Comprehending the Number of Individuals with Disabilities and the Need for Oral Health Services

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Introduction: *The use of mega-large numbers and percentages to describe the one billion people with disabilities in the world is beyond the comprehension of most people. We find it difficult to personalize such information and tend to skip over the data without considering the multitude of factors that impact on individuals with disabilities and their families.* ***Study design:*** *A review of World Health Organization, U.S. Census Bureau, and Canadian and U.S. dental school accreditation agency documents were used to establish the current information on disability numbers, proportions and dental education programs.* ***Results:*** *More meaningful details from government agencies and the health professions and their educational institutions can provide data that could be used to demonstrate the increasing number of individuals with disabilities in a more meaningful manner; as well as preparing health professionals to provide the needed care.* ***Discussion****: The use of survey data for specific countries by: age, types of disabilities, race/ethnicity, family and individual economics, employment and regional distribution provides a more personalized presentation which can be used to reach legislative bodies and health providers.*

Key words: Barriers, demographics, dental education, disabilities

INTRODUCTION

"Over a billion people, about 15% of the world's population, have some form of disability." [1]

Despite the high prevalence of disability, a disproportionate percentage of disabled individuals do not receive oral dental care. [1]

"*People with disabilities have less access to health care services and therefore experience unmet health care needs." [1]*

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METHOD

Some barriers to health care:

- *Prohibitive costs:* Affordability of health services and transportation are two main reasons why people with disabilities do not receive needed health care in low-income countries. 32-33% of non-disabled people are unable to afford health care compared to 51-53% of people with disabilities. [1]
- *Inadequate skills and knowledge of health workers*: Compared to the general population, people with disabilities were more than twice as likely to report finding health care provider skills inadequate to meet their needs, four times more likely to report being treated badly and nearly three times more likely to report being denied care. [1]
- *Physical barriers*: Uneven access to buildings (hospitals, health centers), inaccessible medical equipment, poor signage, narrow doorways, internal steps, inadequate bathroom facilities, and inaccessible parking areas create barriers to health care facilities. [1]

"Rates of disability are increasing due to population ageing and increases in chronic health conditions, among other causes." [1]

The prevalence of a disability in lower income countries among people aged 60 years and above was 43.4%, compared with 29.5% in higher income countries. [1]

"Eighty per cent of persons with disabilities live in developing countries, according to the UN Development Programme." [1]

A study of 56 developing countries found that the health of people living in poverty is much worse than those with higher incomes. Poverty may lead to the onset of health conditions associated with a disability including: low birth weight, malnutrition, lack of clean water or adequate sanitation, unsafe work and living conditions, and injuries. [1]

Across all countries, vulnerable groups such as women, those living in extreme poverty and older people had higher prevalences of disability. For all these groups the rate was higher in developing countries. The prevalence of a disability in lower income countries among people aged 60 years and above was 43.4%, compared with 29.5% in higher income countries. [1]

How are the lives of people with disabilities affected?

People with disabilities are particularly vulnerable to deficiencies in health care services. Depending on the group and setting, persons with disabilities may experience greater vulnerability to secondary conditions, co-morbid conditions, age-related conditions, engaging in health risk behaviors and higher rates of premature death. People with disabilities are more likely to be unemployed and generally earn less even when employed. [1]

RESULTS

The use of mega-large numbers and percentages to describe the one billion people with disabilities in the world and the billions upon billions of dollars (and other currencies) for their health and general supportative care is beyond the comprehension of most people. We find it difficult to personalize such information and tend to skip over the data without considering the multitude of factors that impact on individuals with disabilities and their families. While we cannot document the effects on each family, we need to demonstrate the health and social needs in more meaningful details for the respective government agencies and the health professions and their educational institutions, including variation in specific countries by: age, types of disabilities, race/ethnicity, family and individual economics, employment and regional distribution.

For example – United States:

In the U.S. in 2010, there were an estimated 56.7 million residents (19% of the population) with disabilities, including (in 2013) more than 39 million individuals (12.6% of the population with severe disabilities. [2,3] The number and proportion of individuals with severe disabilities can be more meaningful in terms of the ranges in different area, age, race/ethnicity, types of disabilities and the use of dental services:

- *By state*: *the disability rates were more than double between the smallest and the highest proportions.* The range was from 8.8% (247 thousand residents) in Utah and 18.9% (346 thousand residents) in West Virginia.
- *By Congressional District*: *the disability rates were almost quadruple between the smallest and highest proportions.* The range was from 6.7% in the Virginia 8th District (83 thousand residents) and 6.7% in the Virginia 11th District, (54 thousand residents) to 25.6% in the Kentucky 5th District (161 thousand residents).

