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TOWARD A NEW CONCEPTUALIZATION OF HEALTH CARE SERVICES. PUBLIC NATIONAL HEALTH SERVICE AS A COMMON POOL OF RESOURCES

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ABSTRACT

The current economic and financial crisis weakens western economies, laying bare their frailties and exerting a strong pressure on the sustainability of their welfare system. In particular, the publicly funded national health service, a basic part of the "welfare state model" in some European countries, goes through a hard period, tightened in the stranglehold between scarce resources and increasing needs. Borrowing from economics, care services are conceived as "non-excludable", but "rival" goods; from this point of view, the publicly funded national health system is conceptualized as a "common pool resource". The matter is analyzed from a theoretical standpoint, adopting a qualitative approach: the author proposes general reasoning and basic remarks, deferring to further researches any empirical application. This article contributes to the scientific research by offering a new perspective from which to explore the trends of publicly-funded national health systems. The "Common Pool Resources" theory and the "Institutional Analysis and Development" framework are the key tools employed for the analysis: they allow to examine in-depth the sustainability issues of these systems, paving the way to the introduction of innovative strategic and managerial approach applied to health care organizations.

Keywords: Common Pool Resources; healthcare; tragedy

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Keywords:

Common Pool Resources (CPRs); health care services; National Health Service; health; tragedy

Introduction

"A good health system delivers quality services to all people, when and where they need them. The exact configuration of services varies from country to country, but in all cases requires a robust financing mechanism; a well-trained and adequately paid workforce; reliable information on which to base decisions and policies; well-maintained facilities and logistics to deliver quality medicines and technologies".

World Health Organization[1]

Both the publicly and the privately funded national health systems have the purpose to assure people against the financial and social risks that arise from the worsening of health status; besides, the former have the concurrent aim to foster the community fair access to care, opting for a patient-centered approach, rather than for the traditional disease-centered model[2]. If endowed with a sound institutional structure and with an effective organizational shape, every national health system contributes to improving the individual and collective well-being, protecting citizens from the threats that could affect the achievement of a high quality of life.

Nowadays, two opposed forces put under stress the provision of care in the majority of the developed countries: on the one hand, demographic, social, financial, and environmental factors incite an increase in the demand of care[3]; on the other hand, the health care organizations, in particular the entities that are assigned to provide for the efficient and appropriate delivery of care in the countries which are endowed with a publicly funded national health service[4], are going through a deep crisis, from both a financial and a managerial point of view[5] (Marmot, et al., 2009).

In the last decades, the growth of public expenditures on health-related issues[6] (Hagist & Kotlikoff, 2005) and the recurrent normative reforms aimed at reframing the public management in general and, in particular, at reorganizing the health care system (Anessi-Pessina & Cantù, 2006), do not seem to have brought about the expected outcomes. Fair

access to care (Hauck, et al., 2011), health care services quality (Batalden, et al., 2007), and patients' dissatisfaction (Jenkinson, et al., 2002) continue to be the main critical issues that nag publicly funded national health systems.

In most of the cases, the adoption of a narrow and sectorial standpoint by both the policy maker and the lawmaker has prevented from perceiving the complexity and the multi-dimensionality of health's determinants. In fact, a full-fledged health system does not suffice to assure a high quality of life to the community: other variables come into play, such as the social and environmental factors, that strongly affect the collective and the individual well-being (Mooney, 2003). Furthermore, the increasing mass of resources absorbed by the publicly funded health systems seem to have favored the interests of health care providers themselves, in the perspective of a conflict of interest among the actors who deliver care and their recipients[7].

The current period of stagnation lead to a setback in the growth of the financial resources that are addressed to public issues and, among them, to health (Scherer, et al., 2009): such a juncture provoke unavoidable strategic and operational recoils for the private and public health care organizations operating within the publicly funded national health service. It is deemed helpful to propose an innovative theoretical framework to favour the cognition of the hard troubles for health care organizations that arise from the shortage of public resources. This is the favorable time to take determined decisions about the best allocation of the available resources, with the aim of avoiding their outflow in activities which do not contribute, or contribute less than other alternatives, to the improvement of the community and individual health status.

