Review Article

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Payment Mechanisms and C-sections: A Matter of Incentives?

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ABSTRACT

Payment mechanisms represent the instrumental dimension of purchasing in health. Given their nature, they can incentive providers and insurers in a positive or negative way. Having in mind that public and private sectors operate under different incentives, it is feasible to discuss whether current payment mechanisms for childbirth have an effect or not on C-sections rates. The purpose of this article is to provide the elements for the onset of the following discussion: given the characteristics of labour and childbirth, which is the best payment mechanism for it? Should insurers establish different payment mechanisms for C-sections and vaginal childbirths as a strategy for the promotion of vaginal birth? Which is the real trade-off and right balance between financial risk among insurance and provider in order to satisfy women´s and newborns´ rights?.

Keywords

Caesarean section, Payment mechanisms, Provider incentives.

Background

According to the World Health Organization (WHO), health systems comprise the institutions, organizations, and resources that are dedicated to the production of health actions, that is, any effort, whether in individual care, provision of public health services or initiatives whose purpose is to improve the health of the population [1]. In order to achieve this goal, health systems organize their actions into functions. One of these is financing (along with stewardship, creation of resources and provision of services). WHO define this key function as the "process of raising revenues and making them available to the system," as well as seeking to establish the correct financial incentives for providers to ensure that all individuals have access to health care and effective care [2].

Specifically, financing comprises three more sub-functions: collection, pooling and purchasing. Collection is the activity that allows the health system to collect funds from contributions, premiums, taxes, co-payments, etc. In turn, pooling refers to the accumulation and administration of funds collected, in order that health risk are distributed among all pool members [3]. Finally, purchasing consists on the payment of money from the pool to health providers to deliver a set (not necessarily specific) of health services. This function can be performed passively or strategically [2].

Payment mechanisms

Financing and its sub-functions have effects in many aspects: consumption of services, efficiency, quality, transparency and accountability. In particular, purchasing encompasses two broad dimensions: institutional and instrumental. The first one is the organization of the system towards an evidence-based purchasing and non-discretional decision-making, that is, transparency and independency for deciding what to buy, from who, and how. On the other hand, the instrumental dimension allows insurers to dispose a particular payment mechanism for financing health services, this is, to implement and make effective the transfers from its funds

to providers [4]. To sum-up, Kutzin, J (2001) defines payment mechanisms as instruments that permit the payment of services on behalf of the beneficiaries of the insurance [4].

Effective payment mechanisms are built upon three key principles: (i) non-discretional nature, stability and transparency of the payment; (ii) consistent incentives; and, (iii) risk sharing with the provider. Non-discretional nature refers to the existence of an impartial rule independent of the agents. Stability implies considering enough time to proceed so agents can assimilate the rule. Transparency means that agents understand the rule. Objectives must be coherent with the behaviour that the payment encourages. Not only money flows from payer to provider, but also risk. Only risk that can be managed by the provider has to be transferred. It is also convenient to remind that incentives to providers are build not only with prices associated with payment mechanism but also with the costs that they face, being the margin the critic issue, mainly for for-profit providers.

In terms of their construction, payment mechanisms count upon with three basic variables: price of services, quantity (or provision level) and expenditure (result of the combination of price and quantity). When these are studied from the perspective of quantity, two types arise: fix or variable systems. In fix systems the reimbursement remains unalterable even when the provider has produced more services. Instead in variable systems reimbursement depends on the volume of services provided, which means that revenues depend on how many services providers can deliver [5].

Moreover, payment mechanisms are classified according to the moment of payments into retrospective or prospective. Just to provide an example, when the reimbursement is made ex-post, that is, after the provision of health services the system can be classified as retrospective [5].

Payment mechanisms permit multiple combinations. They are dynamic and flexible, and that is why health systems have adopted different approaches when it comes to purchasing in health. After the payment-base has been defined, that is, the service or bundle of services necessary to solve a particular medical condition, it should be carefully studied which payment mechanism can better suit the interest of all stakeholders (insurers and providers), but mostly the interests of patients.

One important aspect to be considered is that the definition of the payment base should be aligned with the goals of the health sector; this is to contribute to the national health strategy.

Most frequent payments mechanisms

In fee for service schemes, provider´s incremental revenues depend on its own production. The provider acts financial-risk free given that the insurer will reimburse every activity. These are the most inefficient systems and there is a strong association with cost-explosion [5,6].

Per-capita systems (capitation) are fix and prospective schemes. These define ex-ante the total amount per patient previously designated to solve several health conditions, but not necessarily on an specific amount of services. Most frequently, these are used in primary health care and in many times, risk-stratifications (by age, gender, social vulnerability) are good solutions to estimate more accurate amounts [7,8].

Case mix schemes or diagnosis related groups (DRG) are blended systems. They combine a prospective component given by diagnosis according a system of patient-classification and a retrospective one provided by additional conditions, setting the relevance on severity [8].

Most frequent payments mechanisms´ effects

Because of its structure, fee for service systems have been identified as schemes that are more aligned with providers´ interests rather than insurers´ or patients´ ones, that is, moral hazard. In addition, fee for service has been widely associated to fragmentation of health systems and promotion of more expensive care regardless the quality [9]. On the other hand, in the case of per-capita schemes, providers are pushed to be more efficient, and to provide fewer attentions (patients under-treated). These are also associated to low quality services and providers that find incentives for the recruitment of healthy patients instead of sick ones. In response to this behaviour, many insurers adjust their estimations and try to reduce the gap between the rates of services' use of a healthy patient versus a sicker one. [9,10]. In the case of case mix schemes, the incentives are intended to handle the complications of cases, so they care increase their revenues [10], nevertheless the incentive to select cases remains.

