intra-oral, panoramic/cephalometric (pano/ceph), and Cone Beam Computed Tomography (CBCT) machines. All of these dental images use ionizing radiation.

Fixed intra-oral and hand-held devices do not require added shielding to protect patients and dental staff in adjoining rooms. However, for pano/ceph and CBCT devices, RPS requires shielding studies to ensure machine safe positioning and that there is adequate wall shielding to protect patients, operators, other dental clinic staff and public.

Studies by the National Council on Radiation Protection (NCRP) show that the effective patient dose for intra-oral and hand-held X-ray machines is relatively low. That said, because hand-held X-ray devices require the operator to hold the X-ray tube, there is the potential for receiving an increased scatter radiation dose, if improperly used.

Panoramic and cephalometric X-ray imaging machines create a modest patient effective dose. However, depending upon the field of view size, a CBCT machine creates patient dose rates that can be 10 to 100 times more than pano/ceph machines. [Source: NCRP Report 177].

There is no conclusive evidence that radiation from dental diagnostic X-rays cause cancer. However, organizations responsible for evaluating radiation risks agree that operators should act as if even low doses of radiation may potentially cause harm and should always minimize radiation exposure. (Source: Image Gently Dental Campaign)

Minimizing radiation exposure is particularly important for pediatric dental patients who are at an approximately 3 to 5 times higher radiation-induced cancer mortality risk than adults. This is because their developing tissues are inherently more radiosensitive, and they have more remaining years of life during which a radiation-induced cancer could develop. (Source: Image Gently Dental Campaign). RPS requires the use of a thyroid collar for pediatric dental patients to add radiation protection during X-rays.

The use of X-rays in dental offices and oral surgery facilities play an important part in dental patient health and care. The goal of any responsible X-ray operator is to obtain a quality diagnostic image using the universally accepted “as low as reasonably achievable” (ALARA) radiation principle.

A properly educated and trained X-ray operator, with knowledge competency in radiation use and safety, employs the ALARA principle to maximize the benefit of diagnostic X-rays and minimize patient radiation exposure. An inadequately educated and trained operator is more likely to use incorrect X-ray techniques resulting in more patient radiation than necessary to obtain a usable diagnostic image and/or a need for repeat X-rays.

OHA /RPS is committed to minimizing the overall impact of radiation exposures for patients, operators, and the public. RPS Radiation Health Physicists routinely work with dentists, dental hygienists and dental assistants to learn proper X-ray techniques. Implementing measures that lessen an individual’s lifetime accumulated radiation exposure is important for health.

The Oregon Health Authority is dependent upon OBD and its’ use of the DANB radiologic proficiency program/examination, to ensure there is an adequate professional standard and measure of knowledge competency for dental assistants to be X-ray operators. Current OHA and OBD inter-agency regulations have a positive impact on attaining OHA’s triple aim of better health, better care, and lower cost for Oregon dental patients.

The Oregon Health Authority, Public Health Division would be pleased to provide the committee with additional information as needed. Thank you for the opportunity to provide you with this information.