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Procurement and Supply Management

Capacity and characteristics of the Private-For-Profit sector supply chain for modern contraceptives in Kenya

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Agenda

+ Objectives, Background and Methods

+ Context (national)

+ Private-For-Profit sector focus
  - How did the Private-For-Profit Sector react to public sector supply disruption?

+ Conclusions

Abbreviations

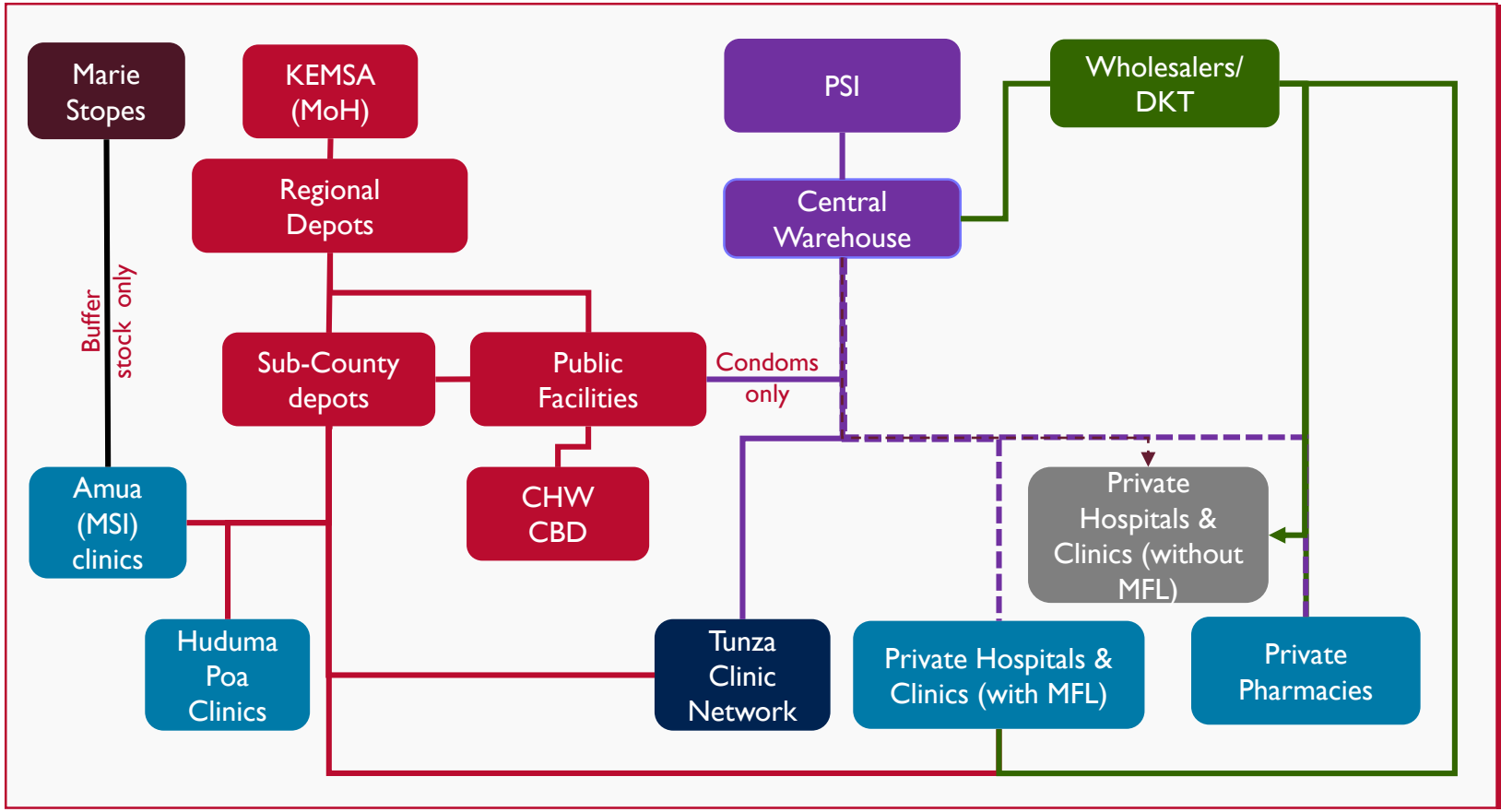
+ CYP – Couple Years of Protection
+ mCPR – Modern Contraceptive Prevalence Rate
+ Methods
  - EC – Emergency Contraception
  - IUD – Intra-Uterine Device
  - IUS – Intra-Uterine System
  - OC – Combined Oral Contraceptive
  - POP – Progestogen only Oral Contraceptive
  - Patch – Transdermal Patch
  - Ring – Vaginal Ring
+ MAH – Marketing Authorisation Holder

Objectives, Background & Methods

Objectives

- **To describe the current size of the modern contraceptive market**
- Modern contraceptives include :
  - short-term methods: condoms, emergency contraception (EC), combined oral contraceptives (COC), progestogen only oral contraceptives, (POP) injectables, patch
  - Long-term methods: intra-uterine devices (IUS), intra-uterine systems (IUD), implants
- **Through the perspective of commodity supply**
  - Volumes distributed by KEMSA
  - Volumes distributed by social marketing organisations and social enterprise organisations
  - Volumes distributed by commercial, for-profit, wholesalers
- This study was funded through the USAID Global Health Supply Chain Program (GHSC). GHSC had no involvement in the design of the study, collection and analysis of the data.