Table 1. Estimate number (in 000s and rounded) and proportion of U.S. residents with severe disabilities by age, types of disabilities, race and ethnicity: 2013. (Individuals may have more than 1 disability) [3]

Total	Number 39,138	Percent of total population 12.6%
< 5 yrs	161	0.8
Hearing difficulty	106	0.5
Vision difficulty	96	0.5
5-17 yrs	2,880	5.4
Hearing difficulty	334	0.6
Vision difficulty	461	0.9
Cognitive difficulty	2,180	4.1
Ambulatory difficulty	339	0.6
Self-care difficulty	483	0.9
18-64 yrs	20,322	10.5
Hearing difficulty	4,085	2.1
Vision difficulty	3,787	1.9
Cognitive difficulty	8,464	4.4
Ambulatory difficulty	10,201	5.2
Self-care difficulty	3,619	1.9
Independent care difficulty	7,079	3.6
65+ yrs	15,776	36.4
Hearing difficulty	6,572	15.2
Vision difficulty	2,967	6.8
Cognitive difficulty	3,993	9.2
Ambulatory difficulty	10,090	23.3
Self-care difficulty	3,688	8.5
Independent care difficulty	6,692	15.4
Race/ethnicity		
White alone	29,949	13.0
Black alone	5,393	14.0
American Indian/Alaska Native	420	17.1
Asian	1,109	7.0
Native Hawaiian/Pacific Islander	53	10.3
Other races	1,188	8.1
Two or more races	1,028	11.2
Hispanic	4,645	8.7

- *By age*: *the disability rates increased dramatically.* The range was from 5.4% for 5-17 years population, to 10.5% for the 18-64 year olds and 36.4% for the 65 year olds.
- *By race*: *the disability rates double between some groups*. The range was from 7.0% for the Asian-American population to 17.1% for the American Indian/Alaska Native population.
- *By disability*: *the disability rates were different.* The highest disability proportion was reported for cognitive difficulties among the 5-17 year old. Among the 65 years and over population, ambulatory and hearing difficulties were the highest disability rates. (Table 1)
- *Use of dental services–Nationwide*: In 2008, 60.3% of individuals with disabilities, compared to 72.7% of individuals without disabilities, reported a visit to dentists.
- *Use of dental services – By state*: The proportion of individuals with disabilities ranged from 46.9% in Mississippi to 745% in Rhode Island. The proportion of individuals without disabilities ranged from 60.0% in Oklahoma to 79.5% in Massachusetts. [4]

Educational programs

Question: Should the dental profession develop a specialty dedicated to the care of individuals with special health care needs?

So why not a specialty of Special Care Dentistry? Undoubtedly there is a need for increased knowledge, abilities and willingness to carry out services for a seeming endless and growing array of individuals with special needs. This need for advanced training and abilities is essential in the schools of the profession and in the private offices of practitioners. It is not that different from the need to improve the abilities of practitioners to provide care in the general realm of geriatric care. But in an effort to enhance the profession's ability to meet the needs of this burgeoning population we must not lose sight of the reality that, as with other clinical dental specialties, the burden of providing the major component of care falls upon the general practitioner. It would be all but impossible to anticipate a few score, or even hundreds of special care specialists to assume all the needed care for tens of millions of individuals in particular countries. In addition, would the establishment of this new specialty only reinforce the under stated sentiment, "Let someone else do it"? [5]

The dental profession rightfully has been reluctant to distribute components of services into an extended number of specialties, relying instead upon the need to enhance the preparation of it members to provide a broad spectrum of services. Given the realities of providing care to a burgeoning population of individuals with special needs, the requirement is to following the same path, (i.e. by strengthening the preparation of practitioners) but with the added effort to lobby for enhanced financial support for services. Essentially, instead of "Let someone else do it," "Let us all do it!" [6]

Specific programs

This need for "experience and contact with people with disabilities" was the basis for establishing dental school accreditation requirements to ensure adequate basic science and clinical experiences in the predoctoral training programs in many dental schools in other countries. For example in Canada and the United States:

"*Graduates must have sufficient clinical and related experiences to demonstrate competency in the management of the oral health care for patients of all ages. Experiences in the management of medically-compromised patients and patients with disabilities and/or chronic conditions should be provided*." (Standard 2.4.1) [7]

"*Graduates must (sic) be competent in assessing the treatment needs of patients with special needs*." (Standard 2-26) [8]

DISCUSSION

1. The need is for schools of the dental professions to follow the accrediting steps taken by the dental profession in other countries to ensure the adequate basic science and clinical experience in predoctoral clinical programs to prepare graduates to provide for the wide range of individuals with special needs. However, developing such an effort is possible only if the profession and the general public can be convinced of the need for these programs.
2. "There is a need for (regionalized and sociological variables) in national health surveys of people with disabilities (including their oral health) with particular emphasis on the conditions in the rural areas. (All too often) … the limited series of reports emphasize the conditions in the major urban areas.
    - There is a need to identify the type and availability of current dental service centers for individuals with disabilities. Such an effort to catalogue dental school and health department programs, as well as the number of private dental practitioners, would provide an essential basis for lobbying for improved educational programs and service arrangements.
    - There is a need to enhance national organizations to stimulate an awareness of the varied needs of individuals with disabilities. Such organizations would serve as an advocate to raise standards, to support demonstration programs and lobby to increase the commitment to have children with disabilities (where possible) placed in the regular school system, to increase employment opportunities and to foster acceptance in the general community." [9,10]

The use of mega-large numbers and percentages to describe the one billion people with disabilities in the world and the billions upon billions of dollars (and other currencies) for their health and general supportative care can be appropriate – when they are accompanied by more meaningful presentations to legislators, the public and the professions. As Tip O'Neil, former Speaker of the U.S. House of Representatives, frequently intoned "all politics is local."

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