An Introduction to Primary Care in Underserved Populations
Definitions, Scope, and Challenges

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KEYWORDS

- MUA • MUP • HPSA • Underserved area • Underserved population • Allostatic load
- Socioeconomic status

KEY POINTS

- Medically underserved areas (MUAs) and medically underserved populations (MUPs) are determined by the Health Resources and Services Administration (HRSA) by measuring 4 variables: (1) ratio of primary care physicians (PCPs) per 1000 population, (2) infant mortality rate, (3) percentage of the population below the poverty level, and (4) percentage of the population age 65 or over.
- In a given area or population, each of these variables is measured and then converted to a weighted value using conversion tables.
- In 2015, more than 16% of the US population lived in poverty, up from 14.3% in 2009; approximately 14% of seniors and 18% of children are impoverished.
- Low socioeconomic status (SES) has been linked to poorer metabolic profiles (eg, body mass index [BMI], fasting glucose, glycosylated hemoglobin, and lipid profiles), higher blood pressure, lower heart rate variability, higher levels of inflammatory markers, more risky behaviors (eg, smoking, drinking, and drug use), and higher overall higher allostatic load (AL).

INTRODUCTION

MUAs and MUPs are determined by the HRSA by measuring 4 variables: (1) ratio of PCPs per 1000 population, (2) infant mortality rate, (3) percentage of the population below the poverty level, and (4) percentage of the population age 65 or over.

In a given area or population, each of these variables is measured and then converted to a weighted value using conversion tables (see HRSA MUA/Ps: Index of

Medical Underservice Data Tables at: http://www.hrsa.gov/shortage/mua/imutables.html). The 4 weighted values are then totaled to obtain an "underserved score." Areas or populations that score below 62 are designated as medically underserved, with lower scores indicating greater need. Areas and populations scoring above 62 (from 62 to 100) are designated as adequately served. Federally Qualified Health Centers, which include Community Health Centers and Rural Health Clinics, often provide care in underserved areas/populations and are eligible for federal support.

Despite concerns over the limitations of the HRSA definition of "underserved,"[1,2] for the purposes of this publication, the HRSA definition is used, as stated previously. This article focuses on areas/populations with a disproportionate number of elderly, high infant mortality rates, low access to primary care, and high poverty rates.

SCOPE OF THE PROBLEM: A CLOSER LOOK AT THE VARIABLES MEASURED IN DESIGNATING MEDICALLY UNDERSERVED AREAS AND MEDICALLY UNDERSERVED POPULATIONS
Poverty

In 2015, more than 16% of the US population lived in poverty, up from 14.3% in 2009. Approximately 14% of seniors and 18% of children are impoverished.[3] In 2013, United Nations International Children's Emergency Fund (UNICEF) found the United States to have the second highest child poverty rates of the 35 developed countries studied.[4] Currently in the United States, poverty is defined as earnings of less than $11,700 for an individual or less than $24,250 for a family of 4.

The most recent international data[5] document that, in 2012, 12.7% of the world's population lived at or below $2 a day (purchasing power parity), meaning that close to a billion people were impoverished. This is a vast improvement from the 37% impoverished in 1990, when almost 2 billion people lived in World Bank–defined poverty. This astounding improvement is largely accounted for by China's remarkable economic turnaround. Still, global poverty remains a significant issue with significant public health issues.

The Elderly

United States census data documented an elderly population of 43.1 million in 2012 and predicts that it will double to 83.7 million by 2050.[6] Internationally, population aging, resulting from decreasing mortality and declining fertility, is also taking place. The number of people over age 60 increased from 9.2% in 1990 to 11.7% in 2013 and will reach 21.1% by 2050. By that year, the number of older people will have doubled – from 841 million in 2013 to more than 2 billion.[7]

Infant Mortality

Defined as deaths of infants under 1 year of age per 1000 live births, this ratio is often used as an indicator of the level of health in a country. Worldwide, the infant mortality rate is approximately 42/1000 to 50/1000 live births.[8] The overall US infant mortality rate is 5.3/1000 live births,[9] with higher rates occurring in underserved areas. This article focuses on select underserved populations both in the Untied States and internationally, with infant mortality rates on the higher end of the spectrum.

Primary Care Physician Shortages

Currently, there are 778,000 practicing physicians in the United States. Approximately one-half of them are engaged in primary care, but approximately one-half are over the age of 50; almost one-third are projected to retire in the next 10 years.[10] Compounding the problem is that currently, just 25% of medical school graduates go into and remain in primary care.[11] The reasons for this are no secret: lower primary care salaries, busier