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1919 McKinney Ave.
Dallas, TX 75201

Testimony
of
Douglas S. Erickson, FASHE, HFDP, CHFM, CHC
Chairman - Guidelines for Design and Construction of Health Care Facilities
before the
Senate Employment and Workplace Safety Subcommittee
of the
Senate Health, Education, Labor and Pension Committee
“Senate File 1788; the Nurse and Health Care Worker Protection Act”

May 11, 2010

Good afternoon, Madame Chairperson and committee members. I appreciate the opportunity to present before the Senate Employment and Workplace Safety Subcommittee. The subject being addressed by the subcommittee is of great importance to the overall success of our health care system.

As a health care engineer, I’ve been involved in the patient care environment for nearly 35 years and involved in the patient safe movement issue for the past 10 years. From my experience, I do not believe a federal government approach to safe-patient handling is the best approach.

I come before the committee not to argue against the merits of a safe-patient handling bill, as having some form of legislation to protect the health care worker from injury and to support safe movement of patients in health care facilities is extremely important and worthy of the current attention. My concern as a citizen and as an expert in writing and implementing codes and standards in the health care physical environment is that we are not allowing enough time to properly alter the health care built environment to

accommodate mechanical lifting equipment. Trying to rush such a monumental modification to our nation's health care system will create havoc, panic, and a tremendous waste of health care resources. My experience of more than 30 years—writing standards, compromising on proposed language, advocating for and against the adoption of codes and standards, and having to implement and live with those codes once issued—indicates it will take time to bring about the necessary physical modifications to provide mechanical lifting equipment sufficient to implement a no-lift policy throughout the entire system.

The safe-patient handling and lift standards as presented will not allow enough time to alter the built environment and install mechanical lifting devices before the no-lift policy is mandated. This will create havoc in the health care industry as organizations will panic and do something—anything—to avoid impending OSHA fines, ultimately wasting a tremendous amount of health care resources.

Yes, we can mandate that OSHA shall establish a Federal Safe-Patient Handling Standard in a year and, yes, we can mandate that all health care facilities shall develop and implement a safe-patient handling plan not later than 6 months after such a standard is published. However, the truth is that complying with these mandates cannot be physically accomplished within those timeframes.

To modify our nation's health care facilities and provide mechanical lifting equipment to fully support a no-lift policy throughout the entire health care system will take a decade or more to achieve.

The fact is that most existing health care facilities in the United States are not designed and constructed to accommodate the installation of fixed lifting equipment or, in many cases, to accommodate the use of portable lifting devices. While we are making great advances in modernizing our hospitals, nursing facilities, clinics, and other patient care sites, the fact remains that the U.S. health care system is still providing care in buildings that date back to the early twentieth century. Many health care facilities were designed and built under the Hill-Burton program and have inflexible physical environments. Some points to consider:

- Very few hospitals have been retrofitting patient rooms with permanently installed ceiling- or wall-mounted patient lifting devices. At issue is the tremendous cost to gain access to the structural components of the ceiling or wall. A typical retrofit for a ceiling-mounted lift would mean removing a portion of the existing plaster or acoustical ceiling, cubicle track, light fixtures, sprinkler piping, and potentially the heating and cooling ductwork. Often, the space above the acoustical ceiling is limited in height and would not permit installation of the structural supports needed for the ceiling-mounted grid of a mechanical lift system. For a wall-mounted lift, the wall must be strengthened with additional structural elements and structural plates, which must be fit in among the other equipment located on the headwall, including electrical devices such as the nurse

call, emergency/normal power receptacles, medical gas connections, and patient-related equipment for monitoring, suction, and bed control. Other physical features needing modification to accommodate installation of lifts are the toilet room doorframe and the wall above the doorframe to permit passage of the track and hoist cabling.

- Most ceiling- and wall-mounted lifts are installed during new construction or major renovation projects.
- Most ceiling-mounted lifts are installed in private rooms as the semi-private room is not an appropriate environment due to the size and configuration of the room, which means the patient on the far side of the room would have to be hoisted over the other patient to reach the toilet room.
- The use of portable lifts in semi-private patient rooms is limited based on the size of the room. With its typical footprint of 30" x 40", maneuvering a patient lift into position in an older room of 160 sq. ft. is almost impossible due to the equipment, both patient-related and family-related, that fills it. Also, the bed size has increased dramatically over the past twenty years, limiting the clear floor space in the patient room.

