



Summary of August 2015 CSP Contraceptive Implant Demand Forecast

Introduction

Contraceptive implants are a long-acting reversible contraceptive (LARC) that can protect a woman from pregnancy for multiple years.¹ Global demand for contraceptive implants grew steadily between 2005 and 2011 and price reductions in 2011 and 2013 have accelerated demand further. Increasing demand coupled with production capacity constraints have prompted the family planning community to further assess supply and demand in the contraceptive implant market.

The Coordinated Supply Planning (CSP) group of the Reproductive Health Supplies Coalition (RHSC) was formed to improve supply chain coordination for family planning commodities among the two key procurers, the United States Agency for International Development (USAID) and the United Nations Population Fund (UNFPA).² As part of these efforts, the CSP group developed demand forecasts to support contract negotiations, advocacy for commodity funding, and market-shaping discussions, as well as production planning by suppliers. The CSP forecasts are meant to be dynamic, with the ability to be updated on an annual basis as new data become available. In August 2015, the CSP implant forecast was shared during the RHSC Procurers and Manufacturers Summit, providing stakeholders with visibility into future contraceptive implant demand and an opportunity to discuss their feedback.

Overview and Data Sources

The CSP has estimated contraceptive implant demand across 97 countries that comprise the Implant Access Program (IAP).³ It does so by aggregating country-specific forecasts among a subset of countries with available data and extrapolating the results to the broader market. More specifically, the CSP group produces three forecast scenarios. Two scenarios, historical shipment and consumption-based forecast scenarios are used as inputs into a third ‘blended’ scenario. This report describes the forecast methodologies and the approach adopted to construct the blended forecast scenario.

The demand forecasts for contraceptive implants cover the period 2015 to 2021 and utilize historical supplier-reported shipment data provided confidentially under the IAP. The historical supplier-reported shipment data includes both institutional (USAID, UNFPA, social market organizations) and ministry of

1 The duration of contraceptive protection varies by brand—Jadelle®: five years; Implanon®/Implanon NXT™: three years; Sino-Implant (II) ®: four years.

2 The CSP group includes representatives from UNFPA, USAID, Clinton Health Access Initiative, and John Snow, Inc. (JSI) through the Implant Access Program (IAP) and the USAID | DELIVER PROJECT, and the RHSC.

3 The list of countries is included in the Annex. The IAP was established in response to the 2013 price reductions of Jadelle® and Implanon® to monitor overall consumption and ensure implants were utilized in a manner that facilitates broader access to family planning in low- and middle-income countries. This list of countries is based on historical implant order data that JSI receives monthly from suppliers through the IAP.

health (MOH)/government-affiliated procurement. These recent data-sharing agreements with suppliers, specifically with Merck/Merck Sharpe & Dohme (MSD) and Bayer for implants, have enabled the CSP group to develop improved, rigorous demand forecasts with greater accuracy in the quantity and timing of country shipments.

CSP Forecast Scenarios

The CSP group estimates contraceptive implant demand among the 97 IAP countries by aggregating country-specific forecasts among a subset of countries with available data and extrapolating the results to the broader market (see Annex). The CSP group produces three forecast scenarios. Two scenarios, historical shipment and consumption-based forecast scenarios, are used as inputs into a third 'blended' scenario.

To develop the historical shipment and consumption-based forecasts, a subset of 26 focal countries were first selected (see Exhibit 1). The focal countries included 1) countries that accounted for approximately 80 percent of historical demand for contraceptive implants between 2014 and 2015 and 2) countries with more than 40 million women of reproductive age (WRA).⁴ For each of these two forecast scenarios, the projected demand from the 29 focal countries is aggregated and these results are then extrapolated to the broader market of 97 countries. For the blended forecast, the CSP group determined the best of the historical shipment, consumption-based, or country quantification report scenarios based on the quality and availability of data for each country.