Main providers of family planning commodities in Kenya

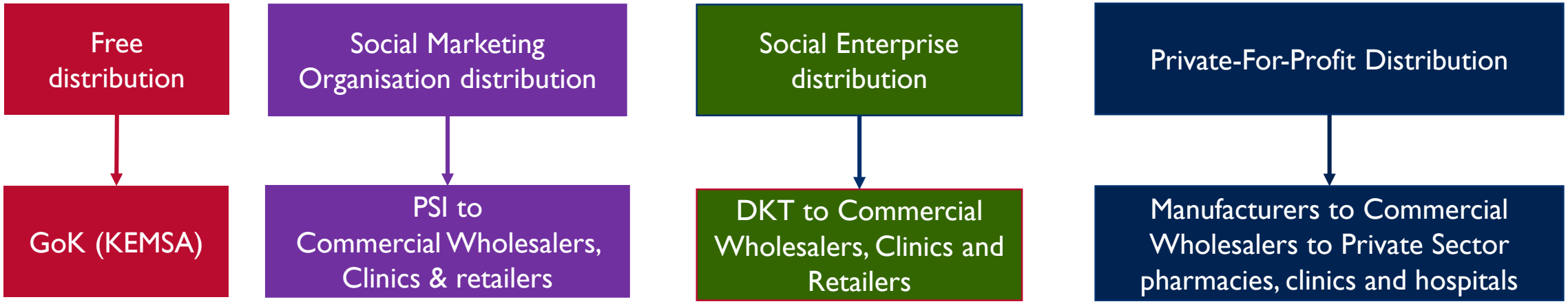


- **KEMSA supply free product to public and private facilities (generally via the sub-county depots)**
- **PSI supply a network of 353 clinics (Tunza), although these clinics obtain 75% of commodities through sub-County depots**
- **Other "franchise" networks like Amua and Hudoma Poa also obtain free product from the sub-County depots**

Huduma Poa: Kisumu Medical Trust (KMET) runs the Huduma Poa network, which is mainly in the Western part of the country; Amua (MSI): Marie Stopes Kenya has also operated the Amua franchise on behalf of the MoH and with KfW support since 2004, and currently has 406 facilities; CHW = Community Health Workers; CBD = Community Based Distributors; MFL = Master Facility List; GoK = Government of Kenya; KEMSA = Kenyan Medical Supplies Agency
Source of contraceptive DHS 2014: CBD = 0.1%; Private Pharmacy =10.4%, Public Sector =60.2%; Other private and faith = 23.4%;Other =5.8%. Private pharmacy largest in Central (18%) and Nairobi (18%) and lowest in North Eastern region (0%)' Other private sector largest in Nariobi (34%) and lowest in North Eastern (20%) and Nyamza (17%). Public highest in North Eastern (73%)
Urban/Rural DHS 2014 - Pharmacy – two thirds women are urban;
Wealth quintile DHS 2014 – Pharmacy – 48% richest, 24% richer

Data allows 4 commodity market sectors to be defined

- Not possible to split KEMSA volumes according to whether supply to public or private sector
  - Would require issues by facility from each of the sub-county stores



Data sources for modern contraceptives

- **Volume data**

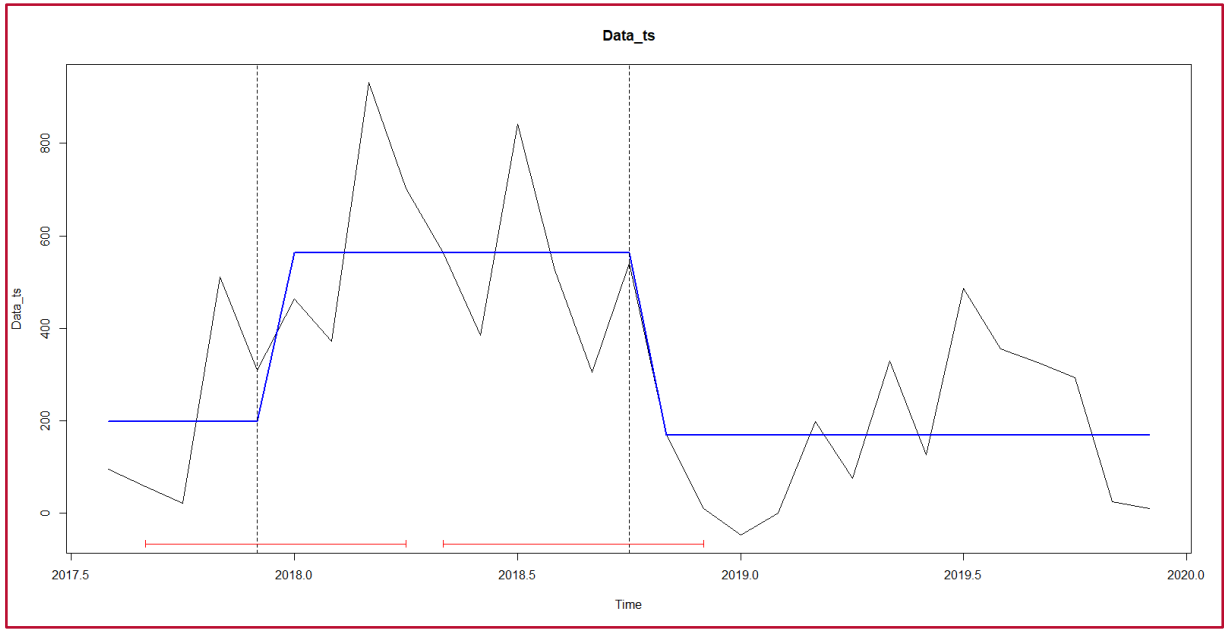
	Level	2018	2019
KEMSA	**County depot**	✓	✓
Population Services Kenya (PSI)	**National**	✓	✓
Private-For-Profit (condoms)†	**National**	-	-
Private-For-Profit (other methods) (IQVIA)‡	**National/Trade Channel**	✓	✓

