

Design of Site-Specific Prognostic Morbidity-Mortality Studies and Internal Outcome Focus Studies in Radiation Oncology

Michael S. Gossman, MS, DABR

This research focuses on morbidity-mortality reviews and internal outcome focus studies. Definitions are provided as well as a complete discussion of the ideal parameters to consider when constructing each of these. The implementation of the design characteristics used may be of assistance to a center pursuing achievement of these requirements toward accreditation to exemplify continuous quality improvement in external-beam radiation therapy. The article further provides the educational tools necessary for readers to mature expanded studies from it for advanced site-specific clinical analyses.

Key Words: Accreditation, morbidity, mortality, outcome, rates

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INTRODUCTION

In the process of radiation oncology department accreditation, surveyors pay close attention to continuous quality improvement in the clinical section. There are 7 primary areas of attention in this clinical continuous quality improvement process, each supervised and orchestrated by the medical director, and are separate from the technical and scientific areas supervised by the Chief Medical Physicist. These include chart review, individual physician peer review, patient satisfaction surveys, new patient conferences, port film and image review, morbidity and mortality review, and finally a focused review of internal outcomes. Most of these objectives are routinely conducted at centers across the nation. However, morbidity, and mortality and internal outcome studies typically seem to be either absent or not well assembled at many. This occurrence becomes increasingly valid for stand-alone facilities and for those that have not gained reporting benefits from an affiliated hospital's Cancer Registry Department.

This research focuses on these latter 2 primary objective areas: morbidity and mortality reviews and focused reviews of internal outcomes. Definitions are provided as well as a complete discussion of the ideal parameters to consider when constructing each of these. The implementation of

design characteristics used may be of assistance to a center pursuing continuous quality improvement in external-beam radiation therapy, which is required for accreditation to be granted by ACRO or ACR-ASTRO. The article further provides the educational tools necessary for readers to mature expanded studies from it for advanced site-specific clinical analyses.

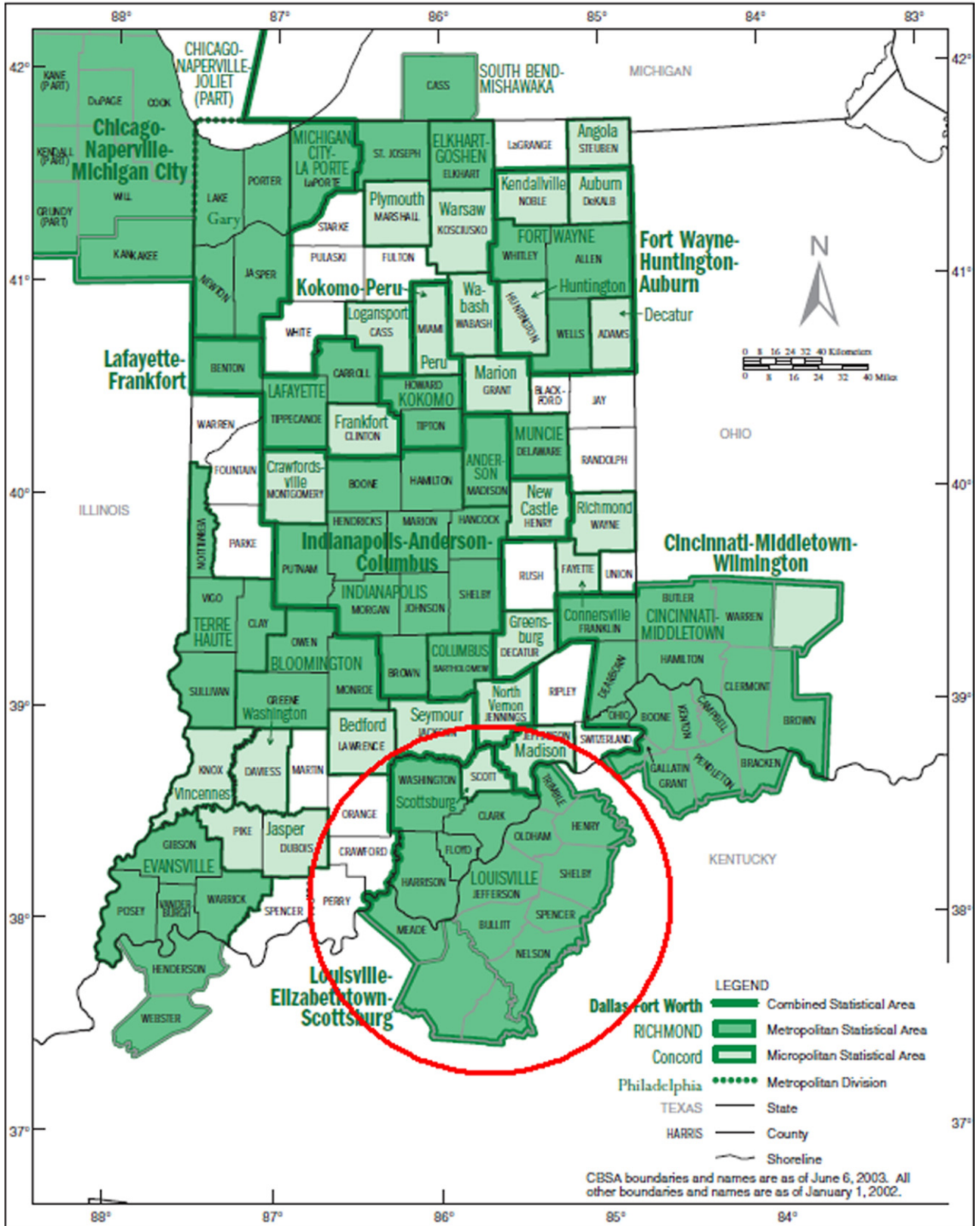
METHODS

Morbidity (change in rate) and mortality (change in count) are generally analyzed in terms of indices, on the basis of the population of a metropolitan area from which a cancer center draws patients. Since the index for each changes from year to year, a rise or fall is directly related to the number of clinical presentations, the prognostic aim for treatment, the life span of each patient, and other such factors. These changes may be used by radiation oncologists to recognize patterns in overall patient clinical performance, clinical treatment regimens prescribed, and the rate of incidence of cancer in their area. A census is necessary to monitor patterns of population change in the referral region, which is specifically defined as the population in the associated metropolitan area [1]. Consequently, when reviewing indices for changes in morbidity and mortality, the population difference with respect to a baseline year must be incorporated. The number of occurrences in each category is equivalent to the counted number of patients treated, multiplied by a baseline weighting factor and then divided by the metropolitan population. One can make use of a scaling factor of 100,000 to be multiplied in afterward to reduce the complexity of the mathematics, because most

Tri-State Regional Cancer Center, Medical Physics Section, Ashland, Kentucky.

Corresponding author and reprints: Michael S. Gossman, MS, DABR, Tri-State Regional Cancer Center, Medical Physics Section, 706 23rd Street, Ashland, KY 41101; e-mail: mgossman@tsrcc.com.

INDIANA - Core Based Statistical Areas and Counties



U.S. DEPARTMENT OF COMMERCE Economics and Statistics Administration U.S. Census Bureau

2002 Economic Census

Fig 1. Metropolitan statistical area involving a facility in southern Indiana inclusive of the population in northern Kentucky.

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