The following sections outline the methodologies for each of the three scenarios used by the CSP group:

- › Scenario 1 – Historical shipment forecast
- › Scenario 2 – Consumption-based forecast
- › Scenario 3 – Blended forecast

4 Although India has a WRA population greater than 40 million, it was excluded as a focal country due to limited data visibility; United Nations Population Division | Department of Economic and Social Affairs. 2012 Revision of World Population Prospects [Internet]. 2012 [cited 2015 Jun 3]. Available from: <http://www.un.org/en/development/desa/population/publications/trends/wpp2012.shtml>.

Historical Shipment Forecast

The forecast based on historical shipments served as a baseline scenario and, as such, did not incorporate additional assumptions. For each focal country, a linear trend was applied to historical contraceptive implant shipments from 2011 through 2014 to forecast shipments from 2015 through 2021.

Consumption-Based Forecast

The country-specific consumption-based forecast relied primarily on data from 1) the Procurement Planning and Monitoring Report (PPMR),⁵ a database containing monthly data from countries on their consumption and desired stock levels, and 2) historical shipment data used to develop growth rates.⁶

Average monthly consumption (AMC) of contraceptive implants in the 29 focal countries was forecasted using aggregate growth rates based on historical supplier-reported shipments or other market intelligence. Annual contraceptive implant shipments were then estimated by multiplying forecasted AMC with a country's maximum desired months of stock.⁷

This methodology assumes that countries estimate annual demand at the beginning of the year based on projected annual consumption levels of and that they would procure quantities to account for buffer stock.

5 Procurement Planning and Monitoring Report [Internet]. [cited 2015 Jun 3]. Available from: <http://ppmr.rhsupplies.org/content?id=1;JSI|DELIVER.ImplantHistoricTrends.2015> [cited 2016 Mar 30].

6 Categories of growth will be described in the "Growth Rates" section.

7 The average desired months of stock is approximately 14 months across countries reporting data on implants to the PPMR.

Exhibit 1: Focal Countries (N=29)

Bangladesh	Cote d'Ivoire	Madagascar	Pakistan	Togo
Benin	Ethiopia	Malawi	Philippines	Uganda
Burkina Faso	Ghana	Mali	Rwanda	Yemen Rep
Burundi	Indonesia	Mozambique	Senegal	Zambia
Cameroon	Kenya	Niger	Sri Lanka	Zimbabwe
Congo Dem Rep	Liberia	Nigeria	Tanzania	

Growth Rates

Consumption was forecasted for each of the 29 focal countries by assigning them to one of three aggregate growth categories (low, medium, and high)⁸ based on the historical growth of implant shipments.⁹ If additional market intelligence suggested higher or lower growth trends in the future, growth rates for individual countries could be adjusted manually.

The three aggregate growth rate categories were developed based on historical contraceptive implant shipments to the 97 Implant Access Program countries. First, baseline 2015 growth rates were developed for each growth category using historical supplier-reported shipment data from 2009 to 2013.¹⁰ Next, because implant demand cannot be expected

⁸ Aggregate growth rates were developed because individual country demand exhibited significant fluctuations year-over-year. Country-specific growth rates were calculated and selected. Based on selected country-specific growth rates, countries were assigned a category of low, medium, or high based on their position in the distribution of growth rates across all countries. For countries in which a growth rate was not assigned due to data availability or outlier growth rate (country growth rates less than -50 percent or greater than 150 percent), an overall growth rate based on aggregate historical implant shipments across all IAP countries was applied.

⁹ Country-specific growth rates were assigned based on the number of years of data available. A three-, two-, and one-year compounded annual growth rate (CAGR) and average annual growth rate (AAGR) were estimated by country depending on the data available. Selected country growth rates prioritized a longer period of time and the CAGR over the AAGR. Outlier growth rates that were less than -50 percent or greater than 150 percent were excluded. Next, each country was ranked as low, medium, or high based on the distribution of selected country growth rates. Countries with selected growth rates that were in the bottom third of the growth rate distribution were identified as “low” growth, the middle third were “medium” growth, and the top third were “high” growth. Countries without country-specific growth rates due to data availability or outlier growth rates were assigned to “overall” growth.

