Revision of the

System of Health Accounts

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT OECD

eurostat

World Health Organization

Early Draft
Unit 3

Key Concepts and Definitions in Health Accounts

Summary
This document, being an early draft Unit for the SHA Manual revision, was presented and discussed at the OECD Health Accounts Expert meeting in Paris 7-8 October 2009. Your feedback, specifically on the questions raised at the end of this document with any other comments, is invited by 20 November 2009. Please send your comments to sha.contact@oecd.org

Author .... IHAT
Affiliation .... OECD-WHO-EUROSTAT
Submitted on 07-10-2009
Document code .... SHA-REV 03300

*The opinions expressed and arguments employed herein do not necessarily reflect the official views of the **Organisation for Economic Co-operation and Development** or of the governments of its member countries, those of the **World Health Organization** or those of **EUROSTAT** or the **European Commission**.*

Key Concepts and Definitions in Health Accounts

11th meeting of Health Accounts Experts and Correspondents for Health Expenditure Data, OECD Conference Centre, Paris

7-8 October 2009, including a joint session with Health Data Correspondents on the afternoon of 8 October

NOTE BY THE SECRETARIAT

1. Health Accounts methodological developmental work is a main component of the 2009 2010 OECD Programme of Work on Health. The aim of the methodological developmental work is to enhance the analytical power of the System of Health Accounts (SHA), improve the quality of the SHA as a statistical framework and provide better guidance for the application of the SHA by national statistical authorities. This work is planned to come together in the revision of the SHA Manual supervised by the International Health Accounts Team (IHAT) of Eurostat, OECD and WHO.

2. This document sets out the proposed first IHAT draft of Unit 3 of the revised SHA Manual "Key concepts and definitions in health accounts". It diverges from the original programme of work in removing the important theme of prices and volumes in health, which following responses to the OECD proposal, IHAT has agreed will be discussed separately later in the Manual.

3. The document defines current expenditure on health, gross capital formation of health providers, the concepts of the use of health products including final uses and intermediate consumption, and of international trade in SHA.

4. Comments on this proposed first IHAT draft are invited at this meeting and/or later via email or to the SHA revision EDG. These will be taken into account when modifying this and preparing the next draft of Unit 3. Participating experts are invited to:

- COMMENT on the definitions and explanation of concepts presented in the paper;
- REFLECT on and RESPOND to the specific questions raised by IHAT at the end of the paper.

INTRODUCTION

5. This unit outlines the main principles, concepts and definitions used in the System of Health Accounts. It sets out the analytic framework of SHA 2.0 building on SHA 1.0 and the Producer Guide and enhances them with the use of new accounting tools. It highlights the differences with the System of National Accounts (SNA), thus relating information on the health sector to the national economy accounting rules.

6. The unit discusses the following: current expenditure on health; gross capital formation; time of recording; the supply of health care goods and services; and trade.

MAIN AGGREGATES OF HEALTH EXPENDITURE

Current expenditure on health

7. As discussed in Unit 2, Global Boundaries of Health Care, health care is defined by the types of activities or purposes according to the classification of health care functions (ICHA-HC). In measuring expenditure on these activities, *current expenditure on health* can be defined as follows.

Current expenditure on health: final consumption expenditure of resident units on health care goods and services.

8. In other words, current expenditure on health quantifies the economic resources spent on the health care functions as identified by the consumption boundaries in Unit 2. That is, expenditure of resident units in the economic territory plus their expenditures in the rest of the world. Hence the SHA concerns itself primarily with the health goods and services *consumed* by resident units, irrespective of where the consumption takes place or indeed who is paying. Therefore, exports of health care goods and services for final use, *i.e*. provided to non-resident units, are excluded, whereas imports of health care goods and services for final use, *i.e.* consumed by residents abroad, are included. The concepts and definitions related to the treatment of imports and exports under SHA are discussed in the Annex to this unit.

9. As discussed in Unit 2, the primary focus of the SHA is on the consumption of health care goods and services by the residents of a country, such that expenditure on these functions is included as long as it is borne for *final use* of resident units. An important distinction to bear in mind, therefore, is between final and intermediate consumption.

