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Monitoring and Managing Health Care Costs through Health Indicator Analyses

Evidence Summary

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Purpose of the Document

The document aims to present brief summary of evidences on healthcare cost monitoring measures used in high- and middle-income countries in order to maintain the healthcare costs manageable through developing the opportunities that might enhance the effectiveness of Universal Health Coverage Programme implementation and monitoring in Georgia. The summary mainly includes the latest evidences published on the main topic mentioned above and is intended for operational readership: for policy makers, health program managers and supervisors and other actors interested to learn more on fiscal sustainability of health systems. Full resources included in this summary are organised and could be accessed at www.zotero.org -

https://www.zotero.org/groups/monitoring_healthcare_costs

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Introduction

Many countries around the world struggle with steady health expenditure growth in recent decades, that puts pressure on national health budgets and yields those countries' governments to draw policy options for cost containment in the health systems and develop health expenditure control tools and/or approaches.^{1,2} One of the mostly used and experienced strategies that many countries follow is the primary care service use promotion, that decreases hospitalization and frequency of emergency department visits (an expensive secondary care).^{3,4} But sometimes the only strong political commitment is not enough for new interventions to be averted in the real health systems changes and there is need to assess the effectiveness of the first level of health care. This is often done through performance measurement and monitoring of healthcare quality and expenses. Performance measurement offers policy-makers a major opportunity to guarantee health system improvement. It effects on the quality of decisions made by all payers within the health system including providers, managers and policy makers.⁵

There are several indicators in the health system whose monitoring to time to time gives a strong information to policy makers to manifest poor and best practices in the health system and argue for

effective application of limited financial resources. One group of these indicators is an Ambulatory Care Sensitive Conditions (ACSCs) sometimes known as the Prevention Quality Indicators (PQIs).⁶

Definition and Importance of Ambulatory Care Sensitive Conditions in health data analyses

Ambulatory Care Sensitive Conditions (ACSCs) are those conditions for which hospital admission could be prevented by interventions in primary care.⁷ The idea underlying ambulatory care-sensitive conditions (ACSC) is that effective treatment of acute conditions, good management of chronic illnesses and immunization against infectious diseases can reduce the risk of a specified set of hospitalizations.^{8,9} Recent publications – a review paper about ACSCs published between 1990-2010 provides a strong evidence of the inverse relationship between the performance and access to primary care services and rates of hospitalization.¹⁰ 51 papers were analysed in this review. 72.5% of them revealed a significant inverse association between the indicator of Primary Health Care (PHC) accessibility and rates of Avoidable Hospitalization (AH). Indicators of PHC calculated at individual level are more likely to reveal contradictory aspects of the relationship between rates of AH and indicators of quality and PHC accessibility. This review concludes that most studies confirmed the expected relationship between indicators of PHC accessibility and hospitalization for ACSCs, showing lower hospitalization rates for ACSC in areas with greater access to PHC.

How are ACSCs coded and classified

Different countries use more or less different conditions when conducting the health data analysis. The way of classification of ACSCs is to use codes standardised with an International Classification of Diseases (ICD). The majority of work defining ACSCs come from the USA followed by Australia, Spain and United Kingdom. The most important aspect while defining ACSCs for countries is to define Ambulatory Care at first and draw comparisons among perceived interpretation of this concept in different settings. *For example, in the USA, “Ambulatory Care” is perceived as care outside an inpatient hospital, including specialist outpatient care. In the UK, this is a less clear-cut concept as it does not fit with the term ‘primary care’ which tends to exclude care delivered by specialists. However, the Directory of Ambulatory Emergency Care for Adults, which lists a number of conditions*

that can be effectively managed outside hospital, assumes that conditions including, for example, self-harm, can be managed without inpatient admission, with appropriate and prompt access to diagnostic services and specialist advice.⁷

A group of researchers have conducted a detailed search for all existing ACSCs through the published literature in order to explore the impact of different definitions of ACSCs and associated disease codes on analysis of health service activity. They identified potential 36 ACSCs, from which National Health System (NHS) subset of ACSCs only contained 19 of those conditions (see Table 1).

Table 1. Ambulatory care sensitive conditions (ACSCs) identified by literature search (n=36)

ACSCs in common use in the NHS (n=19)	Other ACSCs identified by literature search (n=17)
Angina	Alcohol-related diseases
Asthma	Atrial fibrillation and flutter
Cellulitis	Constipation
Congestive heart failure	Deliberate self-harm
Convulsions and epilepsy	Dyspepsia and other stomach
Chronic obstructive pulmonary disease	function disorders
Dehydration and gastroenteritis	Failure to thrive
Dental conditions	Fractured proximal femur
Diabetes complications	Hypokalemia
Ear, nose and throat infections	Low birth weight
Gangrene	Migraine/acute headache
Hypertension	Neuroses
Influenza and pneumonia	Peripheral vascular disease
Iron-deficiency anemia	Ruptured appendix
Nutritional deficiency	Tuberculosis
Other vaccine-preventable diseases	Schizophrenia
Pelvic inflammatory disease	Senility/dementia
Perforated/bleeding ulcer	Stroke
Pyelonephritis	

Even within the NHS, the underlying diagnostic codes used to define ACSCs vary widely across differing sets of ACSCs, including those issued by the same agency. This impacts on reported rates of admission and, in turn, on secondary care costs attributable to ACSCs.