¹⁰ Implant shipments were aggregated by growth category. For example, implant shipments associated with countries assigned as “low” growth category were aggregated together. In addition, implant shipments were aggregated across all IAP countries for the “overall” growth rate. After aggregating shipment volumes by growth rate category, three-, two-, and one-year CAGRs and AAGRs were estimated

to grow at the same baseline rate year-over-year, changes in growth rate over time were forecasted. The CSP group modeled subsequent year-over-year changes in growth based on the implied year-over-year changes in growth associated with a fitted logarithmic trend of annual implant shipments from 2009 through 2013.¹¹ The same change in growth rates was applied across all levels of growth.

Blended Forecast

The blended forecast selects the best available forecast scenario for each country. The scenarios were prioritized based on the following ranking:

1. Consumption-based forecast – see methodology above.
2. Historical shipment forecast – see methodology above.
3. Country quantification report – Where available, CSP consulted reports from MOH-led quantification exercises held in country. When these included relevant information on forecasted consumption or MOH-endorsed supply plans, forecasted annual demand for contraceptive implants was recorded for the years available.

CSP members reviewed the available forecast scenarios and selected the best ones (or other market intelligence) for each of the 97 countries, when available. Because not all countries had an available implant forecast, the CSP group estimated implant demand among the 97 countries by aggregating available country-specific forecasts and extrapolating the results to the broader market.

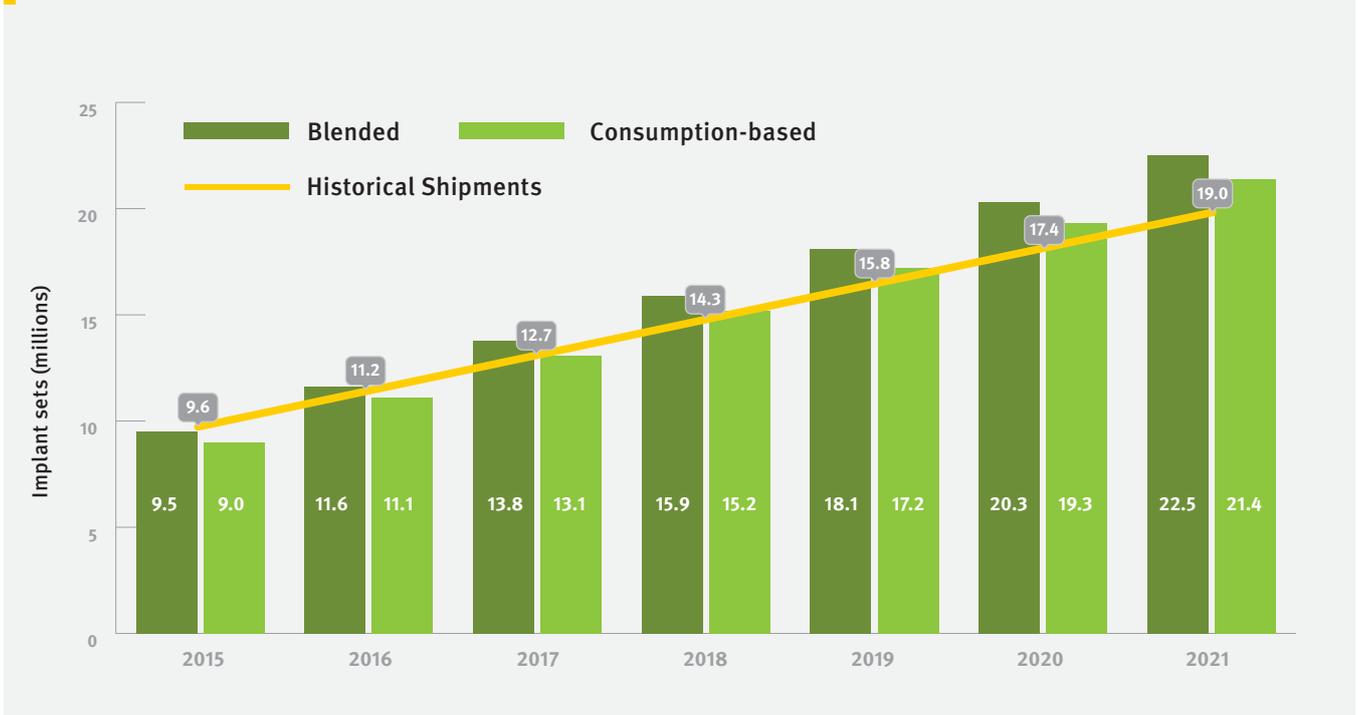
by growth rate category. Upon review, a set of growth rates were selected. During this iteration, the two-year AAGR for each category of growth was selected.