Other architectural and business-related issues to consider when installing mechanical lifting equipment in existing buildings include these:

- Structural capacity of floor slabs, ceilings and walls capable of supporting the lift loads
- Positioning of light fixtures, A/C diffusers, fire sprinkler heads
- Items above ceiling (e.g. other ceiling-mounted equipment such as radiology equipment and OR lights, HVAC equipment, electrical conduits, plumbing equipment)
- Amount of interstitial space (dictates the amount of lateral bracing required and type of attachment method—rod or pendant—needed to achieve a stable system)
- Unique architectural considerations: Multi-level ceiling heights, vaulted ceilings, soffits, non-structural or radius walls
- Header and door walls (structural vs. non-structural walls—use of structural walls creates more challenges in room-to-room tracking)
- Fire code requirements
- Ceiling height compared to maximum lifting range required by lifting practices
- Wall-mounted barriers: TVs, light fixtures, cabinets, and door swing radius must be considered in determining track dimensions
- Motor maintenance: Enough space must be allowed between rail-end and wall for removal of the lift motor
- Recessed track (for straight, traverse, or curved track, ensure dropped ceiling grid is butted against track)
- Conveniently accessible space for motor and hanger bar storage when not in use
- Location/design of privacy curtains

- Approval of plans by state architectural review boards, which can take as long as 6–18 months
- Loss of bed capacity when making modifications to accommodate installation of fixed lifting equipment
- Infection control risk to patients from generation of aspergillus or other harmful spores and bacteria in the patient environment
- Asbestos abatement if asbestos is still encapsulated in the cavity above the patient environment
- Training of facility and maintenance staff on the new equipment

The solution for creating a safe-patient handling program has been clearly defined in the VA manual on developing a no-lift policy.

In this manual, the Veterans Administration’s first statement is that, for a no-lift policy to be successful, the health care facility **MUST** have required infrastructure in place before it is implemented. This infrastructure includes:

- An adequate number and variety of patient handling aids and mechanical lifting equipment on each high-risk patient care unit
- Sufficient numbers of staff trained and competent in the use of these aids and equipment
- Staff trained and skilled in applying safe patient handling and movement algorithms
- Administrators and supervisors who support the comprehensive approach

The U.S. health care system needs a systematic approach to instituting mandatory safe-patient handling that includes all interested parties.

Over the past four years, the authors of the *Guidelines for Design and Construction of Health Care Facilities* have undertaken a national consensus effort to develop quality standards for assessing safe-patient handling risk and implementing a program to install mechanical lifting devices in new health care construction and major modifications. The 116-person, all-volunteer multidisciplinary committee worked with industry safe-patient handling experts, nursing union representatives, state and federal authorities, and health care professionals to develop the concept of a patient handling and movement assessment (PHAMA) along with an industry best practice to provide guidance for implementing the program. A compilation of the safe-patient handling provisions in the 2010 *Guidelines for Design and Construction of Health Care Facilities* and *Patient Handling and Movement Assessments: A White Paper* have been provided for further review (see Attachment 2).

National guidelines for effectively evaluating safe-patient handling needs, patient movement equipment, and space design considerations were released in January 2010.

This national team of experts crafted safe-patient handling language for public review and comment. After a two-year review process, all the public comments were addressed and the following core paragraphs emerged. Another 10 pages of requirements and appendix material within the Guidelines support these two paragraphs (see attachment 1).

1.2-5 Patient Handling and Movement Assessment

A patient handling and movement assessment (PHAMA) is conducted to direct/assist the design team in incorporating appropriate patient handling and movement equipment into the health care environment. The purpose of this equipment is to increase or maintain patient mobility, independent functioning, and strength as well as to provide a safe environment for staff and patients during performance of high-risk patient handling tasks.

The PHAMA has two distinct yet interdependent phases. The first phase includes a patient handling needs assessment to identify appropriate patient handling and patient movement equipment for each service area in which patient handling and movement occurs. The second phase includes definition of space requirements and structural and other design considerations to accommodate incorporation of such patient handling and movement equipment.