10. Health providers require an array of goods and services which are used as inputs for the provision of the health services. Those goods and services that are transformed or entirely used up in the course of production within the accounting period are regarded as intermediate consumption (*e.g.* electricity, water, fuel, surgical mask, protective wear). On the contrary, goods used repeatedly or continuously for more than one year in the production of health services are classified as capital formation.

Gross capital formation expenditure

11. The distinction between current expenditure on health care goods and services and capital expenditure in health care industries is important. Capital goods are an essential component of demand and play a crucial role in the provision of health care services and goods allowing for the expansion of production.

12. Gross capital formation is defined as the net acquisition of produced assets i.e. assets intended for use in the production of other goods and services for a period of more than one year. It is the sum of the value of the following three components:

- gross fixed capital formation;
- changes in inventories; and
- acquisitions less disposals of valuables.

13. Therefore, gross fixed capital formation is one of the three elements included in the wider aggregate called Gross capital formation.

14. Net acquisition refers to the fact that in calculating capital formation, disposed existing assets should be deducted from the value of the acquired capital goods. Such capital goods may be tangible assets, for example, hospital buildings, ambulances or MRI machines, or intangible assets, such as investment in software and expenditure on Research and Development (see below). Gross capital formation can be further broken down according to the health care provider industry. It is clear that for the most part the tangible capital goods are produced by branches or industries outside the realm of health care providers.

15. For the recording of gross capital formation, the SHA recommends that it concerns only those providers where health care is the predominant activity. Where administration activities of public health and health care financing or insurance are embedded into larger units, any relevant capital formation may be impossible to distinguish.

16. The guiding principal for the recording of gross capital formation is the ownership of the assets by the health providers. The only category of health providers for which capital formation would not be recorded is the rest of the world, as the acquisitions of capital goods by non-resident providers will be recorded in the country of residence of the provider.

17. The inclusion of all providers (except the rest of the world) is a departure from SHA 1.0 which excluded the net acquisition of capital assets made by retail sale of medical goods (as retail sale of medical goods is regarded as a supporting activity). The proposal of recording also the values of gross capital formation acquired by the retail sellers is motivated by the fact that retail sales are part of the health system. In low and middle income countries retail sellers are part of the distribution of medical goods, a different type of providers but as relevant as medical offices. Also in high income countries, such as Switzerland, retail sellers can recommend and prescribe medicines. Prescription and provision of medicines are health services.

18. In summary, the fundamental definition is:

> Gross fixed capital formation in the health care system is measured by the total value of the assets that health providers have acquired during the accounting period (less the value of the disposals of assets of the same type) and that are used repeatedly or continuously for more than one year in the provision of health services.[1]

Research and development

19. In the 2008 SNA, research and development is to be considered as an intellectual property product and as such included as a part of capital formation. The results of research and development (R&D) "consists of the value of expenditures on creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and use of this stock of knowledge to devise new applications. This does not extend to including human capital as assets within the SNA. The value of research and development (R&D) should be determined in terms of the economic benefits it is expected to provide in the future. This includes the provision of public services in the case of R&D acquired by government. In principle, R&D that does not provide an economic benefit to its owner does not constitute a fixed asset and should be treated as intermediate consumption. Unless the market value of the R&D is observed directly, it may, by convention, be valued at the sum of costs, including the cost of unsuccessful R&D…." (SNA 2008, 10.103).

20. Therefore, R&D of health care providers should be recognised as part of capital formation. In order to achieve this, several issues have to be addressed. These include deriving measures of research and development, price indices and service lives. Specific guidelines, together with handbooks on methodology and practice, will provide a useful way of working towards solutions that give the appropriate level of confidence in the resulting measures.

21. The Frascati Manual provides detailed guidelines for the estimation of expenditure on research and development in health (OECD, 2002, Annex 4). Further information on international comparisons and examples of national efforts can be found in Measuring expenditure on Health-related R&D (OECD, 2001). The separate recording of expenditure on R&D as a component of capital formation is suggested and will be targeted for further development.

22. A "Handbook on deriving capital measures of intellectual property" is currently under preparation. The purpose of the handbook is to provide guidance on deriving capital measures (gross fixed capital formation, consumption of fixed capital, capital services and the stock of capital) of R&D and other intellectual property products. As soon as the handbook will be available, we will investigate to what extent those guidelines could be applied to SHA.