¹¹ Shipment data was not available for all Implant Access Program countries from 2009 through 2013, so a subset of countries was used to capture a longer time horizon.

CSP Forecast Results

The CSP forecast shows that demand for contraceptive implants is expected to increase to 21–23 million units by 2021 (Exhibit 2).

Exhibit 2: CSP Contraceptive Implant Demand Forecast (Millions of Implant Sets)
All Procurers, IAP Countries, 2015–2021



Scenario	2015	2016	2017	2018	2019	2020	2021
Blended	9.5	11.6	13.8	15.9	18.1	20.3	22.5
Consumption-based	9.0	11.1	13.1	15.2	17.2	19.3	21.4
Historical Shipments	9.6	11.2	12.7	14.3	15.8	17.4	19.0

Conclusion

The CSP contraceptive implant demand forecast provides long-term visibility into the contraceptive implant market. The CSP group has leveraged the forecast outputs to assess commodity security, advocate for commodity funding, and hold other market-shaping discussions. Furthermore, suppliers have used the results to inform long-term production planning. The CSP group plans to review the implants forecast annually, assessing its accuracy and revising the methodology as additional data becomes available.

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For questions about the CSP forecast, please contact Alexis Heaton (alexis_heaton@jsi.com) or Eleni Han (ehan@clintonhealthaccess.org).

Annex: Implant Access Program Countries

Afghanistan	Cote d'Ivoire	India	Myanmar	Sudan
Angola	Cuba	Indonesia	Namibia	Swaziland
Bahamas	Djibouti	Iran Islamic Rep	Nepal	Tajikistan
Bangladesh	Dominican Republic	Iraq	Nicaragua	Tanzania
Belize	Ecuador	Jamaica	Niger	Thailand
Benin	Egypt Arab Rep	Kenya	Nigeria	Timor-Leste
Bolivia	El Salvador	Kiribati	Pakistan	Togo
Botswana	Eritrea	Korea Dem Rep	Panama	Uganda
Burkina Faso	Ethiopia	Kyrgyz Republic	Papua New Guinea	Uruguay
Burundi	Fiji	Lao PDR	Peru	Uzbekistan
Cabo Verde	Gabon	Lesotho	Philippines	Venezuela RB
Cambodia	Gambia	Liberia	Rwanda	Vietnam
Cameroon	Georgia	Madagascar	Sao Tome and Principe	West Bank and Gaza
Central African Republic	Ghana	Malawi	Senegal	Western Sahara
Chad	Guatemala	Malaysia	Sierra Leone	Yemen Rep
Chile	Guinea	Mali	Solomon Islands	Zambia
Comoros	Guinea-Bissau	Mauritania	Somalia	Zimbabwe
Congo Dem Rep	Guyana	Mauritius	South Africa	
Congo Rep	Haiti	Mongolia	South Sudan	
Costa Rica	Honduras	Mozambique	Sri Lanka	



The Reproductive Health Supplies Coalition

The Coalition is a global partnership of public, private, and non-governmental organizations dedicated to ensuring that everyone in low- and middle-income countries can access and use affordable, high-quality supplies for their better reproductive health. It brings together agencies and groups with critical roles in providing contraceptives and other reproductive health supplies. These include multilateral and bilateral organizations, private foundations, governments, civil society, and private sector representatives.