An innovative theoretical framework for health care services

Economists have paid steady attention to the costs hike in the health sector (Zweifel, et al., 2009; Culyer, et al., 2000): the improvement in life's condition, both in economic and social terms, the related growth in the demand of customized and high quality care services, the gradual ageing of the population, the introduction of advanced and specialized technologies, and the commercialization of more and more expensive drugs represent the main drivers which nourish rising costs (Marinò, 2008; Di Matteo, 2005; Seshamani & Gray, 2004; Newhouse, 1977). Together with the widespread cutting in public expenditures, the rising trend of health care costs brings the publicly funded health system's sustainability into question, since it finds in public grants its main source of financing: in fact, health care organizations operating within the public national health service have to deal with wider health needs expressed by the community, counting on fewer economic and financial resources.

Despite these restrictions, a publicly-funded national health system conceives psycho-physical well-being as a "public good" or as a "common good"[8]: the organizations that operate according to its rules have to provide fair, universal, equal and appropriate care to their users, irrespective of the latter's racial, social or economic conditions. Indeed, the physical and psychic integrity is deemed as vital both to the individual and to the community: without a good health status, man could not pursue any interest of his own, private or public it is. For this reason, the individual has not a full freedom of choice over the matters related to his health, but rather a "weakened" property right[9].

On the other hand, the nature of "public good" associated to health itself could not be bestowed to care services as well; in fact, the latter do not hold the attributes of "non-excludability" and "non-rivalry" in consumption, that are typical of pure public goods.

Rather, in a publicly funded national health service, the provision of care could be conceived as a "non-excludable" good, by virtue of legal provisions which ratify "universality" and "equity" in the access to care, irrespective of the right of citizenship or from any other legal qualification of the sick person. Nonetheless, a normative mandate is not sufficient to turn a mainly one-to-one service, like health treatment, into a "non-rival" good.

Its intangibility, the required interplay between the provider and the user, the consequent co-production relationship between them, the contextual occurrence of the activities of delivery and consumption, and the natural perishability of the health treatment (Gronroos, 2009; Zeithalm, et al., 2005) could not be mitigated by the intervention of the lawmaker. In other words, care services are inherently "rival": in a period lined with scarce resources and growing needs, this feature determines that it is not possible to wholly meet the demand of the distinguishing categories of users in the community. Clearly, the prospective unavailability to provide care in a publicly funded health system generates serious sustainability issues, both in institutional and in social terms.

Economists have profusely explored the family of non-excludable, but rival goods, devising the conceptual cluster of "Common Pool Resources" (CPR_s) (Ostrom, et al., 1994; Ostrom, 2002): these goods could not be object of an individual property right, since nor economic nor physical barriers could be arranged to hinder the access to them; rather, the whole community can freely drive benefits from these resources, with the resulting risk of their over-exploitation (Agraval, 2003).

Several scholars have focused their attention on the field of CPR_s: their studies are a valuable source for information about the governance and the management issues of the most common form of collective goods, that is to say natural renewable resources (Werthmann, *et al*., 2010; Schlüter & Pahl-Wostl, 2007); besides, in the last years some academics have

exploited the CPR_s theoretical framework in the research applied to artificial goods characterized by scarcity and non-excludability (Bonaccorsi & Rossi Lamastra, 2005; Ostrom, 2000; Ostrom, *et al*., 1999; Hess, et al., 1998). Adopting the same perspective, this paper aims at conceptually revisiting the managerial and organizational features of health care provision with reference to an ideal publicly funded national health system, conceiving the latter as a common pool of resources.

To apply a theoretical framework originally devised for tangible (both natural and artificial) goods to public services (and, in particular, to health care) asks for its contextualization and for substantial interpretative efforts. A publicly funded health system raises the means needed for its functioning from the community, through taxation; by virtue of political choices, a quota of the funds collected at the state or at the regional level is channeled toward public or private-owned health care organizations operating within the national health system, in order to cover the costs associated with the activities of health promotion and protection.

Depending on the consistency of the funding assigned to it, the health care system is able to deliver a certain amount of prevention, diagnosis, cure and care services: the total volume of deliverable services could be conceived as a "common pool of resources", from which the members of the community[10] draw the useful services to satisfy their needs and to improve their psycho-physical well-being (see Figure 1).

The information asymmetries between users and providers and the almost non-existence of a price to benefit from care services establish the condition for the over-exploitation of the common pool (Luft, 2008; Zweifel, et al., 2009). In these terms, the inability to govern and manage both the demand and the supply of health care services could be at the root of a gradual degradation of the entire system.