† No information was available in relation to volumes of commercial condoms for this period. A previous study however suggested that commercial condoms constituted ~2.2% of the overall market in 2016-2017 (other sources being KEMSA and PSI)
‡ Based on 2018 comparisons, IQVIA capture ~ 80% of DKT sales of Emergency Contraceptive (EC) and Injectables. DKT sales of other commodities (e.g. IUDs) not captured, but 2018 data taken from DKT's own published data in social marketing statistics [https://www.dktinternational.org/contraceptive-social-marketing-statistics/].

Statistical analysis

- Statistical analysis was carried out using the "R" package "Breakpoint", using a significance level of $p<0.05$. Breakpoint identifies structural changes in (linear) regression models.[1]
- Values were assessed for normal distribution using both the Kolmogorov-Smirnov test and the Shapiro-Wilk test. Logarithmic transformation was applied to those values found not to conform to a normal distribution.
- The optimum number of changepoints was determined through minimisation of the Bayesian Information Criteria (BIC) and Residual Sums of Squares (RSS). Analysis was directed to identify multiple changepoints, should they exist.

Example Breakpoint output, showing actual values (grey line), mean values for segmented periods (blue line),changepoint (vertical dotted grey line) and confidence interval around the changepoint (red horizontal line)



Date of estimated breakpoint

Confidence interval around breakpoint

Actual values

Mean values for each breakpoint period

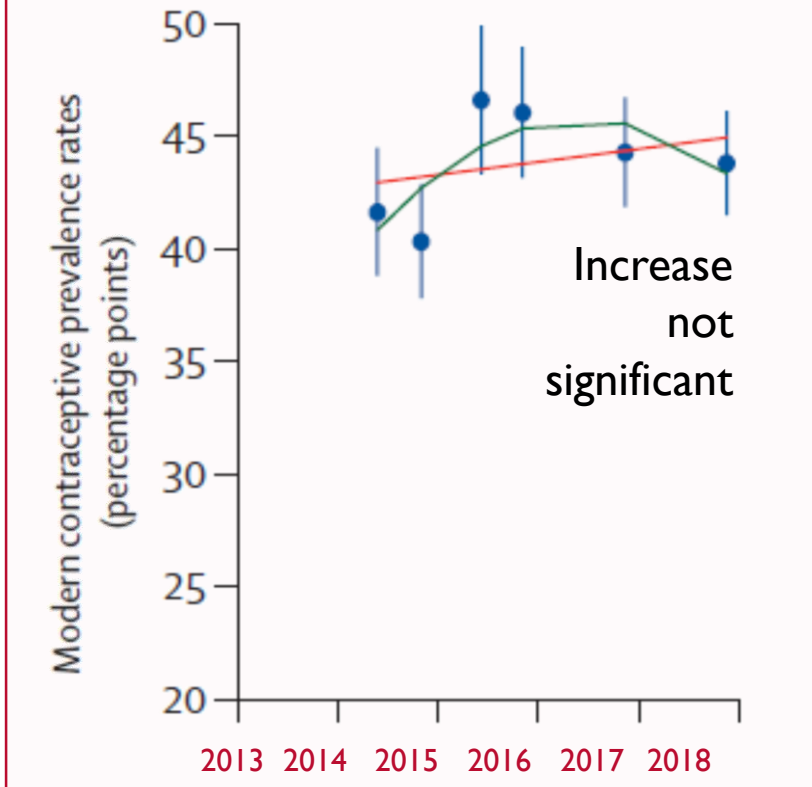
1. https://www.rdocumentation.org/packages/strucchange/versions/1.5-2/topics/breakpoints