Total expenditure on health

23. The approach taken in SHA 1.0 was to sum the two aggregates of "current expenditure on health" and "gross capital formation" to equal "total health expenditures". However, the use of the aggregate "total health expenditure" tended to be misleading. Indeed, current health expenditure refers to the final consumption of households, that is the demand for health goods and services by households, government and non-profit institutions, while gross capital formation refers to the demand for capital goods by health providers. Thus it could be argued that the two aggregates cannot be directly summed up. For this reason, it is suggested to keep the two aggregates separate in the revised manual, and discourage the use of the

[1] Please note that we opted for the use of "provider of health services" instead of "health care services" so to include those economic units providing health administration services.

aggregate "total health expenditure". It is proposed to use the terms "current expenditure on health" and "gross capital formation" instead.

TIME OF RECORDING

24. The timing of recording of the final consumption expenditures within SHA has two elements:

1. calendar year versus fiscal year
2. accrual versus cash accounting

25. First, a particular period must be chosen within which the activities took place. Most often this is a fiscal year or a calendar year. This choice may seem trivial, but in practice it can pose problems. For example, government entities may report spending on the basis of a fiscal year while private entities report on the basis of a calendar year. In such a case, the health accountant must adjust the figures reported so that only one time period is used.

26. The second element of the time boundary is the distinction between when the activity took place and when the transaction that paid for the activity took place. In practice, this involves a choice between accrual accounting and cash accounting. Health accounts should use the accrual method, in which expenditures are attributed to the time period during which the economic value was created, rather than the cash method, in which expenditures are registered when the actual cash disbursements took place.

27. Similarly, in the case of exports and imports, these are recorded at the time when a service is delivered or, in the case of goods, when the change in ownership of real assets occurs.

THE USES OF HEALTH CARE GOODS AND SERVICES

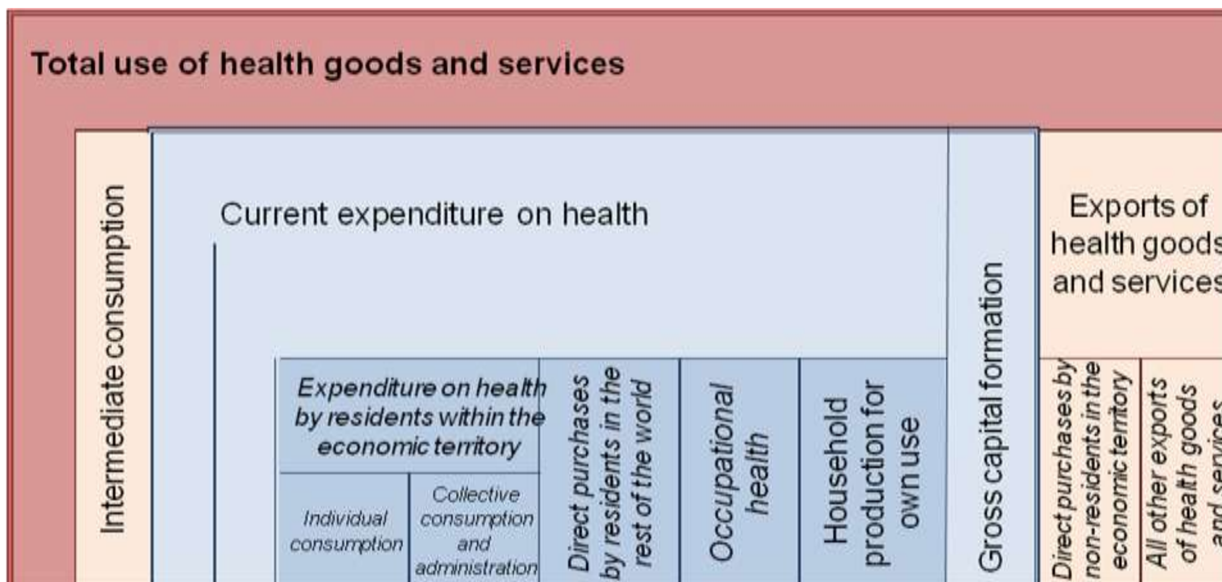
28. As shown in Figure 1, the overall health goods and services available in the economy, both as a result of domestic provision and from imports, can be put to different uses:

- health care goods and services are used up by other health care providers (intermediate consumption);
- there is external demand for these goods and services (exports);
- final consumption; and
- gross capital formation of assets produced by health providers (*e.g.* software and research and development).