The solidity of the constitutional provisions, which state the universal and equal access to care, fosters a limitless demand of the services provided by the national health system. The thoughtfulness to assure these constitutional values in a period of scarce resources and high uncertainty requires the quick introduction of more appropriate managerial approaches to steer the health care common pool, in order to prevent that irrational misbehaviors by users and providers, boosted by the chance of opportunism, could push the publicly funded health system toward destruction.

Health care services as common pool resources

In a widespread theoretical taxonomy (Mankiw, 2009), economists use two qualitative attributes to gather goods into four groups: the "excludability" on the one hand (Olson, 1965) and the "rivalry in consumption" on the other (Musgrave, 1959). A good is excludable, either in technical or in economic terms, if it is possible to prevent the access to it without an excessive burden by means of tangible or intangible tools. There is rivalry in consumption when the employment of a certain quantity of a good by an individual involves the contextual inability of others to benefit from the same portion of it[11].

In the light of what has been said above, care provided in a publicly funded health service can be conceived as a non-excludable, but rival good. Non-excludability detracts health services from the applicability of market's rule: it involves the need for the intervention of a public entity, with the aim of assuring the fair and universal access to care to all the members of the community. The "non-excludability" attribute is not intrinsic in any kind of health system: rather, it results from constitutional provisions, which ratify the universal right of individuals to get access to care. In fact, it comes from the institutional purposes of the lawmaker, who intends to guarantee the achievement of a high health status in the community, regardless of individual economic and social condition.

By contrast, rivalry in consumption detaches care from pure public goods, moving it among “common pool resources”. Despite the constitutional provision of a free and universal access to care, health services are scarce by nature, like any other artificial good: for this reason, the demand of care of the community could not be wholly satisfied, at least not in a timely manner (Mooney, 2003). In this perspective, the consumption of care produces both positive and negative externalities: on the one hand, the related individual health status' improvement, *coeteris paribus*, lessens the community risks of falling sick, while, on the other hand, the appropriation of care takes away resources from the common pool, according to the quantity and the quality of health services “consumed” (Clerico, 2009). Rivalry in consumption reinforce that it is not possible to satisfy the community demand of care thoroughly: the inability to exert a fair and rational governance on both the demand and the supply sides gives birth to imbalances, that threaten the sustainability of the common pool.

With reference to the last point, the *Institutional Analysis and Development* (IAD) framework (Koontz, 2003; Ostrom, 1999) can be employed as a useful tool to portray the “tragic” dynamics of a supposed publicly funded national health system that is stricken by opportunism and bad governance. An in-depth analysis of the *action arena*, that is to say a specific context of social interaction, is at the heart of the IAD framework, that allow to study, explain and forecast the behavior of the entities that populate it. Two dimensions are used to describe the *action arena*: the *action situation* and the *actors*.

The former identifies the institutional and structural attributes of the context in which the actors relate and interact: each of them holds particular roles and have specific tasks in the arena, explicitly or tacitly; moreover, their individual behavior is affected by several factors, such as their preferences, the information they have, their skills, the perceived costs and benefits related to their actions, their expectations, the resources they have and their

individual decisions' criteria. Three exogenous variables affect both the characteristics of the *action situation* and the behaviors of the *actors*: considering the particular case of a publicly funded health system, the social, financial and demographic determinants of health, the attributes of the community and the rules in use influence both the structure of the context and the relations between the entities involved in the action arena[12]. While the first two factors are quite stable and require a long period of time to change, the latter are more flexible and could be promptly modified in order to meet specific needs. Focusing the attention on them, the IAD framework identifies three sources of norms, laid out in a hierarchical order:

- First of all, "constitutional rules" ratify the basic values and principles that regulate the social relationships between the *actors*;
- According to them, the different communities enact several "collective rules", which discipline the behavior of the *actors* in each *action arena*;
- Lastly, the "operative rules" describe the criteria according to which the *actors* should take their daily decisions, in order to comply with both the constitutional and the collective rules[13].

The application of this theoretical framework to a publicly funded national health system, conceived as a common pool of resources, allow to work out original hypotheses as regards the main causes of its inefficiencies. In the following section, attention will be paid to the tragic consequences the unfit management of health care system and the inappropriate allocation of current scarce resources could produce, damaging both the individual well-being and the health care system itself.

