

The DUSOI/WONCA severity of illness instrument

George Parkerson Jr., November 19, 2011

Introduced to the Committee by George Parkerson Jr. in 1993 on the basis of the work of the Department of Community and Family Medicine, Duke University School of Medicine, USA, in development of the Duke Severity of Illness Checklist (DUSOI). The original DUSOI has been adapted under the name of Duke and World Organization of Family Doctors Severity of Illness Checklist (DUSOI/WONCA).

Development of the DUSOI/WONCA

In 1993 the WONCA Classification Committee (WICC) began to develop a method to determine the severity of illness of health problems encountered in clinical practice. The committee conducted an international trial to test the Duke Severity of Illness Checklist (DUSOI), a validated severity measure based upon the clinical judgment of the health care provider.^{1,2} To use the DUSOI the provider rates the severity of each of the patient's health problems at the time of the patient visit. Severity is based along four severity parameters: symptom status, complications, prognosis during the next six months without treatment, and treatability, i.e., expected response to treatment.

The WICC trial, "Classification of Severity of Health Problems in Family/General Practice: an International Field Trial," published 1993 in *Family Practice*³ tested the DUSOI for the first time in the international setting, and also developed and tested the Duke and World Organization of Family Doctors Severity of Illness Checklist (DUSOI/WONCA). Twenty-two family/general practitioners from nine countries (The Netherlands, Spain, Belgium, United Kingdom, Hong Kong, United States, Germany, Israel, and Japan) determined the severity of illness of 1191 patients with 2488 health problems in the primary care setting. Severity scores (scale= 0 for lowest, and 100 for highest severity) ranged from 17.1 for lipid disorders, to 53.2 for chronic obstructive pulmonary disease. The average severity score for all health problems was 39.1. The average time for completion of the scale was 1.9 minutes, and physicians found no difficulty in completing the scale in 71.1% of their patients. The authors of the trial suggested that the DUSOI/WONCA might offer a valid severity classification component to the International Classification for Primary Care (ICPC).

Instruments for measuring severity of illness

Measurement of severity of illness and comorbidity have become increasingly important in recent years because the quality and cost of health care have become prime medical and political issues. Most of the original severity measures were developed for use in the inpatient hospital setting using chart abstracts (Kaplan,⁴ Gonnella,⁵ and Horn⁶). Charlson⁷ emphasized the importance of physician clinical judgment in determining severity. In the primary care setting, Barsky⁸ measured severity of each diagnosis according to the amount of disease, prognostic threat to life, number of organs involved, disability, complications, and seriousness of treatment. Multiple ambulatory case-mix measures have been developed.⁹⁻¹³ None of these measures incorporates a direct assessment of severity based upon the clinical judgment of the patient's medical provider. In contrast, the DUSOI^{1,2} depends upon clinical judgment and can be used either by the patient's provider at the time of the visit, or independently by chart audit. More recently, the DUSOI has been combined with age, gender, and health-related quality of life measured by the Duke Health Profile (DUKE)^{2,14} to develop the Duke Case-Mix System (DUMIX).^{2,15}

Use of the DUSOI/WONCA

The DUSOI/WONCA form is shown in the Figure. In the scoring example on the form for the health problem Gout, the patient's Symptom score was "3" because gout was causing "moderate" symptom severity; the Complication score was "1" because the presence of complications was "questionable;" the Prognosis score was "3" because there was "major" disability; and the Treatability score was "2" because the expected response to treatment was "good." These scores were derived using provider

judgment from the Raw Scores table at the bottom of the form. The total of these "raw scores" was "9," which indicated an overall Gout Severity score of "3," indicating high severity. This score was derived from the Severity Codes table, also at the bottom of the form.

Relationship between ICPC and the DUSOI/WONCA

One optional use of the DUSOI/WONCA, for providers who wish to indicate severity as part of the ICPC-2 classification, might be to add the DUSOI/WONCA severity code to the ICPC-2 classification code.¹⁶ In the example of Gout in the Figure, the ICPC-2 code T92 for gout would become T92:3, with the supplemental code "3" indicating high severity.

References:

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