Background & National trends

Context

- **Kenya Objectives**
  - Increase mCPR from 56.4% in 2016 to 58% in 2020
- **Context**
  - Latest analysis (see chart) suggests mCPR has "stalled"
- **Budget**
  - Budget shortfalls of $24m forecast for 2020, as reductions in donor funds are not replaced by Central or County commitments[1]
  - As a result, focus said to have moved to "sustainability", with the private sector having a potential role in this
- **Access**
  - All types of healthcare workers including Community Health Workers (CHW) and Community Based Distributors (CBD) can provide condoms and pills.
  - Other healthcare workers can provide injectables, implants and IUDs
  - Pharmacies cannot administer injectables, but some surveys suggest they do
  - No prescription needed
  - Theoretically free from public sector, but surveys suggest people do pay, half as (injectables) or the same (implants) as in the private sector[2]

Trend in mCPR, PMA 2020 surveys, 2013-18

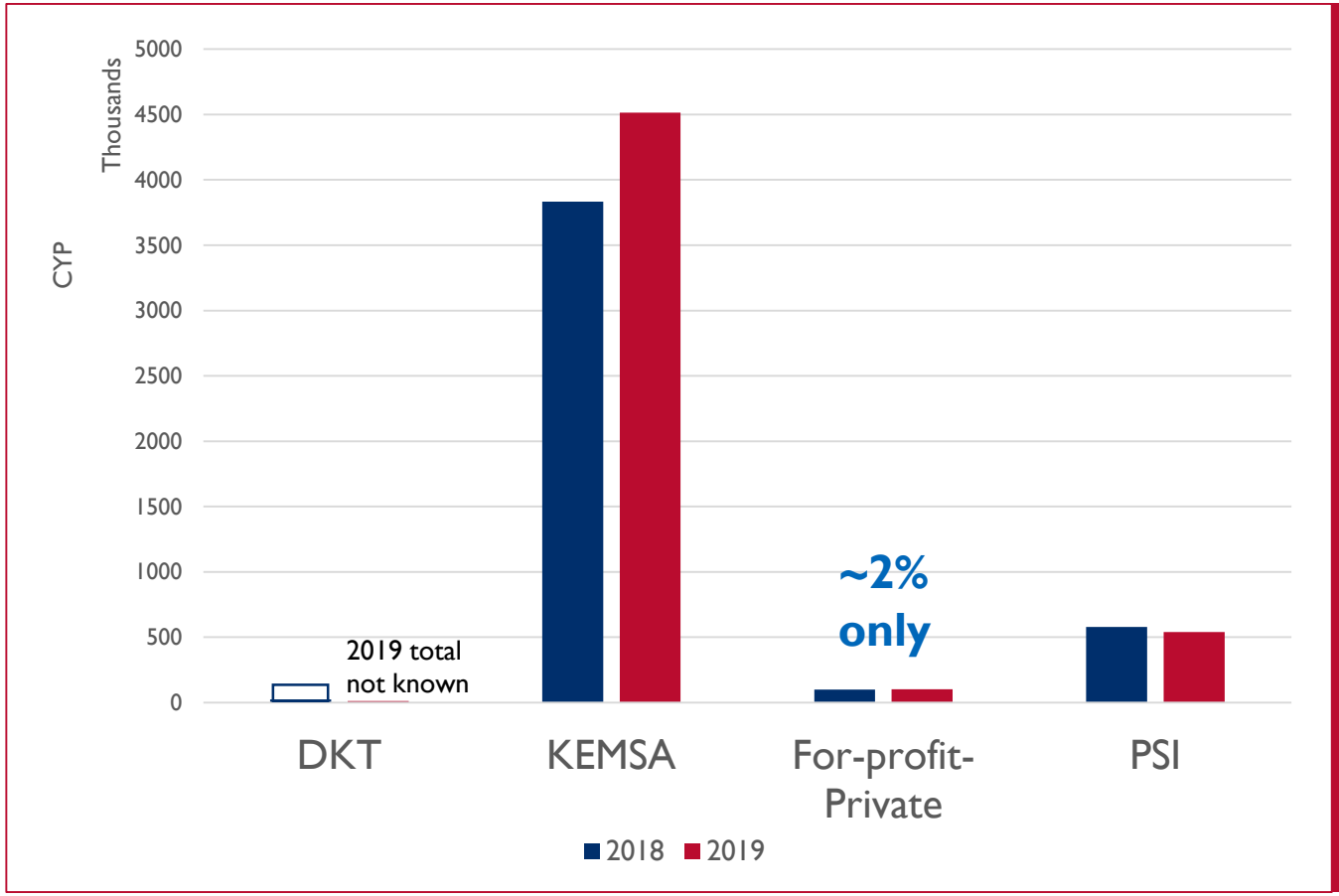


Source: Ahmed S et al: Lancet Global Health, 2019, 7:e904-11

mCPR = Modern Contraceptive Prevalence Rate 1: Palladium. Diagnostic assessment of Kenya's family planning market. Support to the ESHE programme. 2015 2. Radovich E, Dennis ML, Barasa E et al. Who pays and how much? A cross-sectional study of out-of-pocket payment for modern contraception in Kenya. BMJ Open 2019:9:e022420