Tragic dynamics in health care services

Health services are intangible goods, that are co-produced through the interplay between a professional and a sick person; the employment of the terms “degradation” and “extinction” in dealing with them could sound as a jarring note to the ears of the reader. Nonetheless, revisiting publicly funded national health systems in the perspective of CPR_s theory, focusing the attention on the “rivalry” in consumption and “non-excludability” attributes of care, persuades to challenge the suitability of the traditional managerial approaches applied in this context. Indeed, the risk of an unrestrained and inappropriate access to the common pool, in a situation lined with paucity of resources and growing needs, jeopardizes the sustainability of the system and its capacity to last long.

In his outstanding article published in 1968, Garrett Hardin coupled the term “tragedy” with that of “common pool resources”, giving a renewed afflatus to a debate launched around one and a half century before by the Reverend Thomas Robert Malthus (Hardin, 1968; Hardin, 1998)[14]. According to Hardin’s thesis, a human being involved in any kind of social arena (an *action arena*, using the IAD jargon) by instinct tries to maximize his own appropriation of the common pool, even if he is aware of living in a world liable for scarcity of resources.

Eventually, this behavior entails a “tragedy”: the sole attention paid by the individual to the self-interest hinders an appropriate and sustainable governance of the common pool. Since collective goods are non-excludable, they are subject to a limitless appropriation by the actors that take part to the action arena; on the other hand, rivalry in consumption trigger the rarefaction of the available resources for the other actors that live in the same environment. Therefore, the inappropriate exploitation of the common pool undermines its consistency and sets up a “tragic” dynamic.

It is fair to query if it is possible to widen such a reasoning to care services delivered by a publicly funded national health system: in fact, their non-excludability and rivalry attributes lead to believe that Hardin's insight could be played on this context. In countries endowed with a publicly funded health system, constitutional provisions foster the values of universal and free access to care; notwithstanding, their production capacity is not boundless: it is constrained by the technical and the financial ties typical of any human activity. The intention of both the users and the providers to achieve the maximization of their own well-being, neglecting that their decisions contribute to the collective governance of the common pool, generates a high degradation's risk: their irrational choices could cause the capacity of the health system to weaken day by day, until coming near to its extinction and to the consequent inability to provide care.

In order to clearly express the tragic dynamics of a public national health system at risk of degradation, it is deemed useful to draw from the *System Thinking* principles, that are grounded on the basic assumption that the structure of the context itself affect the behavior of the actors who are involved in it (Sterman, 2000). The concepts of "*stocks*" and "*flows*"[15] aid in expanding the point: if a publicly funded health system is conceived as a pool of resources, whose access is unfolded to all the actors involved in the *action arena*, available care services form a shared *stock* of resources, whose size is ultimately a function of the overall amount of funds allocated to health according to the financial decisions of the policy maker.

Since the public health system is mainly funded through taxation, another *stock* comes in the theoretical framework under construction: the ability of the community to produce an income; it is a significant *proxy* to determine the total taxable income, from which the resources to feed the public expenditure (and, therefore, the health care system) are drawn. In turn, the ability to produce an income depends on the community health status

(Suhrcke, *et al.*, 2008). The supply of care, aimed at restoring and improving the individual and collective well-being, indirectly affect the total amount of resources assigned to the health care system. The provision of inappropriate care produce a worsening in the population's health status, that acts as an out-flow on the latter: eventually, the ability of the community to create an income diminishes and the consequent lower community income determine a meager taxable mass. Thereby, it follows a smaller availability of public resources in the State coffers that could be allocated to health and, again, a further weakening in the well-being of the community: this creates a vicious cycle, which undermines the sustainability of the health care common pool.

From now on, it will be assumed the simplistic hypothesis that the public health care system comprises just two types of actors: the users (appropriators) of care and the providers of the services; for the sake of simplicity, the other kinds of actors involved in the *action arena* will not be contemplated for the purposes of this study[16]. The appropriative dynamics in a health system follow distinguishing courses of action compared to other cases of common pool resources' appropriation: first of all, the demand of services is triggered by a specific cause, that is to say the occurrence of a pathological event which causes a decay in the psycho-physical health status of the individual. The sick person asks for a care service that, in a publicly funded health system, is mainly financed through public resources[17].

