

Septiembre 2022

ART1\_A1\_2022\_4  
N° de serie

ARTÍCULO CIENTÍFICO

# Does price-cap regulation work for increasing access to contraceptives?

## Aggregate- and pharmacy-level evidence from Colombia

### Autores

Tatiana Andia

César Mantilla

Álvaro Morales

Santiago Ortiz

Paul Rodríguez



**ALIANZA EFI**  
Economía Formal e Inclusiva



## Does price-cap regulation work for increasing access to contraceptives? Aggregate- and pharmacy-level evidence from Colombia

Tatiana Andia<sup>a</sup>, César Mantilla<sup>b</sup>, Alvaro Morales<sup>c</sup>, Santiago Ortiz<sup>b</sup>, Paul Rodríguez-Lesmes<sup>b,\*</sup>

<sup>a</sup>Facultad de Ciencias Sociales, Universidad de los Andes, Bogotá, Colombia; <sup>b</sup>School of Economics, Universidad del Rosario, Bogotá, Colombia; <sup>c</sup>Centro de Pensamiento Medicamentos, Información y Poder, Universidad Nacional de Colombia, Bogotá, Colombia

### ARTICLE INFO

#### JEL classification:

I110

I150

I180

#### Keywords:

Pharmacies

Pharmaceuticals Drugs

Simulated clients

Contraceptive pills

### ABSTRACT

Price caps through international reference pricing are widely used worldwide but not so commonly in over-the-counter markets. We study the short-term effects of a price cap regulation for oral contraceptives in Colombia, a market dominated by the presence of several branded generics with multiple active ingredients. Most of the regulated products were fourth-generation contraceptives, and the Colombian health benefits plan only covers second-generation ones, resulting in a de facto over-the-counter market. Our aim is to establish whether the regulation triggered a competitive response within and across product categories, by price levels and regulatory status. The panel data analysis of quarterly level data for 52 drugs (and 79 drugs in an expanded sample without transactions for some quarters) reveals a massive expansion of transactions, for the directly regulated products that were formerly the most expensive, and for the indirectly regulated (i.e., a regulated ingredient) among those with an intermediate price. Although this price reduction could have led to a crowd out of the publicly provided contraceptives, we show that this is not the case. Since the information system cannot trace the final consumers' purchases, we complement our analysis with an audit study involving 213 pharmacies in Bogotá. We find that the price reduction was effectively transmitted to the final consumers.

### 1. Introduction

Several Latin American countries are among the leaders in teenage pregnancy rates in the World, and one of the determinants is the lack of access to safe contraceptive methods (Pan American Health Organization United Nations Population Fund and United Nations Children's Fund, 2016; United Nations, 2020). Despite the interventions at the school level on sexual and reproductive health, the final determinant is the affordability of promoted methods (UNESCO, 2017; World Health Organization, 2011). For instance, a hike in the high price of oral contraceptives in Chile resulted in higher conceptions from unmarried mothers and worse outcomes at birth and later on in the life of those children (Rau et al., 2021).

In this paper, we study the short-term consequences of a contraceptive price regulation in Colombia, which drove down prices of regulated products by an average of 61% (Ministerio de Salud y

Protección SocialMinSalud, 2019). The national oral contraceptive market is characterized by the dominance of branded generics known for the large price differentials with respect to non-branded products. Hence, price caps on leading contraceptive products constitute an appealing policy instrument (World Health Organization, 2015). Whereas most of the literature on price controls in pharmaceutical markets focuses on the medium- and long-term incentives for innovation (Costa-Font et al., 2014; Danzon and Chao, 2000), this is a second-order concern in the contraceptives market. We focus on the less studied short-term effects. Our first-order concerns relate to availability and substitutability. Price regulations are effective to the extent that product coverage is maintained. In the case of a shortage of specific brands, the reduced price dispersion is a signal that could make patients aware that they can substitute for another brand with a lower price and identical components.

Since 2013, a cornerstone policy in Colombia for containing health

**Abbreviations:** NMPC, National Medicines Pricing Commission; HBP, Health Benefits Plan; SCM, Smulated Client Methodology; ATC, Anatomical Therapeutic Chemical Classification System; SISMED, Sistema de Información de Precios de Medicamentos; CUM, Código Único Nacional de Medicamentos; INVIMA, Instituto Nacional de Vigilancia de Medicamentos y Alimentos; SES, Socioeconomic Status.

\* Corresponding author. School of Economics, Universidad del Rosario, Call 12C # 4-69, 111711, Bogotá, Colombia. E-mail address:

[paul.rodriguez@urosario.edu.co](mailto:paul.rodriguez@urosario.edu.co) (P. Rodríguez-Lesmes). <https://doi.org/10.1016/j.socscimed.2022.115312>

Received 8 February 2022; Received in revised form 18 August 2022; Accepted 22 August 2022

Available online 28 August 2022

0277-9536/© 2022 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).