Gac Sanit. 2016;xxx(xx):xxx–xxx

Original article

Incentives and intrinsic motivation in healthcare

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ARTICLE INFO

Article history:
Received 27 January 2016
Accepted 15 April 2016
Available online xxx

Keywords:
Qualitative research
Interviews
Intrinsic motivation
Crowding effects

ABSTRACT

Objective: It has been established in the literature that workers within public organisations are intrinsically motivated. This paper is an empirical study of the healthcare sector using methods of qualitative analysis research, which aims to answer the following hypotheses: 1) doctors are intrinsically motivated; 2) economic incentives and control policies may undermine doctors' intrinsic motivation; and 3) well-designed incentives may encourage doctors' intrinsic motivation.
Method: We conducted semi-structured interviews à-la-Bewley with 16 doctors from Navarre's Healthcare Service (*Servicio Navarro de Salud-Osasunbidea*), Spain. The questions were based on current theories of intrinsic motivation and incentives to test the hypotheses. Interviewees were allowed to respond openly without time constraints. Relevant information was selected, quantified and analysed by using the qualitative concepts of saturation and codification.
Results: The results seem to confirm the hypotheses. Evidence supporting hypotheses 1 and 2 was gathered from all interviewees, as well as indications of the validity of hypothesis 3 based on interviewees' proposals of incentives.
Conclusions: The conclusions could act as a guide to support the optimal design of incentive policies and schemes within health organisations when healthcare professionals are intrinsically motivated.

Incentivos y motivación intrínseca en la sanidad

Palabras clave:
Investigación cualitativa
Entrevistas
Motivación intrínseca
Efectos de expulsión

RESUMEN

Objetivo: Ha sido establecido por la literatura que los trabajadores de las organizaciones públicas están intrínsecamente motivados. Este trabajo es un estudio empírico en el sector sanitario que utiliza métodos de investigación del análisis cualitativo, cuyo objetivo es tratar de dar respuesta a las siguientes hipótesis: 1) los médicos son agentes motivados intrínsecamente, 2) los incentivos económicos y las políticas de control pueden minar la motivación intrínseca de los médicos, y 3) los incentivos bien diseñados pueden impulsar la motivación intrínseca de los médicos.
Método: Realizamos entrevistas semiestructuradas à-la-Bewley a 16 médicos del Servicio Navarro de Salud-Osasunbidea. Las preguntas fueron diseñadas siguiendo las teorías existentes sobre motivación intrínseca e incentivos, y con el objetivo de responder a las hipótesis planteadas. Los entrevistados tuvieron la oportunidad de contestar a las preguntas sin restricción de tiempo. La información relevante para el objetivo del estudio fue seleccionada, cuantificada y analizada siguiendo los conceptos cualitativos de codificación y saturación.
Resultados: Los resultados parecen confirmar las hipótesis formuladas. Todos los entrevistados aportaron evidencia indicando la validez de las hipótesis 1 y 2. También se obtuvieron diferentes propuestas de incentivos por parte de todos los entrevistados que indican la validez de la hipótesis 3.
Conclusiones: Las conclusiones pueden ser una guía en el diseño de sistemas y políticas de incentivos óptimos en el seno de las organizaciones sanitarias cuando los profesionales médicos están intrínsecamente motivados.

Introduction

In standard incentive theory, it is widely assumed that agents' choices depend only on the monetary payments with which they are rewarded. This is known as the price effect, which for many decades, economic theorists have considered to be the only tool able to incentivize economic agents. This rationalization of the economic behaviour has been challenged in recent decades by behavioural economics (BE).[1] An extensive number of academic works coming from BE have established that economic agents also make their decisions based on other non-monetary motivations such as social preferences, reciprocity, and ethical values. The

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http://dx.doi.org/10.1016/j.gaceta.2016.04.013

existence of such non-monetary motivations may have lead decision makers and managers to predict economic agents' behaviour poorly and to design poor incentive policies.

Intrinsic motivation has been one of the most studied non-monetary incentives within BE.[2–4] BE has established that monetary rewards and intrinsic motivation interact sometimes as substitutes (when incentives adversely affect agents' intrinsic motivation), and sometimes as complements (when incentives positively affect agents' intrinsic motivation).[3] BE calls the former the crowding-out effect and the latter the crowding-in effect. This interplay between monetary rewards and agents' intrinsic motivation has also been studied within self determination theory (SDT).[5–7] As seen within an SDT framework, individuals are intrinsically motivated because they gain enjoyment from the mere fact of doing an activity, or they get utility from the feelings of acting autonomously or are self-motivated rather than controlled by externally imposed rewards or contingencies.[8–10] Large empirical studies within an SDT framework have also demonstrated that extrinsic rewards and contingencies may crowd out the intrinsic motivation.[5,6] However less attention has been paid to the crowding-in effect despite there being empirical work showing its existence.[3]