In most cases, the user does not have the knowledge nor the competencies to cope on his own with his disease (Mooney, 1994); in fear for his life, he is instinctively brought to catch as many resources as possible from the common pool, regardless of a rational evaluation about the potential benefits that are achievable through them. The flawed psychological and physical condition of the appropriator turns into an inappropriate demand

for services: if providers are not able to contain this irrational behavior, a vicious cycle gets started, which lead the common pool to the degradation in the long term.

Assuming that the providers are not always able to individually achieve a suitable governance of the common pool, a growing amount of scarce resources would be employed to provide inappropriate services. The consequent crowding out of the appropriate provision of care would harm the community's health status: the decline of the latter badly affect the ability of the population to create income and, as a consequence, reduces the taxable amount which feed public expenditure, with unavoidable effect on the resources allocated to health. The steady fall of the health care expenditure causes the continuous impoverishment of the common pool, enacting a tragic dynamic[18].

The user's irrational behavior could be echoed by the potential opportunism expressed by their counterpart: by virtue of their professional background, health professionals benefit from an advantage of information asymmetry over the patients. Therefore, they could affect the users' demand of services, exerting a strong influence on their consumption behavior[19]. The providers' bargaining power, together with the patients' cultural and psychological dependence, place the former in a domination status over the latter, increasing the inappropriateness' risks in the system (Hay, 1982).

Providers could attempt to gain personal benefits through the provision of care, pushing the demand toward services which, in spite of a lower appropriateness than available alternatives, assure them of a personal gain[20]. This kind of behavior damages the common pool, too: the supply of inappropriate services has a poor effect on the individual health status; quite the opposite, the collective health status get worsening, due to the crowding out of the appropriate services by the inappropriate ones. The decline in population's well-being

imply a lower ability to create income and, *coeteris paribus*, a fall of the financial resources available to feed the health care system.

The inappropriate consumption from the side of demand, the opportunism from the side of supply, the information asymmetry between the two sides, and the overall lack of a rational governance of the common pool badly affect the *stock* of services provided by the publicly funded national health system. Both in the short and in the long term, these factors weaken its sustainability: in a period lined with growing needs and scarce resources, the overstay of inefficiencies and inappropriateness cuts the availability of care. If not countered, it will engender the degradation of the health care common pool, with serious repercussion on the population's well-being.

The conceptualization of health as a "public good" and the misleading recognition of an insuppressible right to health of the community, related to the constitutional provisions of a universal and equal access to care, could lead to overlook the tragic dynamics enacted by the irrational behaviors of patients and providers. It is worthwhile to recognize the risks of opportunism and to check the inappropriate provision of services, in order to avoid the impoverishment and, in the long term, the extinction of the health care common pool.

Further researches

The CPR_S theory and the IAD framework have been usually applied to natural resources, but efforts aimed at employing such tools with artificial artifacts are not lacking: fishing grounds (Ostrom, *et al*., 1999), water springs and irrigation systems (Agarwal, *et al*., 2002), forests and pastures (Morrow, *et al*., 1996) are the main area these theoretical tools are applied to.

The endeavor to widen their application to the analysis of artificial non-excludable and rival goods, such as cultural artifacts, facilities aimed at improving knowledge management (Hess & Ostrom, 2003; Hess, et al., 1998), and intangible goods like services are more recent. Nonetheless, the CPR_s theory and the IAD framework are still not used in the field of public services: since, this paper exhibits some limitations, which cannot be omitted.

First of all, it is not immediate to agree with the attribution of the epithet "collective goods" to public services like health care, whose access is assured to the community regardless of individual economic and social conditions. Indeed, universal and equal access to care, that is a paramount value in the beveridgian national health system, brings to lose sight of its real nature, as well as of the economic restrictions that structurally bound its provision. From an ethical perspective, it could be difficult to acknowledge the need to rationalize and curb the consumption of care; besides, the growing demand of specific and customized care services, together with the scarce availability of resources, calls for revisiting the governance model of publicly funded national health systems, in order to avoid the enactment of the depicted tragic dynamics[21].

It is fair to express doubts about the pertinence of the notions "degradation" and "tragedy" to public services; nonetheless, the risk of their extinction due to overexploitation is a neglected issue. The current financial stagnation and the period of economic uncertainty lead scholars to wonder about this matter: during a historical era lined with the public expenditures' rarefaction and with increasing difficulties to access credit, assuming a boundless capacity to provide care is pure utopia. From this point of view, the suggested framework could favour the acknowledgement of the tragic dynamics in public health care

systems, inciting the adoption of institutional and managerial reforms in order to avoid their degradation.

