Implementation of the Health Balanced Scorecard in the Health Center of Varis, Greece. Measuring clinical indicators for cardiovascular diseases. Delphi Procedure

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Background:

Evaluation is key to quality improvement. The adoption of tools, such as the Health Balanced Scorecard (HBSC), can help in the monitoring of the performance of a healthcare system or unit. HBSC is adjustable to the needs of every health unit and assists clinicians in goal setting, strategy implementation and outcomes assessment. Certain clinical indicators (CI) are chosen for the evaluation. Until now there have been 2 efforts of measuring 26 clinical indices(c.i.), for CVD (cardiovascular diseases) at Health Center of Varis (HCV). Because of the difference in the way of measuring the c.i. by the 2 different groups, who performed the 2 measurements, an immediate need for Delphi procedure emerged. In Greece has been established the institution of the personal doctor (P.D.) with a penalty in drug payments, for those citizens who aren't registered to a personal doctor. Each P.D. signs a contract with the health authority.

Research questions:

What is the correct way for interpreting the context of the 26 c.i. for CVD at HCV?

Method:

Since the two measurement attempts found a difference in the way the text referred to each c.i. was interpreted, an attempt is made to reach agreement on the interpretation of the text, between those who performed the first and second measurements (Delphi procedure).

For the agreement to be achieved there were constructed two tables.

Table 7.5 with the 26 c.i. and table 7.5. A, which sets out how to interpret the context of the 26 c.i. for the prevention of CVD. In constructing table 7.5. A, the context of the above-mentioned contract of PD was taken in consideration

"Measuring clinical indices for CVD and correlation with goals of Health Center of Varis within the HBSC.»
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Background

The HBSC (Health Balance Scrorecard) is an authoritative method of total quality. The correlation between goals and values and clinical indicators (c.i..) is essential in this process.

Research Question

Have we achieved the objectives of Health Center of Vari(HCV), regarding the prevention of cardiovascular diseases (CVD)?

Method

In order to be able to answer at this question we are going to measure the c.i. for cardiovascular diseases (CVD) as they are recorded in the HBSC for 2018 and has sent to regional health authority [2 RHU). Then we are going to correlate the rates of c.i., with the goals and values of Health Center of Vari(HCV)**.** In order to enable the measurement of c.i., a random sample of patients was defined as appropriate, based on the list of patients of family physicians (F.P) of HCV (1per 10 patients). A total of 1500 patients were examined from the patients list of HCV. In determining the numerator we used the data obtained from the personal electronic file of health (PEFH) of electronic governance. The processing of data was done with EXCEL 2007.

Tab 1.7.5 Medical procedures Dimension

Strategic Objective	Performance Index	Index value	Target Index
PREVENTION OF CVDs	**Table.I. Investigation for risk factors of arteriosclerosis.** **1. Number &% of patients who have been investigated for risk factor of arteriosclerosis**	-	
	1.Smoking		100%
	2.Diabetes		100%
	3. Dislipidemia		100%
	4. Hypertension		100%
PREVENTION OF CVDs	**5.BMI**		100%
	6. Family History of early angina.		100%
	Table II. Investigation for end organs damages. (Number &% of patients who have been investigated for end organs damages.)		

	1. L. Ventricular Hypertrophy.		100%
	2. Leucomatouria.		100%
PREVENTION OF CVDs	**3. Carotid artery atherosclerosis.**		100%
	4. CHD(Coronary Heart Disease)		100%
	5. Stroke		100%
	6. Cardiac murmur		100%
	7. Kidney damage.		100%
PREVENTION OF CVDs	**8. Peripheral arteriosclerosis**		100%
	Table.III. Interventions to reduce cardiovascular risk. Interventions to reduce cardiovascular risk in patients with B.P, DIABETIS TYPE I & II & Dislipidaimia. (Number and% of patients)		
	1.Interventions to reduce smoking (number and percentage of patients who have been proposed for the cessation of smoking seminar)		100%
	2. with BMI<25		100%
	Table.IV.Prevention of complications/promotion of self-care in patients with a.B.P Diabetes TYPE I & II & Dislipidaimia.(Number and% of patients)		
PREVENTION OF CVDs	1. In which Lipid checks in which haw been carried out at least every 12 months		100%
	2.In which Microalbumin has been measured in the last 12 months		100%
	3. Subjected to Fundoscopy(with Mydriasis) in the last 12 months		100%
	4.Submitted to a recorded foot examination in the last 12 months		100%