Payment mechanisms and childbirth

Pregnancy is an event which most of times is physiological and can finalise in a normal vaginal birth. The professional attendance of birth is a medical procedure most of times performed by a doctor, a midwife or a trained and skilled professional, which requires several medical resources (hospitalization bed, drugs, professional care, motorization, vaginal examinations among many others). Up to clinical behaviour, risk factors, obstetric and foetal conditions, deliveries can be vaginal, or by caesarean sections.

Under this concept, birth attendance is a medical event that requires financial coverage in order to prevent women and their families from financial ruin and to guarantee the access to medical care every time when needed.

According to WHO statement on caesarean sections rates, caesarean sections rates higher than a 10%-15% are not associated with reduction in maternal and neonatal mortality. This is the basis to advocate for a reduction of caesarean sections rates at that level [11]. Despite the last, C-section rates still increasing. Just between 1990 and 2014, global C-section rate increased 12.4%, with the largest increasing in Latin America and the Caribbean (19.4%) [12].

In Chile, there are many payment mechanisms for childbirth

depending on the insurance system adopted by the patient. In public sector, childbirth is covered by a standardised package of services and according to the insurance tram of the patient; a fee will be charged (co-payment of 0%, 10% or 20%). The amount is the same irrespective of vaginal or C-section delivery.

In addition, in the Chilean public sector, in national statics a 40.5% of deliveries are C-sections [13] and most of normal deliveries are fully attended by midwives.

In contrast, in private sector most of patients count with private insurances (higher premiums) widely based on a fee for service basis. In addition, qualitatively, physicians attend most of deliveries. In this sector, a 73.6% of deliveries are C-sections and coverage depends on their plans [14].

However, there is a third choice. Historically, if a patient covered by the public insurer was admitted in a private facility, the facility would charge her using a fee for service payment mechanism leading her to severe financial constraints. Nowadays, public system offers to their beneficiaries the possibility of attention in private providers without facing financial difficulties. This attention is paid in a fix and prospective payment scheme denominated "payment for diagnosis: for childbirth –C-section or vaginal-". This payment mechanism defines ex-ante a group of services historically involved in the resolution of this clinical event. This group of services is gathered in a standardised package aimed at the financing of complex and non-complex cases. For this group of listed services there is a fix price as well regardless the complexity (a fix price for all).

This payment mechanism has a restriction: is limited to physiological cases. The last permits to conclude the following: This payment mechanism is the product of the identification and pricing of resources used in complex and non-complex cases, that is, physiological or pathological pregnancies. When the private provider is allowed to select the physiological cases, there are two direct effects: First, the provider avoids the use of more resources and transfers clinical and financial risk to the public sector. Second, by referring more complex and ergo, more expensive cases to public providers, an extra financial burden is generated.

Today, there are no published studies provided by the insurer relating this payment mechanism and its effects on C-section rates. The insurer should maintain an active surveillance on the effects of the implemented payment mechanisms, particularly given the dramatic rates shown in private sector.

The elements here exposed may lead to state the following empirical statements:

- Insurers are not passive agents; they should promote health quality actively by strategic purchasing suited to the characteristics of every clinical event or medical condition.
- In this sense, purchasers must define clearly what are the goals of the payment mechanism, in terms of quality, opportunity cost, costs and risk sharing, so an appropriate appraisal of this can continually be made.
- When fee for service payment mechanisms are adopted as the system for payment for childbirth, providers find incentives for over-treatment and supply induced demand, giving space to unnecessary C-sections. These seem to be the less desired schemes to adopt.
- Norms of access for each payment mechanism need to be re-considered. The current model of payment for diagnosis leads to a non-convenient trade-off of financial and clinical risk between public and private sector. Today, private sector obtains the benefit of a fix input and low risk, still, public sector beholds high risk and the same level of reimbursement. If it is defined that low risk will be handled in the private sector, and high risk in the public sector, then prices should reflect this.
- When the price of the vaginal birth and C-section are the same, theoretically, providers will tend to move towards vaginal birth, due to higher costs of C-section. Nevertheless physicians still have strong incentives to induce demand for C-section because they can obtain higher income due to surgical procedures. In this sense, setting the same price is not enough: physician payment has to be aligned with the payment mechanism.
- Current cost and benefit estimations might be outdated. Insurances need to open a broader perspective and incorporate a societal perspective. By doing so there is a change to realize that costs differ from childbirth modalities in terms of: hospitalization days, recovery, complications, long terms effects, among others. That is, including for example, indirect costs. Something similar occurs with benefits.
- A cost-effectiveness analysis must be conducted to decide which delivery strategy is the best for Chilean population. Payment mechanism must leverage this strategy.

Conclusions

Currently, there are no large and available studies relating payment mechanisms, their incentives and effects on insurers and providers, with their effect on C-section rates from the insurer´s perspective. This only allow us to make empirical statements and encourage the investigation in this field.

Having in mind that public and private sectors operate under different incentives, it is feasible to investigate whether current payment mechanisms have an effect or not on C-sections rates.

Finally, it is also valid to discuss, given the characteristics of labour and childbirth, which is the best payment for it. Should we adopt pay-for-performance payment mechanisms, i.e. associated to perinatal outcomes (Apgar score, normal foetal monitoring)? Or per-capita payment systems indexed by perinatal risks (hypertensive syndromes, premature birth syndrome, etc.)?.

Finally, further investigation should be focused on responding if insurers should establish different payment mechanisms for C-sections and vaginal childbirths as a strategy for the promotion of vaginal birth? Which is the real trade-off and right balance

between financial risk among insurance and provider in order to satisfy women´s and newborns´ rights?

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