29. In Figure 1, the term "individual consumption" equals the sum of final consumption expenditure of households, social transfers in kind from the government, and social transfers in kind from the non-profit institutions serving households.

30. The items "occupational health" and "household production for own use" are reported separately to highlight conceptual differences with the SNA definition of individual consumption (see below). These items are anyhow part of the individual consumption under SHA.

Figure 1. The uses of health goods and services and the main aggregates of SHA



THE RELATIONSHIP BETWEEN SHA CURRENT EXPENDITURE ON HEALTH AND SNA AGGREGATES.

31. SHA and national accounts differ in their primary perspective of the economic activity of a society. While SHA concerns itself with the consumption and financing of health care goods and services only, national accounts refer to the supply of all goods and services, the use of those goods and services, and the generation and distribution of income in the overall economy.

32. Although, as stated, the primary interest of SHA is the consumption of goods and services, the health production boundary linked to the basic health consumption boundary is most important as it sets out the differences from the SNA production boundaries. The expenditure of productive units on providing occupational health services for their employees is recorded as intermediate consumption of the respective units under SNA, while it is recorded as output of the respective units in SHA. In another departure, the production of households that take care of their dependents is not considered as an economic activity under

the SNA and therefore not recorded. Under SHA, however, it is recorded as output, although restricted to the case where there are social transfers made to carers.

33. Output of products is recorded at basic prices. The basic price is defined as the amount receivable by the producer from the purchaser for a unit of good or service produced as output minus any tax payable and plus any subsidy receivable on the product as a consequence of its production or sale. It excludes any transport charges invoiced separately by the producer.

34. Use of products is recorded at purchasers' prices. The purchaser's price is defined as the amount payable by the purchaser, excluding any deductible VAT or similar deductible tax, in order to take delivery of a unit of a good or service at the time and place required by the purchaser. The purchaser's price of a good includes any transport charges paid separately by the purchaser to take delivery at the required time and place. The difference in value recorded for a product between when it is produced and the moment it is used for, say, final consumption expenditure can be considerable. In the health sector, the main component of this difference is "taxes less subsidies on products payable by the producer".

35. Table 1 shows the link between current expenditure on health as defined in SHA and the main components of consumption as defined in SNA08. Although the concept of current expenditure on health mainly overlaps with the SNA aggregate "final consumption expenditure" (which is much wider as it covers all goods and services consumed in the economy), as described above it also includes some components which are not considered as consumption in SNA.

Table 1. Relationship between SHA current expenditure on health and SNA aggregates.

SNA 2008 code	*Description*
P.31	Individual consumption expenditure on health
P.32	Collective consumption expenditure on health
P.3	Final consumption expenditure on health (=P.31 + P.32)
D.31-D.21	Government subsidies to health care providers (net) in order to lower price of output
P.31*	Occupational health care (intermediate consumption within establishments) minus an estimated share of occupational health in health providers' and other medical industries net administration
P.31*	"remunerated" unpaid household production in the form of transfer payments (social benefits in cash) for home care of sick, disabled and elderly persons provided by family members
P.3*	Adjusted total final consumption expenditure on health (=P.3 + D.31 – D.21 + P.31*)

TRADE IN HEALTH SERVICES AND GOODS UNDER SHA

36. Imports and exports of goods and services are defined by the existence of a transaction (sale, barter, gift, grant, etc) in goods and services to/from residents from/to non-residents, but not necessarily involving the movement of the good or service across a border. Given the increasing importance of trade in health goods and services, (*e.g.* patient mobility, e-health, tele-diagnosis, the purchase of medical goods

via the internet) a consistent and comparable aggregate of health care expenditure which takes accounts of this trade is deemed necessary.

37. As discussed above, current health expenditure relates to the resident population, such that it should *exclude* any consumption of health care goods and services by non-residents (exports) but should *include* any final consumption by residents outside of the territory (imports). In this respect it is important to clarify the concepts of residence and what is to be included under imports and exports.

38. Residents include any individual, enterprise or other organisation ordinarily domiciled domestically. To ensure compatibility in this regard with other macroeconomic statistics, SHA might take its lead from the definitions contained in the Balance of Payments Manual (BPM6) "The residence of each institutional unit is the economic territory with which it has the strongest connection, expressed as its centre of predominant economic interest. Each institutional unit is a resident of one and only one economic territory determined by its centre of predominant economic interest".

