# Priority setting in health care and public health The role of health economics

Akademisk avhandling

Som för avläggande av medicine doktorsexamen vid Sahlgrenska akademin, Göteborgs universitet kommer att offentligen försvaras i konferensrum Ingegerd Eriksson, Medicinaregatan 3, Göteborg, den 7 september 2018, klockan 09:00.

#### av Linda Ryen

Fakultetsopponent: Professor Lars-Åke Levin, Institutionen för medicin och hälsa, Linköpings universitet

### Avhandlingen baseras på följande delarbeten

- Ryen, L, Svensson M. Modelling the cost-effectiveness of impact-absorbing flooring in Swedish residential care facilities. *European Journal of Public Health* 2016; 26: 407–411
- II. Ryen, L, Svensson M. The willingness to pay for a quality adjusted life year: a review of the empirical literature. *Health Economics* 2015; 24: 1289-1301.
- III. Ryen L, Bonander C, Svensson, M. From loss of life to loss of years: a different view on the burden of injury fatalities in Sweden 1972-2014. Forthcoming in *European Journal of Public Health*.
- IV. Ryen, L, Jakobsson N, Svensson M. What should guide priority setting in health care? A study of public preferences in Sweden. *Manuscript*.

## SAHLGRENSKA AKADEMIN INSTITUTIONEN FÖR MEDICIN



## Priority setting in health care and public health The role of health economics

### Linda Ryen

Department of Public Health and Community Medicine, Institute of Medicine, Sahlgrenska Academy at University of Gothenburg, Sweden, 2018.

#### Abstract

The aim of this thesis is to analyze the role of health economics for priority setting in health care and public health. Four papers provide the basis for the analysis. Paper I contains an application of a typical cost-effectiveness analysis, where the cost per QALY for an injury prevention strategy is assessed. Paper II reviews and analyzes the literature on estimates of the willingness to pay for a QALY. Paper III describes the burden of injury fatalities both in terms of 'number of fatalities' as well as 'sum of potential years of life lost', to study the priority-setting implications of the different metrics. In paper IV, public preferences for priority setting criteria in health care are explored based on a population survey.

Results show that, despite being cost-saving from the societal perspective, there is a risk that interventions are not being implemented due to lack of incentives when different actors carry cost and enjoy benefits. Reviewing the literature on the willingness to pay for a QALY displays a wide spread of the estimates, indicating that there is not much hope of finding *one* monetary value of a QALY from the current literature to inform a demand-based threshold value in cost-effectiveness analyses. The choice of using life-years lost or fatalities ("lives lost") carries substantial implications for priority setting among injury types, and must be carefully considered in evaluations of interventions. Finally, the survey results on public preferences indicate a reluctance to accept any criteria for priority setting, which makes it difficult to assess how the criteria actually used by decision-makers align with the preferences of the payers (i.e. the population).

**Keywords:** prioritizing, preferences, QALY, cost-benefit analysis, cost-utility analysis, cost-effectiveness analysis, willingness to pay