From a methodological standpoint, the elaboration of models which employ the CPR_s approach in the analysis of health care systems will provide concerns such as: what are the core dynamics on which to focus attention? Are there suitable tools to control the access to care? Is it possible to detect reasonable and objective exclusion criteria, in order to avoid the provision of inappropriate services? How can these criteria be applied without jeopardizing the fair and the universal access to care? How is it possible to operationalize the variables deemed of interest to arrange pilot studies or simulations?

The IAD framework assists in producing an answer to these questions; anyway it is essential to identify and apply convenient devices to its traditional layout, to make it consonant with the distinctive attributes of care provision. Primarily, a more accurate description of the *actors* involved in the *action arena* of a publicly funded national health system is needed: other entities join with the "appropriators" and the "providers", who have already been contemplated in the previous simplistic hypothesis. Among them there are the "*claimants*", or the community members who ask for the access to the pool of resources, the "*regulators*", who issue the rules that discipline the *actors*' behavior in the *action arena*, and the "*guardians*", who safeguard the sustainability of the common pool, assuring the abidance to the rules through the threat of penalties.

Operationalizing and measuring the relevant variables for the suitable governance of the national health system in the perspective of the CPR_s approach could be difficult. In particular, it is interesting to analyze the ways in which irrational behaviors affect the availability of care services, both from the side of demand and from the side of supply. For the sake of argument, this paper makes reference to the population's health status decline as

an outcome of inappropriate services' provision: to gauge this phenomenon it is possible to measure the gap between the theoretically achievable QALY[22] according to the appropriate allocation of the available resources and the results actually realized. Since a bad collective health status adversely affect the size of the taxable income from which the financial resources allocated to care are drawn, the inappropriate services' provision turns into an impairment for the sustainability of the health system itself.

A veil of ignorance lingers on the identification of the above mentioned irrational behaviors. On the one hand, the endeavor could be easy if the sight is focused on appropriators; rather, scholars encounter difficulties when attention is paid to providers, since their professional autonomy and their advantage of information asymmetry prevent a fair evaluation about their rationality. Last but not least, reliable evaluation criteria about the relationship between the population's health status and its ability to create income are worth noting: a possible device is to assume the number of missed daily-work due to illness compared with a benchmark; it could be used also as an effectiveness measure, since it is correlated to the efficacy of the services provided[23].

Conclusions

Access to universal and equal care is a basic part of the most of European welfare system, that absorbs a quota between 6% and 10% of the Gross Domestic Product (GDP): such a large amount of resources funds the provisions of services to the community, aimed at restoring, preserving, and improving the individual and collective health status. The financial straits, in which western economies flounder, challenge the sustainability of the beveridgian national health systems; besides, the huge mass of debts collected by them spawn growing interest's costs, which further on diminish their availability of financial resources.

The guarantee of a universal and fair access to care calls for a more rational and efficient management of the health care system; inappropriate demand cannot be satisfied, while the opportunism of provider cannot be disguised under the halo of professional autonomy. In this perspective, the risk that the common pool could be "caught" by the actors involved in the *action arena* is very large, weakening the sustainability of the collective resources and preventing the improvement of the community quality of life; the CPR_s theoretical framework allows policy makers to revisit their ideas about the nature of publicly funded health systems, paving the way toward more rational, effective and efficient governance models.

The public resources allocated to health should not favour the interests of providers, but should meet the needs of the community, aiming at improving its health status (Crivellini, 2004). A population that enjoys a high psycho-physical well-being is able to create greater income and, *coeteris paribus*, to trigger more resources to the continuous improvement of its health. The "capture" of collective resources threatens this virtuous cycle, turning it into a vicious spiral: the absorption of goods to pursue individualistic interest weakens the availability of the common pool and hampers the regeneration of the public national health system.

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End notes

[1] This statement is drawn from the World Health Organization's web page about national health systems: it was retrieved from: *http://www.who.int/topics/health_systems/en* on 15th April 2013.

[2] Both scholars and practitioners agree that the traditional health care approaches in developed countries are not fit: they claim for the "shift from cure to care" (De Valck, et al., 2001). From this standpoint, the strengthening of social and health care services is an essential policy in order to achieve quality improvement and better appropriateness (Cifalinò, 2007).