Kenya shows 14% growth in total CYP

Free distribution dominates supply, growth in part to resumption of supplies of OC and EC



Supply chain seems fragile

- KEMSA stocked out of OC and EC for much of 2018 and 2019 (following on from stock outs in 2016 and 2017)
- PSI stocked out of IUDs and implants in 2018-19, although has resumed supply in 2020[Ŧ]
- Public Sector Facility stock outs (2019)[†]
  - IUD: 48%
  - Implant 1 Rod: 34%
  - Implant 2 Rod: 45%
  - Injectable: 24%
  - COC 30%
  - POP 49%
  - EC 61%

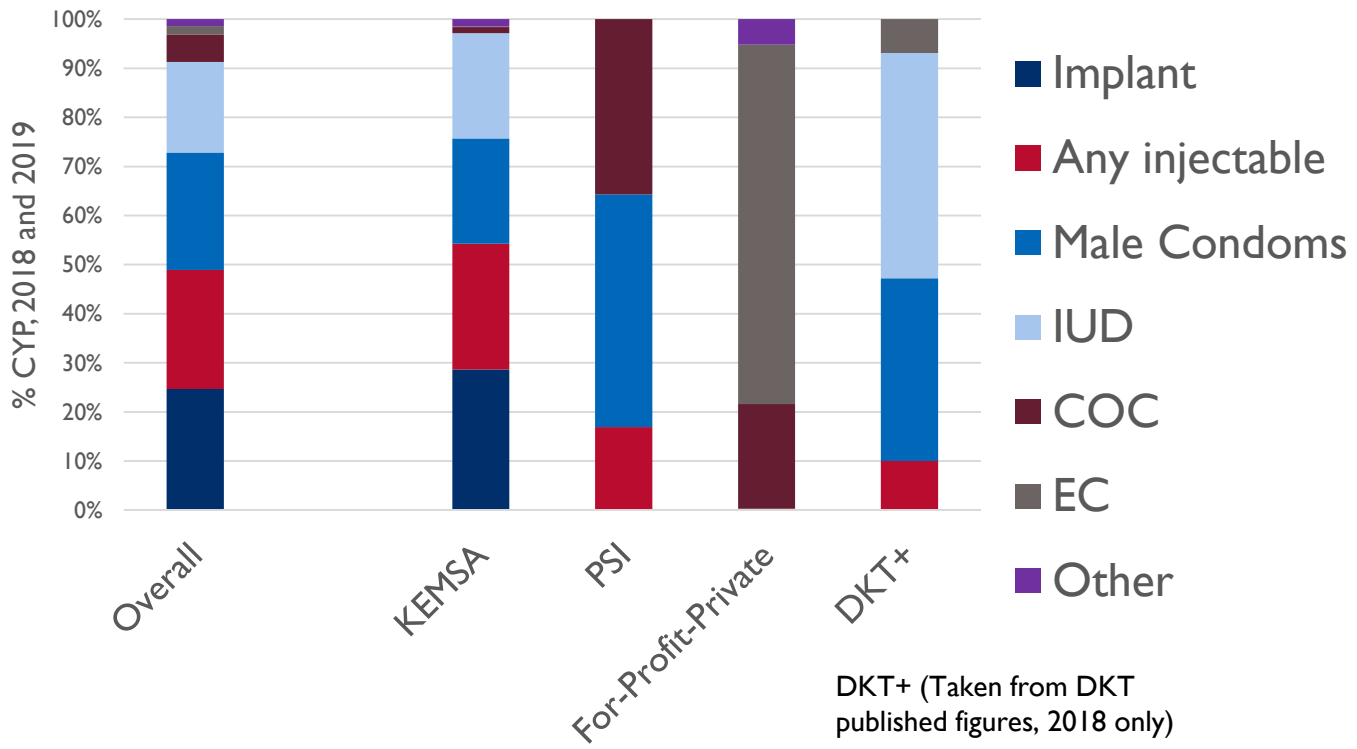
CYP = Couples Years of Protection

Note: Only sales of EC and injectables audited in IQVIA data for DKT; DKT also supply condoms and IUDs. 2018 total of EC, injectables, condoms and IUDs based on DKT's own numbers. DKT's own numbers suggest that in 2018 DKT had a volume market share of modern contraceptives of 2%, similar to that of private sector. DKT's 2019 figures not yet published.

Ŧ Personal Communication, PSK †Personal Communication, GHSC-PSM

Method mix dominated by implants, injectables and male condoms

Private sector paid for product sales dominated by EC



DKT+ (Taken from DKT published figures, 2018 only)

- **For-Profit-Private sector's average EC price per CYP lower than DKT**
  - **5 brands, 5 MAH in commercial sector**
- **Very small quantities of IUS provided only by commercial sector and ICA Foundation donations. Only commercial sector provides patch.**
- **For-Profit-Private sector now sells only 2 monthly injectable**
  - **All 3 monthly now Sayana Press (DKT)**
- **No sign of POP in public or private sectors**
  - **Despite (or because of) launch of donor supported brand in 2017**

CYP = Couples Years of Protection; MAH = Marketing Authorisation Hodler
DHS 2014: Public dominated by Implants (24%), Injectables(50%), Pill is just 9%, condom just 3%.; Pharmacy dominated by pill (62%), injectables (25%), condoms (13%; Other private dominated by injectables (66%) and Implants (14%) - IUD (9%) , Pill (7%) and condom (1%).