39. An institutional unit is resident in an economic territory where there exists, within the economic territory, some location, dwelling in the case of households or place of production or economic activity in the case of other units, over a period of time. The location need not be fixed so long as it remains within the economic territory. A period of one year or more is normally used as an operational definition; while this is somewhat arbitrary, it is adopted to avoid uncertainty and facilitate international consistency. Further detail is provided by the Balance of Payments Manual (BPM6 Chapter 4).

40. Resident units engage in transactions with non-resident units (that is, units which are residents in other economies). These transactions are the external transactions of the economy and are grouped together in the rest of the world account. So, in the SNA's accounting structure, the Rest of the world plays a role similar to that of an institutional sector, although non-resident units are included only in so far as they are engaged in transactions with resident institutional units.

41. In the System of Health Accounts, the category 'Rest of the world", relating to non-resident units exists in both the provider and financing schemes classifications. However, with respect to imports and exports of health goods and services, it is important to clarify that it is the provision rather than the financing by non-resident units that is of interest here. For example, if a foreign government or non-resident NGO pays for services for residents but these services are actually provided by a domestic provider then these services are financed by the Rest of the World but are not an import. If, however, the services are both provided and paid for by a foreign government to a resident, then this is indeed accounted for as an import.

42. In the SHA tables, therefore, imports of goods and services from non-resident units are to be recorded under the provider category 'Rest of the world' and may be cross-classified against the functional and financing classifications. Within the measure of current health expenditure, exports are not included since they refer to consumption by non-residents. However, during compilation, the direct purchase of health care goods and services by non-residents will often need to be explicitly excluded from domestic provider revenues. For transparency and reconciliation, it is therefore proposed that exports should also be reported as a memorandum item.

43. A distinction should be made between imports and exports under the core framework of the SHA and international trade in health care products in a wider economic sense. The former concerns health care products for final consumption *e.g.* a patient going abroad for dental care, whereas the latter also includes products purchased for intermediate use *e.g.* the provision of diagnostic services from foreign laboratories to domestic hospitals.

ANNEX 3.1 STATISTICS OF INTERNATIONAL TRADE IN SERVICES

44. Faced with the requirements for relevant, comparable and reliable statistics on trade in all services, not only in health, the international agencies have been active in developing the concepts and data reporting requirements.

45. This work on international trade in services has taken on importance since the WTO General Agreement on Trade in Services (GATS) in 1995, which defined four modes of supply of services (Table A3.1).

46. The Manual on Statistics of International Trade in Services (MSITS), incorporating the key concepts from System of National Accounts (SNA 2008) and the Balance of Payments manual (BPM6), provides recommendations for the measurement of international trade in services. It sets out the Extended Balance of Payments Services Classification (EBOPS) which provides a greater level of detail to the BPM6 classification of services and has correspondence tables with standard product and industry classifications. Within the EBOPS (Table A3.2), health services are split between two classes of the classification; Health-related travel (corresponding to mode 2 of GATS) and Health services (either cross-border (mode 1) or delivered on the territory by temporary movement of providers (part of mode 4). An alternative grouping, which may better approach the SHA boundaries of health care goods and services, combines these two categories. It is important to achieve proper linkages and synergies between SHA and international trade reporting by ensuring consistent boundaries and definitions of trade in 'health care'.

47. In developing and sourcing statistics in international trade, it needs to be reiterated that for estimating total health expenditure, we are concerned primarily with those goods and services destined for final use. For example, tele-diagnosis services from abroad may be purchased by a domestic hospital. In this case, the in-patient care provided by this hospital constitutes the service consumed, and the tele-diagnosis is an import by the hospital sector rather than a direct import of health services by the patient. Such imports of goods and services for intermediate consumption should be recorded separately.

