

# Impact of Health Policy Changes on the Growth Locally Manufactured and Imported Pharmaceutical Markets in Turkey

Vural Elif Hilal<sup>1</sup>, Kockaya Guvenc<sup>\*2</sup>, Yenilmez Fatma Betul<sup>3</sup>, Saylan Mete<sup>2</sup>, Safak Yilmaz Elif<sup>1</sup>, Tatar Mehtap<sup>3</sup>, Vural Ismail Mert<sup>1</sup>, Akbulat Akif<sup>1</sup>, Gursoz Hakki<sup>1</sup>, Artiran Guven<sup>1</sup>, Kerman Saim<sup>1</sup>

<sup>1</sup>Turkish Medicines and Medical Devices Agency, Ankara, Turkey, <sup>2</sup>Health Economics and Policy Association, Ankara, Turkey

<sup>3</sup>Hacettepe University Faculty of Economics and Administrative Sciences, Ankara, Turkey

## Objectives

Turkish Ministry of Health (MoH) initiated Health Transformation Program (HTP) in 2003. HTP impacted all clinical and economic outcomes of health including pharmaceutical sales by improving access to health services. The objective of this analysis is to understand the impact of selected 5 major policy changes by MoH to sales of locally manufactured and imported pharmaceutical products in the respective periods.

## Methodology

132 months sales data with segmented regression analysis for interrupted time series were used.

International reference pricing of pharmaceuticals (RF), mandatory reimbursement dossier submission for new molecules, new indications and line extensions with medical and economic evaluations (MRDS), auditing for good manufacturing practice (GMP), family physician system (FP) and compulsory medical service for physicians (CMS) were selected as five major policies that may affect cost, demand and supply of pharmaceuticals. The analysis was conducted for total imported pharmaceutical (IP) sales and total locally manufactured pharmaceutical (LMP) sales.

The Durbin-Watson d statistics of SPSS version 20.0 was used as serial correlation. Shift in slope with  $p < 0.05$  was considered as statistically significant.



### References:

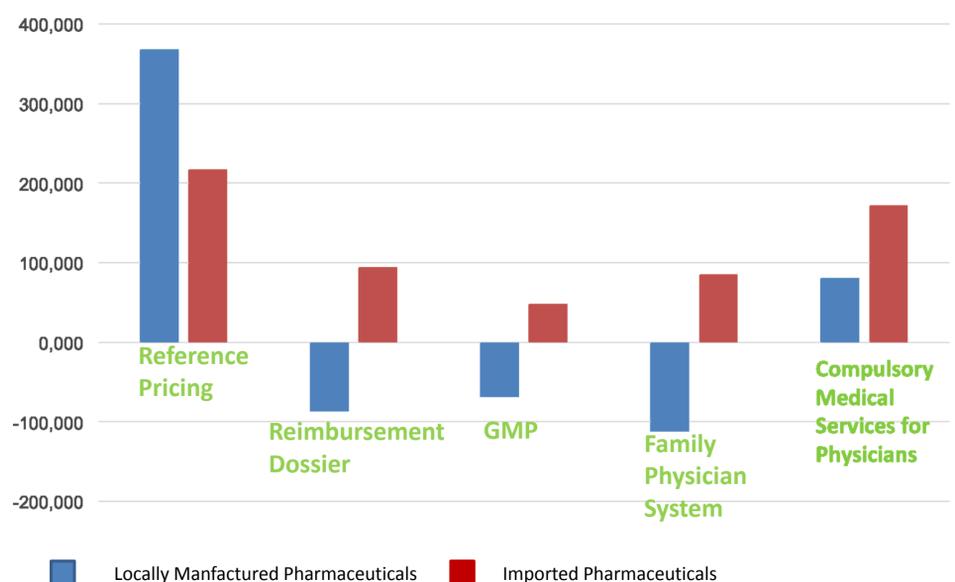
- <http://www.saglik.gov.tr/TR/belge/1-2906/saglikta-donusum-programi.html>
- IMS Health Data

\*Corresponding Author E-mail: guvenc.kockaya@sepd.org.tr

## Results

The negative effect of RF policy change on CMS trends was more prominent for IP than LMP sales. However, the shift in CMS due to other 4 policy changes was lower for IP when compared with LMP sales. The differences reached statistical significance level except for CMS policy. Although not significant, positive shift of US due to RF policy change was higher for LMP than IP sales. There was a decreasing slope of LMP unit sales following MRDS and GMP policies but an increasing slope of IP unit sales.

### The Trend Difference Between Locally Manufactured Pharmaceuticals and Imported Pharmaceuticals (In Units)



## Conclusion

Although not significant, positive shift of units due to reference pricing policy change was higher for locally manufactured pharmaceuticals than imported pharmaceutical sales.

The effect of CMS for physicians policy had a more positive impact on locally manufactured pharmaceuticals in unit sales but it was not significant.

Policy changes may effect at differently direction and amount the unit and cost sales of LMPs and IPs.

Cost control mechanism such as RF has a more negative effect on imported product as expected.