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**CONFERENCE ABSTRACT****Measurement of health organisation performance across multiple sector  
services: a population health analytic perspective**18<sup>th</sup> International Conference on Integrated Care, Utrecht, 23-25 May 2018Stephen Sutch<sup>1</sup>, Alan Thomsson<sup>2</sup>, Chad Abrams<sup>3</sup>

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**Introduction:** In measuring the activity and indeed the performance of health organisations it is important to consider not only the case-mix of the organisation and technical efficiency, but also what inter-dependencies may exist between organisations, or whether they are covering different services and extent of services. This study seeks to measure and provide a population health analytic approach to recognising the effects of substitution and overlap of activities of primary and secondary care.

Challenges to measure true performance of organisations exist where sectors of care exist across different organisations, and where health care is divided across silos and are reviewed without consideration of interrelationships. In addition, with the increased policies worldwide to introduce integrated health services e.g. accountable care organisations, local health community and population health programs, assessing cost and health quality improvements will need an adequate a framework to understand where improvements are attributed across multiple contributing organisations.

**Methods:** The data sources include multiple studies from different countries. Primary Care and secondary care data were combined to create population databases, and casemix measurement was made using the Johns Hopkins ACG System. The distribution of the populations were analysed observing the share of activity and cost between primary, outpatient and inpatient services.

The triple aim reporting framework suggested by Seow 2014 will be adapted to look at both temporal changes in cost distribution by health sector, and looking to identify and classify different organisation models. The Johns Hopkins ACG Adjusted Clinical Groups system was used to control for casemix complexity and multimorbidity.

**Results:** Analysis of total costs across all sectors inpatient, outpatient, emergency care and primary care showed the increased costs associated with higher complexity and multimorbid patients. The distribution of utilisation and cost were different according to the complexity of patients but also by organisation. For example, the proportion of spend on primary care services was generally higher for lower complexity patients, with the proportion reducing with

increased complexity, and in association, the increased spend on hospital services could be seen as complexity increased. But regional analyses also highlighted that these proportions of spend were different even when casemix complexity was held constant. The population level analyses showed different results with respect to cost efficiency than those shown in individual sectors.

**Discussion:** In measuring organisational performance it is important to consider the extent of vertical integration in health services in fully understanding the cost effectiveness and efficiency of health systems. Isolating individual sectors of health care for measurement may lead to incorrect interpretation of results where interdependencies between services across different sectors exist. Policy makers need to be aware of the effect of activity shifting between health sectors, which can lead to increased complexity in all sectors, increases in average costs per sector, whilst the potential lower costs and convenience to patients are unmeasured Technical v Allocative efficiency. Casemix adjustment is an important consideration in measuring health care organisations, but to reduce confounding the inter and intra organisational dynamics and dependencies need to be considered.

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**Keywords:** casemix; measurement; performance; multimorbidity; triple-aim

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