A large body of literature addresses the topic of workers' non-monetary motivations in the context of public and non-for-profit organisations.[11–18] In the context of health organisations some papers analyse optimal incentives when doctors' are intrinsically motivated or have altruistic preferences.[18–21] To our knowledge, however, only one such study is empirical.[19] This work focuses on finding empirical evidence about doctors' intrinsic motivation and also about crowding-out and crowding-in effects. A number of papers have been concerned with establishing a framework for the intrinsic motivation of health-care professionals.[18–21] Within this framework, we seek to test the following hypotheses: 1) doctors are intrinsically motivated agents, 2) financial incentives and control and command policies may crowd out doctors' intrinsic motivation, and 3) well designed incentives may crowd in doctors' intrinsic motivation.

The contribution of this study is twofold:

- It is new empirical research on the topic of incentives and intrinsic motivation in the context of health organisations.
- It introduces qualitative analysis to the study of incentives for physicians in Spanish health organisations.

Methods

Interviews

We performed in-depth semi-structured interviews *á-la-Bewley* to physicians at Servicio Navarro de Salud-Osasunbidea (SNS-O, Spain)[22] (N = 16). Interviews were undertaken over a sixteen-month period starting in February 2010. The questions addressed to the doctors in the interviews were designed in order to test the hypotheses formulated above. The questions open-ended and were grounded in SDT and BE theory.

Doctors were invited to participate through a formal invitation letter. The letter briefly informed them about the interview although no details about the research goals were given to avoid biasing doctors' answers. The letter was sent together with a document stating that the results would remain anonymous. We asked doctors to talk openly and to give their candid opinions about the health organization for which they were working.

Providing enough time and comfortable place for the interview is very important in order to obtain high-quality data. We performed most of the interviews at the doctor's workplace, usually in their personal offices at a date and time of their convenience.

The duration of the interviews ranged from a minimum of 57 minutes to a maximum of 1 hour and 44 minutes. All interviews were performed by authors (MB and JMC) and were recorded. We also took field notes, something considered relevant to improve the quality of data. The recorded audios were transcribed to a text document. Transcripts and notes allowed all the details of the interview to be registered.

We initially used random sampling of eight interviewees from a population of senior doctors, followed by emergent sampling.[24] All interviewees were doctors working at SNS-O. For the following eight cases, we used emergent sampling making new sampling decisions as we gained more knowledge about the phenomena of interest. All but one of the interviewees were senior staff, highly qualified, in high responsibility positions, and with long tenure within the health care system. They were mostly men (fourteen out of sixteen) and from a wide range of services. All but three were working in hospitals. The remaining three were working or had worked in a publicly outsourced private health care organization or in public primary care centres.

Data gathering and analysis

The information was collated and coded.[23] We used three main categories: 1) intrinsic motivation (IM), 2) crowding-out (CO), and 3) crowding-in (CI).

Each code grouped homogeneous statements —observations— which directly referred to the same category. Codes where necessary were subcoded.

Codes were of two types: deductive and inductive. Deductive codes are those which have been labelled on the basis of existing theories —BE and SDT— prior to interviews. Inductive codes are those which spontaneously emerge from respondents' statements.

A descriptive analysis and some quantification were shown within each of the three main categories. We found the frequency of each code in respondents' discourse, and linked it back to the respondents. For each category, we also explored interactions between codes. Statements were classified into positive or normative. Positive statements are those that describe an actual situation experienced by the respondent. Normative statements are those that describe respondents' views about how things should be in health care organizations.

We defined 32 codes where all relevant statements were included (detailed code definitions and descriptions, considering their inductive an deductive nature, are available for interested readers in the Appendix online to this article). Statements and codes have been organized in spreadsheets.

A threshold on the informative value of codes was defined based on the concepts of saturation and hierarchy.[23] A code is saturated when it emerges repeatedly in a sufficient number of interviews, and always in the same explanatory or causal direction. The hierarchy criterion is applied to those codes, subcodes and subsubcodes that do not achieve saturation but are nested into other higher level codes which are already saturated.

Results

A total number of 642 statements concerning IM and crowding effects were drawn from the 16 interviews. The total number of statements is distributed as follows: 250 for IM, 214 for CO and 178 for CI. The following sections show the results separately by category.

Please cite this article in press as: Berdud M, et al. Incentives and intrinsic motivation in healthcare. Gac Sanit. 2016. http://dx.doi.org/10.1016/j.gaceta.2016.04.013