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The Private Health Care Sector and the Provision of Prenatal Care Services in Latin America

ALEJANDRO ARRIETA
Indiana University School of Medicine, IN, USA

ARIADNA GARCÍA-PRADO
Inter-American Development Bank, Washington, DC, USA

and

JORGE GUILLÉN *
Universidad ESAN, Lima, Peru

Summary. — In the last two decades, private providers have become an important source of health care in Latin America, and yet, there is little documentation concerning its effectiveness in providing basic public and preventive health services. We use Demographic and Health Surveys from six Latin American countries to compare the effectiveness of the private versus public sector in providing basic health interventions such as prenatal care. We find that the number of prenatal visits is higher in the private sector, but this is not associated with higher birth weight. We discuss different strategies to improve the role of private providers.

Key words — private health care providers, prenatal care, health care quality, Latin America

1. INTRODUCTION

Private practitioners form a large part of the health market in low- and middle-income countries. Their prevalence is growing due to the public sector's limitations in achieving universal access to health care and, in many cases, the low-quality that the public sector provides. Evidence suggests that many patients, poor and wealthy alike, use private health care in these countries despite the fact that public services are free of charge, as these patients believe that the quality is higher than in the public sector (Das, Hammer, & Leonard, 2008). This perception is usually based on consumer satisfaction with less crowded facilities, shorter waiting times, more time spent with patients, and generally better equipment and medications. While private providers may be more responsive to patient demand, in many settings, they are unregulated, and the technical quality of their services is questionable.

Research has demonstrated that some private for-profit health care providers offer low-quality curative services (Barber, 2006; Tuan, Dung, Neu, & Dibley, 2005). Thus, in India, Das *et al.* (2008) found poorer quality in the private sector than in the public one, and in Mexico private practitioners have been found to perform significantly worse than public ones in terms of advice, therapy, and drugs prescribed for both diarrhea and ARI (Bojalil *et al.*, 1998). Studies also show evidence of over-medication and over-treatment in the private sector. Waters, Hatt, and Black (2008) used the Living Standard Measurement Surveys of 10 Latin American countries (LACs) and found that children treated by a private provider are more likely to receive more drugs, most commonly unnecessary antibiotics. This treatment was of lower quality and less effective than the care provided by the public sector. Similarly, based on a sample comprising 24 geographic regions in eight countries in Latin America, Villar *et al.* (2006) found that deliveries in private hospitals were more likely to be by cesarean section. While the regional median c-section rate was 33%, private hospitals had a rate of 51%. Likewise, Arrieta (2010) finds in Peru that the private–public gap in the usage of c-sections has grown rapidly after the health reform.

For prenatal care, different studies find similar results. Freda, Anderson, Damus, and Merkatz (1993) and Kotelchuck, Kogan, Alexander, and Jack (1997) find, respectively, that the content of prenatal care is more comprehensive in the public sector and that public providers devote greater resources to prenatal education than the private sector. Barber (2006) and Barber, Bertozzi, and Gertler (2007) show that there was less prenatal care content for the rural poor in Mexico in private settings compared to public ones. However, this pattern seems to vary across countries and settings. Boller, Wyss, Mtasiwa, and Tanner (2004) find that technical quality on the provision of prenatal care in Tanzania is higher in private facilities than in the public ones, and Simpson, Korenbrot, and Greene (1997) shows that in California private physicians have the best risk-adjusted birth outcomes. Many of these findings challenge the assumption that private providers offer higher quality and efficiency compared to the public sector.

In this paper, we compare the effectiveness of the private and public sectors in providing prenatal care, a basic public health intervention, in six countries of Latin America. To that purpose, we first use a count model to evaluate if the type of

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facility ownership (public or private) affects the number of prenatal visits after controlling for obstetric and socioeconomic characteristics. In the second stage, we use risk-adjusted utilization rates to define over- and under-utilization and explore the impact of utilization of private and public providers on birth weight. This analysis is focused on the following six Latin American countries: Bolivia, Colombia, the Dominican Republic, Guatemala, Nicaragua, and Peru. All of them share similarities in terms of the expansion of the private sector as a provider of health care. However, while Bolivia, Guatemala, and Nicaragua are characterized by a private sector mostly comprised of solo private practice and NGO participation, the other three countries also have large private insurers and HMO-type financers, as well as private providers that mainly serve the richest population.