[3] Several authors discuss the strain toward a sustained growth in the demand of health care services: in particular, it exhibits a positive income elasticity higher than 1 and a negative income elasticity lower than 1 (Phillips, 2005); besided economic factors, demographic trends could determine a significant increase in the health needs and in the demand of care (Cooper, *et al*., 2002). Moreover, the increasing level of education and the increasing use of computers and the Internet contribute to explain the rise of health care demand worldwide (Fogel, 2008).

[4] A "health care system" gathers the financial, human and technical resources assigned to the provision of care services, which are aimed at recovering, preserving and improving population's health status. Typically, health care systems can be structured according to three ideal models. In the "public system" model, inspired by the beveridgean approach, public sector organizations are responsible both for the funding and the provision of care, aiming at minimizing the financial burden of illness for the sick person (Mooney, 2003); quite the opposite, in the "insurance" model *for profit* e *not for profit* organizations provide care services according to market rules: public entities act as regulatory agencies, while insurance firms assume the financial risks of population health status' decline, in return for an insurance fee. The "mixed model" combines the previous ones: public organizations are responsible both regulating, financing and purchasing (or producing) care services; private firms are allowed to provide care, adhering to public commissioning or acting outside its rules (Crivellini, 2004). This paper will solely deal with the "public system" model.

[5] Some Authors (Diaby, Campbell, & Goeree, 2013; Zweifel, et al., 2009) claim that health is a "*priceless*" good; in these terms, the absence of a perceived cost accessing to care act as a spur to the unchecked growth in demand of health care, paving the way to imbalances in the health system.

[6] As regards this issue, Clerico detects four main reasons at the root of the increase of health expenditure: the population ageing, the increase in the population served, the growth in income and the technological innovation (Clerico, 2008, retrieved from: http://www.coripe.unito.it/files/6_1_clerico.pdf on 15th April 2013).

[7] Crivellini emphasize the chasm between "health" and "health care" notions, criticizing the bent of public expenditure to favour the latter rather than the former (Crivellini, 2004).

[8] As an example, the Italian Constitution charge the State to contribute to the preservation and the improvement of the community well-being, that is conceived as an inalienable individual right and an essential public interest (art. 32 Cost.). From this perspective, the good health status is perceived as a "public good", since it is non-excludable and non-rival (Stornaiuolo, 2005, pp. 35-71): adopting this framework, some scholars suggest to consider health as a "common good" , too (Kickbusch, 2007; Quenn, 2000; Labonte, 1998).

[9] Each individual does not have a complete and unconditional control on the matters that regard his own health status; rather, superior public interests restrain the individual's freedom when decisions about the physical and psychic well-being have to be taken. In the Italian case, a typical example is the involuntary health commitment (Trattamento Sanitario Obbligatorio - TSO), enacted by the Law no. 833 of 1978, that enacted the Italian National Health Service.

[10] According to the CPR_s theory, the members of the community who draw the goods from the common pool are called "appropriators".

[11] Goods that are both rival and excludable are "private goods", while the ones that are non-rival and non-excludable are "public goods": the former could be easily managed according to the market rules, while the latter require public regulation to discipline the access to them. Goods that are excludable, but non-rival are "club goods", while goods that are rival, but non-excludable are generally identified as "common pool resources".

[12] Rules in use regulate the basic facets of the *action arena*, from the demarcation of its boundaries, to the assignment of roles and responsibilities to the *actors* and to the shape of the decision making process.

[13] Carrying on with the Italian case, constitutional rules are the norms ratified by the national Constitution, which state the fundamental rights granted to the population; the individual regions issue collective rules, which translate the constitutional values and principles in normative criteria, regulating each *action arena*.

Operative rules are issued at a territorial level by the Local Health Units: they regulate into detail the interactions between the appropriators and the providers of the health care services.

[14] Hardin's thesis excited a vivid academic debate: in particular, some researchers that belong to the CPR_s scholarship disagree with the assumption of an unavoidable "tragedy" of collective goods (Ostrom, 1998; Feeny, *et al*., 1996).

[15] Stock can be defined as a resources' container, while "flows" are the dynamics which weight on such a container, both in a positive (in-flow) and in a negative way (outflow).

[16] Among the other category of actors there are the "regulators", who issue the rules in use, and the "guardians", who supervise the efficient and appropriate access to CPR_s. Ostrom (2007; 2006) is an essential reference for an in-depth examination of the various types of *actors* involved in the *action arena*.