	5.Which measure documented (recorded on the health card) on their own, the capillary blood glucose in the last 12 months)		100%
PREVENTION OF CVDs	6. To whom The HbA_{1c} shall be measured at least every 6 months.		100%
	Table.V. **Achievement of target treatment for B.P & HBA1C.** Number &% of patients who achieved the therapeutic target. **Number &%** of **patients**		
	1. High cardiovascular risk with SBP **<130 MMHG**		100%
	2.HIGH risk with values of DBP< 85MMHG		100%
	3MID & LOW RISK with prices OF SBP.<140 MMHG		100%
PREVENTION OF CVDs	**4. MID & LOW RISK with prices of DBP.<90 MMHG**		100%
	5.HBA1C<8%		100%
	6. L **HIGH risk with values of L**DL-cholesterol<100 mg/dl .		100%
	7.**MID & LOW RISK with prices of** Cholesterol <250mg/dl .		100%

7.5-A Dimension of Medical Procedures-AGREEMENT OF MEASUREMENT METHOD

PIN.I. Investigation for risk factors.
(number & % of patients investigated for risk factors)

ELECTRONIC PERSONAL HEALTH RECORD (EPHR) CHAPTER TO BE COMPLETED	c.i. measured from the corresponding EPHR chapters listed in the adjacent column
1.DIAGNOSES (c.i.1,2,3,4)	c.i. 1,2,3,4 can be measured from existing EPHR data AT THE PART WITH THE TITLE DIAGNOSES. There is data from 2013, the year in which e-syntagografisi was launched
2.DIAGRAMS (c.i.5)-3. FAMILY HISTORY (c.i.6)	c.i 5.6 can be measured once the EPHR has been completed AT THE PART WITH THE TITLE DIAGRAMS

TB II. Investigation for target organ damage. (number & % of patients investigated for target organ damage)

EPHR CHAPTER TO BE COMPLETED	c.i.measured from the corresponding EPHR chapters listed in the adjacent column
1.DIAGNOSES (c.i.4,5)	c.i 4.5 can be measured from existing EPHR data. AT THE PART WITH THE TITLE DIAGNOSES
2.CLINICAL SIGNS (c.i1)	c.i 1 can be measured once the EPHR has been completed AT THE PART WITH THE TITLE CLINICAL SIGNS
3.DOCUMENTS c.i (.2,7)	c.i 2.7 can be measured once the EPHR has been completed AT THE PART WITH THE TITLE DOCUMENTS
4.CLINICAL SIGNS (c.i3,6,8)	c.i 3,6,8 can be measured once the EPHR has been completed AT THE PART WITH THE TITLE CLINICAL SIGNS

TB..III.Interventions for cardiovascular risk reduction in patients with A.P., S.DIABETES TYPE I & II & dislipidemia. (Number and % of patients)

EPHR CHAPTER TO BE COMPLETED	c.i.measured from the corresponding EPHR chapters listed in the adjacent column
1.PROMOTION OF SOCIAL HABITS (c.i.1)	c.i 1 can be measured once the EPHR has been completed AT THE PART WITH THE TITLE PROMOTION OF SOCIAL HABITS. If the smoking habit has been recorded, it is usually referred to the smoking cessation clinic of H.C..Vari
2.CLINICAL SIGNS & DIAGRAMS (c.i2)	c.i2 can be measured once the EPHR has been completed. AT THE PART WITH THE TITLE CLINICAL SIGNS AND DIAGRAMS

TB. IV. Prevention of complications / Promotion of self-care in patients with A.P., S.DIABETES TYPE I & II & dislipidemia. (Number and % of patients)