Simultaneous to the crafting of standards language, the white paper on patient handling and movement (PHAM) was being developed to support these new requirements. In addition to the workplace safety issues of safe-patient handling, this white paper sensitizes us to many additional advantages that PHAM equipment may offer, including:

- Better patient outcomes and improved quality of life for both patients and caregivers
- Economic benefits from avoiding adverse events related to manual patient handling
- Improved patient outcomes stemming from the potential for hospitals and nursing homes to mobilize patients using assistive devices immediately following a procedure or admission and diagnosis

The authors concluded that these benefits and possibilities deserve to receive more emphasis—in addition to (rather than instead of) workplace safety.

The health care industry already has a time-tested, formalized process and quality document for designing and constructing health care facilities.

The 2010 edition is the latest in the 63-year history of this Guidelines document to aid in the design and construction of health care facilities.

The original *General Standards* appeared in the *Federal Register* on February 14, 1947, as part of the implementing regulations for the Hill-Burton program. The standards were

revised from time to time as needed. In 1974 the document was retitled *Minimum Requirements of Construction and Equipment for Hospital and Medical Facilities* to emphasize that the requirements were generally minimum, rather than ideal standards. The 1974 edition was the first for which public input and comment were requested.

In 1984 the Department of Health and Human Services (DHHS) removed from regulation the requirements relating to minimum standards of construction, renovation, and equipment of hospitals and medical facilities, as cited in the *Minimum Requirements*, DHEW Publication No. (HRA) 81-14500. Since the federal grant and loan programs had expired, there was no need for the federal government to retain the guidelines in regulation format. To reflect its non-regulatory status, the title was changed to *Guidelines for Construction and Equipment of Hospital and Medical Facilities*. Since that time, the document has been continuously updated every four to five years, using a public revision process.

The 2010 Guidelines was written by a 116-person, multidisciplinary Health Guidelines Revision Committee (HGRC) with representation from nurses, surgeons, anesthesiologists, neonatologists, infection preventionists, administrators, architects, facility managers, consulting engineers, safety and security professionals, risk managers, and more than 25 state, federal, and private enforcing authorities.

The 2010 edition had more than 25 focus groups reviewing specific sections of the 2006 document or working on the development of new sections. Two specialty subcommittees were formed to take on major projects on acoustic design and patient handling and movement. Expertise on these specialty subcommittees was bolstered by the contributions of outside technical and subject experts. The HGRC reached a consensus at its final meeting and unanimously endorsed the revised guidelines to be sent out for letter ballot, which was then unanimously approved.

A public process, with a 63-year history, is already in place with a set of consensus standards for assessing and implementing safe-patient handling. The Guidelines is adopted by the Joint Commission, HUD, PHS/IHS, HRSA, and state departments of health and licensure. So the process works without the need for a set of federal government safe-patient handling standards.

CONCLUSION

Safe-patient handling is critical to the fabric and future of the health care system. I agree that the health care system needs to implement policies and install adequate equipment to protect workers and patients when manual handling is required. However, this needs to be accomplished in a highly systematic fashion or the fix could be worse than the purpose for implementing the program.

The FGI and its health guidelines revision committee members stand ready to work with lawmakers on innovative ways to build on efforts already occurring at the federal, state

and public levels and to share information that help health care organizations make smart choices on implementing a safe-patient handling program.

Madame Chairperson, it has been an honor to be here this afternoon, and I would like to thank the Health, Education, Labor, and Pension committee for inviting me to present on this very important topic, and of course I am available for any questions from the committee.

Credentials of Interest

BS degree in engineering from University of Illinois

Fellow of the American Society for Healthcare Engineering

Certified—

Healthcare Facilities Design Professional

Healthcare Facilities Manager

Healthcare Constructor

Have worked in the health care field for 35 years, including:

- As a facility manager and construction manager in two Chicago hospitals for five years
- In an enforcement position as director of engineering for the Joint Commission for five years
- As director of design and construction for the American Hospital Association for 10 years

Have served on more than 15 national codes and standards committees, including:

- Chairmanship of four national committees
- Current chair of the National Fire Protection Association's NFPA 99: *Health Care Facilities*
- Current chair of the Facility Guidelines Institute's *Guidelines for Design and Construction of Health Care Facilities* revision process (member since 1978 and vice chairman from 1985 – 2006)
- Panel-chair of the Building Designs Task Group, part of a committee that produced *Proceedings of the Workshop on Engineering Controls for Preventing Airborne Infections in Workers in Health Care and Related Facilities*, presented by USPHS, CDC, and NIOSH)