Results - statistical analysis

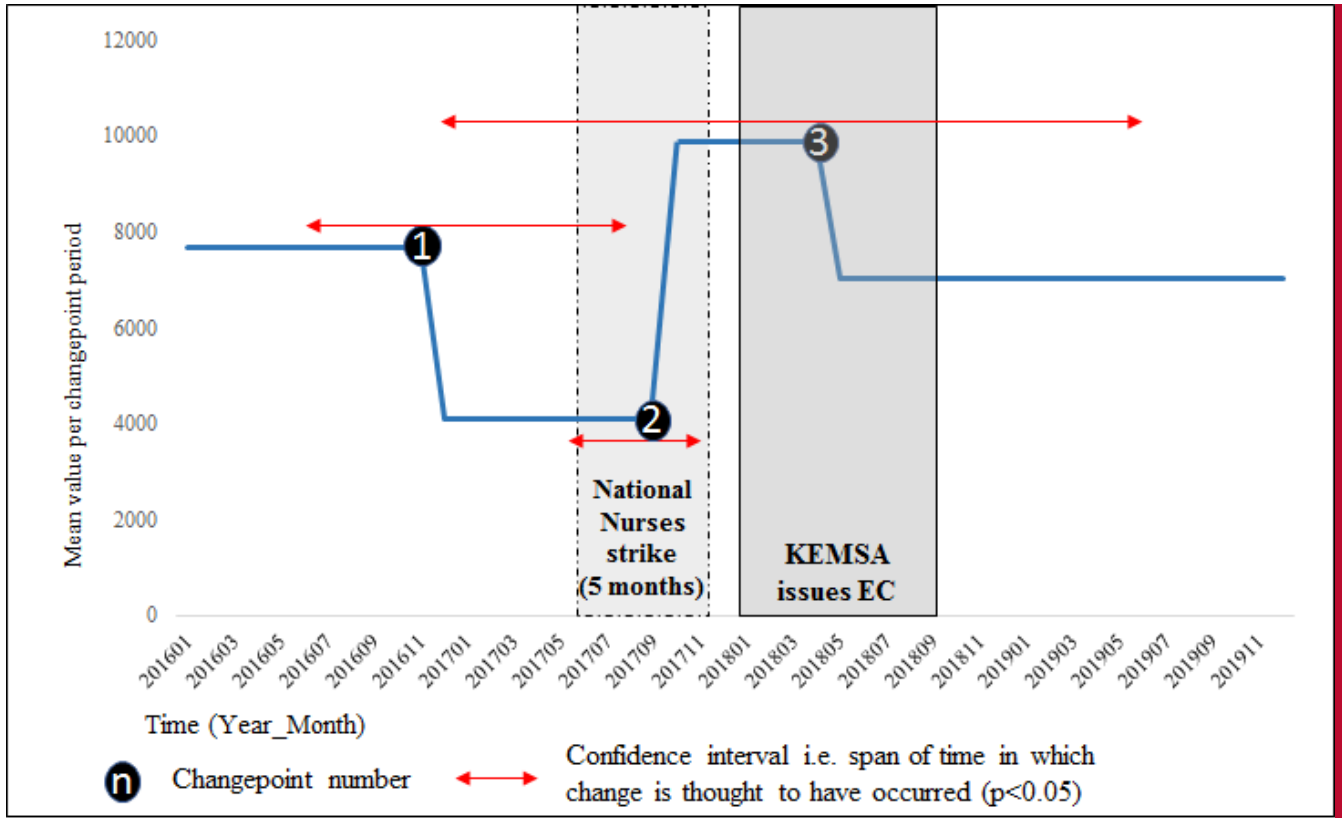
How did the For-Profit-Private Sector supply chain react to supply disruption in the public sector?

- **National Nurses' Strike (end 2017)**
- **KEMSA stock outs of EC & OC (through 2018/19)**

For-profit Private Sector, Emergency Contraception

Breakpoint analysis, EC, Commercial sector

Breakpoint (Black Circle), Mean values (blue line), Confidence interval around Breakpoint (arrows) and periods of nursing strike and KEMSA stock issues (grey boxes)