EPHR CHAPTER TO BE COMPLETED	c.i.measured from the corresponding EPHR chapters listed in the adjacent column

1. RESULTS OF LABORATORY TESTS (THERE IS A COMPLETE HISTORY OF REFERRALS ISSUED SINCE 2013, WITH THE ANALECTIC EXAMINATIONS WRITTEN IN THEM)	c.i. 1,2,6 can be measured from existing EPHR data AT THE PART WITH THE TITLE RESULTS OF LABORATORY TESTS.
2.VIEW EPHR -VISITS OR DOCUMENTS	c.i.3 can be checked from the existing data of the EPHR if there is a referral to an ophthalmologist, or from the documents if there is a scanned result of the ophthalmological examination.
3.VIEW EPHR -DOCUMENTS	c.i.4 can be checked from the existing EPHR data if there is a scanned neuropad result AT THE PART WITH THE TITLE DOCUMENT
4.VIEW EPHR -DOCUMENTS	c.i.5 can be checked from the existing data of the EPHR if there is a scanned printed or electronic form of the health card (measurements of fasting blood sugar values at home).

TB. V. Number &% of patients who achieved the therapeutic goal

EPHR CHAPTER TO BE COMPLETED	c.i.measured from the corresponding EPHR chapters listed in the adjacent column
1.VIEW EPHRY-DIAGRAMS	C.I 1,2,3,4 can be measured from existing AHFY data AT THE PART WITH THE TITLE DIAGRAMES.
2.VIEW EPHR-EXAMS OR CHARTS	The C.I 5,6,7 can be measured from the existing data of, EPHR ONLY IF THE RESULTS HAVE BEEN ENTERED EITHER ONE BY ONE SEPARATELY (VIEW - EPHR EXAMS) - OR IN PDF FORMAT AND HAVE BEEN UPLOADED TO THE DOCUMENTS.

LICKERT SCALE

		Strongly Disagree			**Strongly Agre**	
	Question	**1**	**2**	**3**	**4**	**5**
	PIN.I. Investigation for risk factors. (number & % of patients investigated for risk factors)					
1						

2						
3						
	PIN II. Investigation for target organ damage. (number & % of patients investigated for target organ damage)					
1						
2						
3						
4						
	PIN.III.Interventions for cardiovascular risk reduction in patients with A.P., S.DIABETES TYPE I & II & dislipidemia. (Number and % of patients)					
1						
2						
	PIN.IV. Prevention of complications / Promotion of self-care in patients with A.P., S.DIABETES TYPE I & II & dislipidemia. (Number and % of patients)					
1						
2						
3						
4						
	PIN. V. number & % of patients achieving therapeutic goal					
1						
2						

Results:

The 26 c.i. of table 7.5 are classified in five categories regarding: I. the investigation of risk factors, II. end organs damage, III. preventive interventions, IV. prevention of complications/promotion of self-care and V. the achievement of target treatment.

Table 7.5 A, contains 3 context agreement for category I, 4 context agreement for category II, 2 context agreement for category III, 4 context agreement for category IV, 2 context agreement for category V.

The context agreement of c.i. was based on the above-mentioned contract of PD.

The results were as follows.:

		Strongly Disagree			Strongly Agree	
15	**Question**	**1**	**2**	**3**	**4**	**5**

For the total 15 questions asked from the 8 participants of our study there was a strongly agree answer from all the participants for all the 15 questions asked.

Conclusions:

It was possible to reach an agreement between the two groups measuring c.i. for CVD at the Health Center. In this agreement, the electronic personal health record (EPHR) of the e-syntagografisis system of the Greek Health Ministry played a decisive role. The completion of all its sections, as provided for in the relevant contract of personal doctors, makes it possible to measure all c.i. for CVD. This results in the ability to measure the quality of health services provided by a PHC unit, resulting in the selection of actions that will bring about quality improvement. A rough c.I. could be the % EPHR of the patients on the list, in whom all the individual sections of the EPHR have been completed.