Table A3.1 Four modes of supply of services in trade defined by the General Agreement on Trade in Services (GATS)

Mode of supply	Territorial presence of transactors	Health related example	Major statistical areas
Mode 1. Cross-border supply	Service only crosses the border. Consumer in his/her territory of residence: Supplier outside the territory of the consumer	Includes shipment of laboratory samples, diagnosis, and clinical consultation via traditional mail channels, as well as electronic delivery of health services, such as diagnosis, second opinions, and consultations. Variety of telemedicine, tele-health (or e-medicine/e-health) services includes tele-health services, including tele-diagnosis, tele-pathology, tele-radiology and tele-psychiatry.	BPM6
Mode 2. Consumption abroad	Consumer outside territory of residence	Medical treatment of non-resident persons i.e. person travelling abroad to the home country of the provider for: i) specialised or advanced treatment not available in the home country, generally sought by affluent patients from developing	BPM6

		countries travelling to hospitals in industrialised countries or in neighbouring developing countries with superior health care standards. ii) or a price or quality advantage over the home country, generally sought by patients from industrialised countries who purchase affordable, high-quality treatment or alternative medicines and treatments in developing countries.	
Mode 3. Commercial presence	Supplier in the territory of the consumer: through commercial presence	Health care companies in industrialised and some developing countries are increasingly engaging in joint ventures and alliances, resulting in several regional health care networks and chains. Medical treatment in a foreign-owned clinic resident in the reporting economy.	FATS and Activities of Multinational Enterprises
Mode 4. Presence of natural persons either self employed or employees	Supplier in the territory of the consumer: Through the presence of natural persons	Movement of health personnel, including physicians, specialists, nurses, paramedics, midwives and other professionals. Short-term flows have mainly been driven by conscious strategies to promote health services exports, in order to earn foreign exchange and foster cooperation between governments.	BPM6 & other[1]

1. The “other” statistical areas include migration and employment statistics.BPM6 is the fifth edition of the IMF Balance of Payments Manual. FATS refers to the “Foreign affiliates statistics”, definitions for which are mostly derived from 2008 SNA.

Table A3.2 Health services under the proposed EBOPS 2010 classification

4	Travel		
	4.1	Business	
		Acquisition of goods and services by border and seasonal workers	
		Other	
	4.2	Personal	
			Health-related
			Education-related
			Other
	Alternative presentation for Travel		
	For both business and personal travel		
	4a.1	*Goods*	
	4a.2	*Local transport services*	
	4a.3	*Accommodation services*	
	4a.4	*Food-serving services*	
	4a.5	*Other services*	
		Of which:	
			Health services
			Education services
11	*Personal, cultural, and recreational services*		
	11.1	*Audiovisual and related services*	
	11.2	*Other personal, cultural, and recreational services*	
	11.2.1	*Health services*	
	11.2.2	*Education services*	
	11.2.3	*Other*	
Alternative EBOPS groupings			
7 Health services = health services in travel + health services in personal cultural and recreational services			

REFERENCES

Abraham, K.G. and Mackie, C. (eds.) (2005) *Beyond the Market: Designing Nonmarket accounts for the United States*, Committee on National Statistics Division of Behavioral and Social Sciences Education, National Academies Press, Washington DC.

Aizcorbe, A.M., B.A. Retus, and S. Smith (2008), *Toward a Health Care Satellite Account*, BEA Briefing, May 2008.

European Commission, International Monetary Fund, OECD, United Nations, World Bank (2009) *System of National Accounts 2008* (available at: www.unstats.un.org).

Eurostat (1995), *European System of Accounts,* European Commission, Luxembourg.

International Monetary Fund (2008) *Balance of Payments and International Investment Position Manual* (available at: www.imf.org).

OECD (2000), *A System of Health Accounts*, Organisation for Economic Co-operation and Development, Paris.

OECD (2001), *Measuring Expenditure on Health-related R&D,* Organisation for Economic Co-operation and Development, Paris.

OECD (2002), *Frascati Manual: Proposed Standard Practice for Surveys on Research and Experimental Development, Sixth Edition,* Organisation for Economic Co-operation and Development, Paris.

QUESTIONS

- Should the aggregate - formerly known as total health expenditure (THE) = current expenditure on health plus gross capital formation of health providers still be retained but with a different name? Or should the two components (*i.e.* current expenditure on health and gross capital formation of health providers) be kept separated?

- The separate recording of expenditure on R&D as component of gross capital formation is *suggested*. How does your Country view this?

- Is the Figure 2 on page 8 indicating the connections between SNA and SHA health aggregates useful?

- Please identify any other issues that Unit 3 should address.