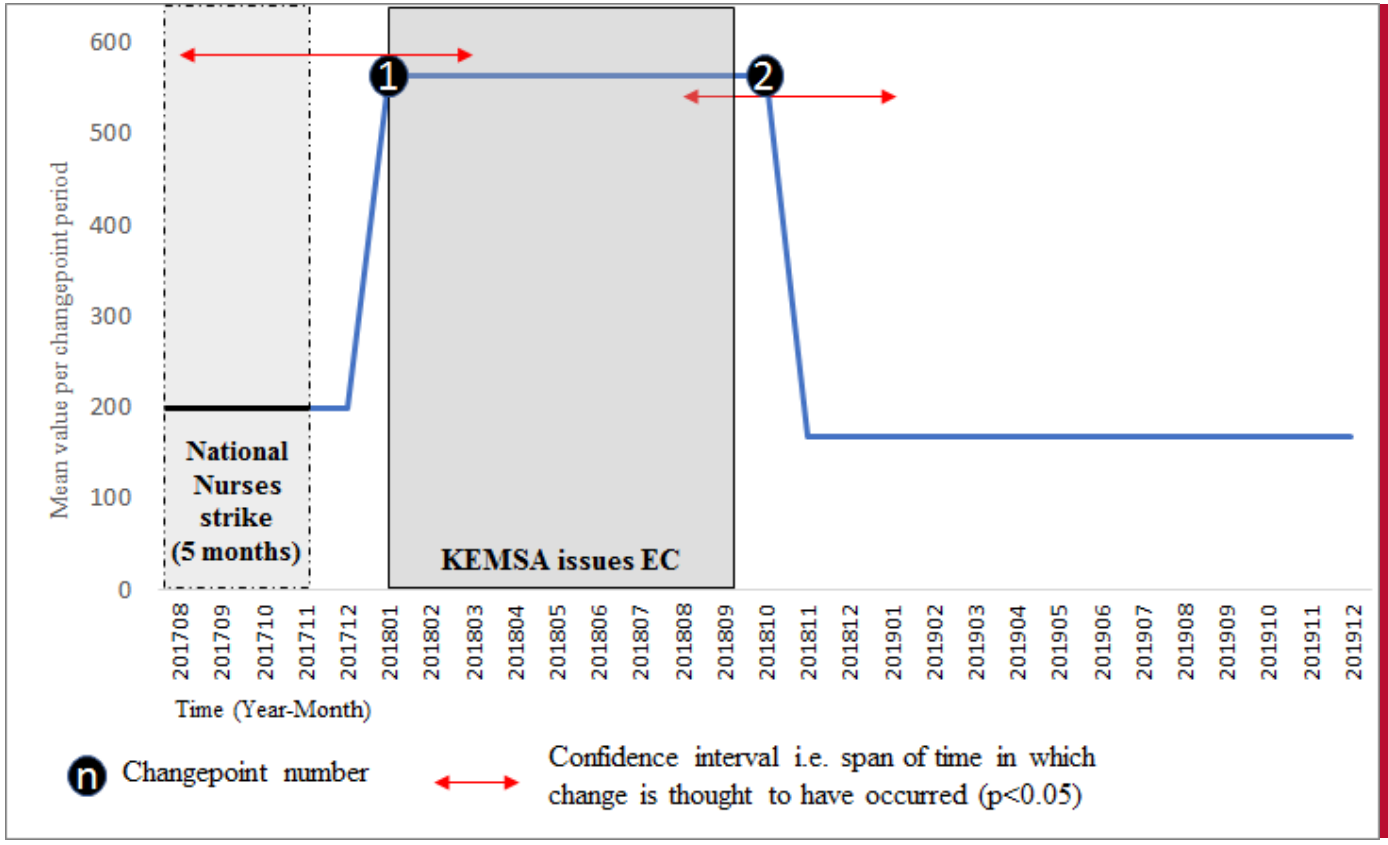


- Increase in volume sold of EC through for-profit private sector wholesalers coincides with national nurses strike
- No clear evidence that that resumption of supply by KEMSA led to a negative impact (else cessation of supply would presumably have led to corresponding uplift)

DKT, Emergency contraception

Breakpoint analysis, EC, DKT sales†

Breakpoint (Black Circle), Mean values (blue line), Confidence interval around Breakpoint (arrows) and periods of nursing strike and KEMSA stock issues (grey boxes)