This paper is relevant for several reasons: First, governments of many low and middle-income countries are exploring the potential ability of private health care providers to offer preventive and basic public health services, such as prenatal or postpartum care, especially in areas or settings where the public sector is not present (Brugha & Zwi, 1998; Newell, 2002). The question of whether the private sector can be a good provider of these types of services remains open. Second, prenatal care is an important health intervention that has long been endorsed as a way to identify mothers at risk of delivering a preterm or growth-retarded infant and to provide an array of available medical, nutritional, and educational interventions intended to reduce the risks of low birth weight and other adverse pregnancy conditions and outcomes. Inadequate prenatal care is commonly found in developing countries and is associated with increased risk of low birth weight, premature birth, neonatal mortality, infant mortality, and maternal mortality (Herbst, Mercer, Beazley, & Meyer, 2003; Kogan, Alexander, Kotelchuck, & Nagey, 1994). Finally, Latin America is one of the regions where the private sector has more notably expanded in the last two decades and yet there is still little documentation concerning its extent and nature, especially in relation to its role as a provider of preventive and public health interventions. Private care in Latin America accounts for the majority of total health care expenditures, [1] mainly as a result of poor public sector coverage. Studies from the region have shown that 46% of the physicians in Latin America work in the private sector (World Bank, 2003); that more than half of the providers treating child diarrhea cases and ARI are in the private sector (Berman & Rose, 1996); and that more than 60% of family planning services are provided by non-governmental sources (Berman & Rose, 1996).

2. METHODS AND RESULTS

(a) *Data*

We have used data from the Demographic and Health Survey (DHS) for the six countries considered. The survey includes questionnaires for women in their fertile years (15–49 years old) and children under 5 years old. The DHS is the result of a multistage stratified sample design that includes weights to produce nationally representative estimates. For Bolivia, we have used the standard DHS 2003, which reported 7,325 births from 1998 to 2003. For Colombia, we have used the standard DHS 2005, which registered 11,657 births from 1999 to 2005. For the Dominican Republic, we have used the standard DHS 2007, which registered 8,499 births from 2002 to 2007. For Guatemala, we have used the continuous DHS 1998–99, which reported 3,030 births from 1994 to 1999. For Nicaragua, we have used the standard DHS 2001, which registered 5,088 births from 1996 to 2001. For Peru, we have used the continuous DHS 2004–08, which reported 10,424 births from 2000 to 2008.

The sample is comprised of women users of prenatal care and institutional birth [2] and has been limited to only one birth per mother. Only the youngest baby has been selected in the sample because the DHS does not provide complete information for all births that occurred in the 5 years prior to the interview. The sample was also restricted to babies delivered in public or private health care facilities. The total sample for complete observations used in this analysis was 31,447 births. All results were adjusted to account for the complex survey design of the DHS. Weights were scaled when the DHS from different countries were combined.

Table 1 reports means and standard errors of all variables included in the study. Countries were grouped based on characteristics of their private health systems and to gain statistical power. Countries in the first group (Colombia, the Dominican Republic, and Peru) have in common a private health sector comprised of large private insurers and HMO-type financers that cover the health of formal workers. In these countries, private providers mainly serve the wealthy population. The second group of countries (Bolivia, Guatemala, and Nicaragua)

Table 1. *Descriptive statistics*

Variables	Group I		Group II	
	Mean	SE	Mean	SE
Mother and pregnancy characteristics				
Number of prenatal visits	7.953	0.035	6.266	0.048
Visited private provider (%)	14.925	0.433	17.036	0.740
With private insurance and provider (%)	2.994	0.208	n.a.	n.a.
Age	26.535	0.067	26.363	0.091
Aged 35 or more (%)	12.356	0.337	12.273	0.487
Multiple gestation (%)	1.032	0.098	0.873	0.122
Had a terminated pregnancy (%)	23.460	0.467	18.710	0.597
Prof. employed (%)	19.451	0.446	17.559	0.667
Educational level	1.846	0.010	1.496	0.014
Married (%)	84.141	0.405	87.704	0.499
Partner's educational level (%)	1.822	0.009	1.596	0.014
Tetanus injection was provided (%)	10.105	0.313	20.798	0.676
Iron supplement was provided (%)	84.650	0.380	84.725	0.577
Household's characteristics				
Wealth index (1 = poorest, 5 = richest)	2.998	0.018	3.365	0.029
Located in urban area (%)	72.098	0.484	69.375	0.950
From Peru (%)	26.950	0.520	n.a.	n.a.
From Colombia (%)	36.701	0.535	n.a.	n.a.
From Dominican Rep. (%)	36.349	0.591	n.a.	n.a.
From Bolivia (%)	n.a.	n.a.	45.857	1.100
From Guatemala (%)	n.a.	n.a.	13.807	0.977
From Nicaragua (%)	n.a.	n.a.	40.336	1.004
Newborn's characteristics				
Weight 2,500–4,500 g (%)	89.858	0.302	88.692	0.436
Weight <2,500 g (%)	10.169	0.307	9.143	0.404
Weight <1,500 g (%)	1.055	0.099	1.001	0.157

Weighted mean and standard errors. Weights were scaled to minimize the variance of grouped country surveys. Standard errors (in parentheses), adjusted to account for the DHS complex survey design.
Group I: Colombia, Peru and Dominican Republic. Group II: Bolivia, Guatemala and Nicaragua.
n.a.: Data is not available for that country group.