Selection of ACSCs

There is a list of publications that underline the importance of criteria's that should be taken into consideration while deciding whether a specific condition should be included in the list of ACSCs or rejected as not appropriate.

The selection criteria's developed by the researchers are as follows:⁸

- Evidence in the literature that the condition is ambulatory care-sensitive;
- The relevance of the diagnosis for public health;
- Consensus among experts and clinicians that the hospitalization is potentially avoidable by the effective and timely provision of ambulatory care;
- Clarity regarding the definition and coding of the diagnosis and
- The necessity of hospital treatment should the health problem related to the condition occur

Country Evidence Briefs

In England there was performed Observational study of routinely collected hospital admission data from March 2001 to April 2011 in order to identify trends in emergency admissions for patients with clinical conditions classed as 'ambulatory care sensitive' (ACS) and assess if reductions might be due to improvements in preventive care. In total, 138 million admissions to hospital were recorded as taking place in England between 1 April 2001 and 31 March 2011, of which 46 million were classified as emergency admissions. Less than 2% of emergency admissions (794 369) were excluded due to invalid age or gender codes, or were for people resident outside England. Of the remaining valid emergency admissions, 8.3 million (18.5%) were recorded as falling within 1 of the 27 conditions defined as ACS. The estimated cost to commissioners for these admissions in 2010/2011 was £1.9

billion. The mean age of patients admitted as an emergency with an ACS condition was 53 years and 49% were male.¹¹

In Germany, researchers prepared a catalogue (which included 22 ACSCs in total) that illustrated corresponding rates of ACSC hospitalizations, which were calculated based on 2012 ICD-10 coded primary hospital admission data for Germany. According to the core list of 22 ACSCs from the German catalogue, 5.04 million (27%) of 18.6 million total hospitalizations registered in Germany in 2012 were hospitalizations attributable to ACSCs, but the findings of Sundmacher et al. show that 3.78 million (75%) were estimated by a panel of 40 physicians to be preventable.^{8, 12}

Estimates of preventability for selected ACSCs for Germany were comparable overall to findings of other similar studies. The degree of preventability of ACSC-attributable hospitalizations in Germany for diabetes (81%) were higher than estimated for Latvia (39%) and the Republic of Moldova (40%). Hospitalization for hypertension had 83% estimated preventability, which was slightly above estimates for the Republic of Moldova (60–70%). Estimates of preventable hospitalizations for the diagnostic group “Bronchitis & COPD” in Germany (76%) were high compared to 2010 estimates from the National Health Service in the United Kingdom (10–30%) for the condition. For heart failure, German preventability rates (64%) were comparable to United Kingdom estimates (30–60%).^{13,14}

Reference:

¹ OECD (2015), Fiscal Sustainability of Health Systems: Bridging Health and Finance Perspectives, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264233386-en>

² OECD (2015), Fiscal Sustainability of Health Systems: Bridging Health and Finance Perspectives, Policy Brief.

³ Shi L. (2012). The Impact of Primary Care: A Focused Review. *Scientifica*, 1-22. Hindawi Publishing Corporation. Doi: <http://dx.doi.org/10.6064/2012/432892>

⁴ Masseria C, Irwin R, Thomson S, Gemmill M & Mossialos E. (2009). Primary care in Europe. Policy Brief. The London School of Economics and Political Science

⁵ Smith P.C, Mossialos E & Papanicolas I. (2008). Performance measurement for health system improvement: experiences, challenges and prospects. WHO

⁶ AHRQ Quality Indicators—Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Care Sensitive Conditions. Rockville, MD: Agency for Healthcare Research and Quality, 2001. AHRQ Pub. No. 02-R0203.

⁷ Purdy S, Griffin T, Salisbury C & Sharp D. (2009). Ambulatory care sensitive conditions: terminology and disease coding need to be more specific to aid policy makers and clinicians. *Journal of Public Health* 128: 169–173, doi:10.1016/j.puhe.2008.11.001

⁸ Sundmacher L, Fischbach D, Schuettig W, Naumann C, Augustin U & Faisst C. (2015). Which hospitalisations are ambulatory care-sensitive, to what degree, and how could the rates be reduced? Results of a group consensus study in Germany. *Journal of Public Health* 119: 1415-1423, <http://dx.doi.org/10.1016/j.healthpol.2015.08.007>

⁹ Gusmano M.K, Rodwin V.G & Weisz D. (2015). Hospitalization for Ambulatory-care sensitive conditions (ACSC) in Ile de France: A view from across the Atlantic.

¹⁰ Rosano A1, Loha CA, Falvo R, van der Zee J, Ricciardi W, Guasticchi G, de Belvis AG. (2013). The relationship between avoidable hospitalization and accessibility to primary care: a systematic review. *European Journal of Public Health*. 23(3):356-60. doi: 10.1093/eurpub/cks053

¹¹ Bardsley M, Blunt I, Davies S & Dixon J. (2012). Is secondary preventive care improving? Observational study of 10-year trends in emergency admissions for conditions amenable to ambulatory care. *BMJ Open*. 3:e002007. doi:10.1136/bmjopen-2012-002007

¹² Ambulatory care sensitive conditions in Germany. WHO 2015

¹³ Ambulatory care sensitive conditions in Latvia. WHO 2015

¹⁴ Ambulatory care sensitive conditions in the Republic of Moldova. WHO 2015



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