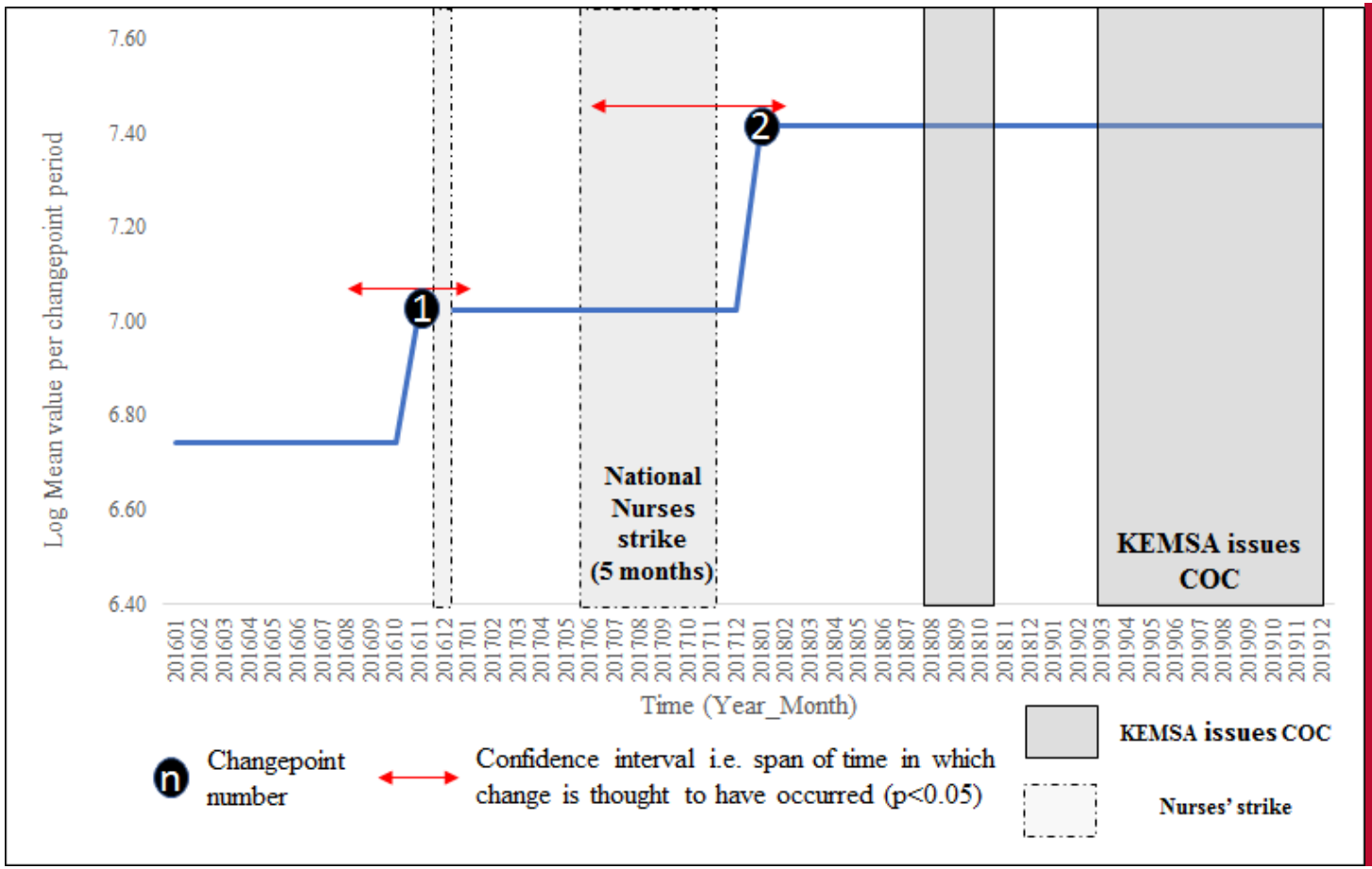
- **Timing of breakpoint suggests that increase in volumes distributed by DKT more likely to be stocking in of supply chain than due to nurses' strike**
- **Decline in DKT volumes of EC possibly linked to cessation of KEMSA supplies of EC – does not suggest complementary**
- **Average price per CYP of DKT's EC brand recorded in IQVIA data appears higher than average price of for-profit private sector brands**

† Sales of EC as seen in IQVIA's audit

For-profit private sector, Combined Oral Contraceptive

Breakpoint analysis, COC, For-profit private sector

Breakpoint (Black Circle), Mean values (blue line), Confidence interval around Breakpointpoint (arrows) and periods of nursing strike and KEMSA stock issues (grey boxes)



- **Increase in paid for COC distributed by for-profit private sector wholesalers volumes associated with periods of nurses' strike**
- **Volumes not affected by resumption of KEMSA supplies**
  - **Average monthly volume of paid for COC distributed through for-profit private sector is ~20% of KEMSA**

Conclusions

Summary

+ Private-For-Profit supply chain contribution to contraceptive security is limited
  - Paid for EC and COC are the only commodities which are distributed in any significant quantity
  - Average price of paid for EC in Private-For-Profit supply chain is lower than in social enterprise, reflecting perhaps the relatively large number of Marketing Authorisation Holders
  - Paid for product volumes distributed by the for-profit private sector wholesalers not affected by stock outs at KEMSA
  - Increase in paid for volumes during/following nurses' strikes in 2016 & 2017, but for COC, increase represents just 20% of average monthly KEMSA supplies over the period when KEMSA in stock

+ Public sector supply chain is "fragile"
  - Multiple stock outs at both KEMSA and PS Kenya
  - Budget shortfalls forecasted

Possible areas for Discussion

+ Given that the volume of paid for product is so small, can it really be expected that paid for volumes can increase to such a level that they play a significant part in contraceptive security in Kenya going forward?

+ Given that contraceptive security in Kenya is almost wholly reliant on direct or indirect donor funding, what steps could be taken to support the public sector supply chain?

+ Whilst the role of paid for product may be small, the role of private for-profit providers in service delivery appears more significant. What do we need to know about the role of the private for-profit providers to enhance contraceptive security in Kenya?