[17] Nonetheless, a publicly funded national health system can rely on other financial sources, like out of pocket expenditure; however, in most of cases the out of pocket expenditure is conceived as a tool to achieve the rationalization of the access to care, rather than as a funding instrument. In these terms, some scholars have assigned to tariffs excised on some health services a balancing purpose (Rebba, 2009).

[18] The crowding-out of appropriate services cause several negative effects, like the lengthening of waiting lists, the waste of resources in the provision of inappropriate care and the worsening of the community health status.

[19] Several studies deal with supply induced demand (SID): they try to explain the clinicians' disposition to steer care demand, affecting the consumption behavior of the appropriators (Phillips, 2005).

[20] The individual gain pursued by appropriators and providers crowd-out the common interest; thence, it is deemed essential to enforce a rational governance in public health care, in order to lower ineffective services, which are not consistent with the ties of the scarce availability of resources (Reviglio, 1999).

[21] In this perspective, several authors suggest several interventions, such as the legal provision of a financial budget for general practitioners and pediatrician (Longo, 1999), the enforcement of health ticket as a demand steering tool (Rebba, 2009) and the prescription of standardized clinical pathways (Phillips, 2005).

[22] QALY (*Quality Adjusted Life Years*) is an evaluation method to measure health services' outcomes; it assesses the number of life years added by a care intervention, adjusted for the quality of life (Gudex, et al., 1988)

[23] The missed daily-work of informal caregiver should be taken in account, too.

Tables and figures

Tab. 1 – The key features of the action arena.

The action situation and the actors are the key components of the action arena. The description depicted in the Table is drawn from Ostrom, *et al*. (1994).

ACTION ARENA	
ACTION SITUATION	**ACTORS**
Participants **in**	**Preferences**
Positions **who must decide among diverse**	**Information and processing capabilities**
Actions **in the light of the**	**Selection criteria**
Information **they possess about how actions are**	**Resources**
Linked **to potential**	
Outcomes **and the**	
Costs **and** ***Benefits*** **assigned to actions and outcomes**	

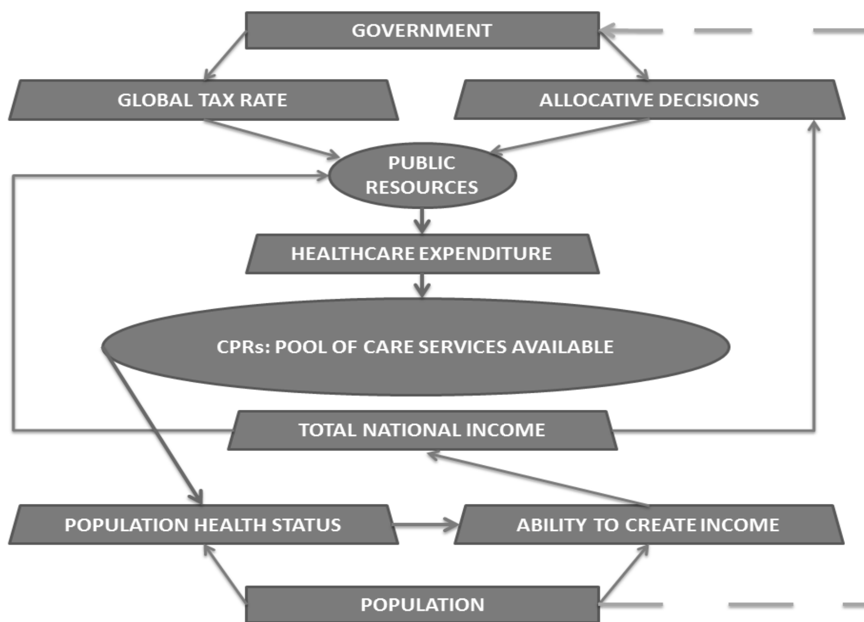

Fig.1 - A systemic insight of health expenditure (Author’s elaboration).

The nations which are endowed with a publicly funded national health system draw the needed resources for the provision of care services from the community. The amount of resources allocated to the health sector depends on the policy decisions adopted by the government and ratified by the parliament; moreover, they depend on the ability of the population to create income. The more appropriate the exploitation of the common pool, the better the population’s health status and, consequently, the higher the collective ability to create income.

Fig.2 – The distinguishing kinds of actors in the action arena – adapted from Schlager & Ostrom (1992).