# Introduction

The U.S. Prescription Contraception Workforce Tracker monitors the location, clinician specialty, and distribution/clinician density of the prescription contraception workforce, with the goal of providing evidence-based support for policies and programs that can address gaps in contraceptive equity. The tracker allows researchers and other to compare states and counties across multiple aspects of the contraceptive workforce.

This document provides a summary of the methods used to construct the tracker.

# Data Sources

## IQVIA

IQVIA is a proprietary health information company that aggregates data from multiple sources for healthcare analysis and business solutions. The LRx dataset are retail prescription claims derived from multiple sources, including pharmacy billing software and pharmaceutical clearing houses. The dataset covers an estimated 92-94% of retail prescription claims nationally in 2019 – 2022.  We obtained full-year clinician month-level counts of new and retail prescriptions for contraceptive products (e.g., the contraceptive pill, patch, and ring). IQVIA also provided the NPI and specialty of all clinicians that appeared in the full LRx dataset (2019 – 2022), regardless of product type (we refer to this as the 'All Rx' file).

## National Plan & Provider Enumeration System (NPPES)

NPPES is a national registry for which all healthcare clinicians who conduct HIPAA-covered electronic transactions are required. NPPES contains information on mailing and practice address, healthcare clinician credentials, clinician taxonomy (specialty), and state license information. This was used for obtaining the number of clinicians who did not have at least 10 total prescriptions for contraception in the calendar year.

## American Community Survey (ACS) 5-Year Estimates

The ACS is an annual survey conducted by the U.S. Census Bureau. The 5-year sample combines the most recent 5 years to provide more accurate estimates for smaller, less populated geographies. We used 2015 – 2019, 2016 – 2020, and 2017 – 2021 county-level estimates.

# Database Construction

## Clinician Specialty

We collapsed the nearly 300 different specialties in IQVIA into 9 key categories of interest for this project: OBGYN, family medicine, internal medicine, pediatrics, other physician, advanced practice registered nurse (APRN), physician assistant, and other health profession. On the tracker, we do not show other physician and other health profession. Prescribing patterns for these provider types are available in the downloadable dataset. (available upon request here). We included all specialties,

however remote the possibility of providing contraception services (e.g., dentist), with the single exception of veterinarians, which we dropped from the dataset. We used the primary clinician type listed for the clinician included in the IQVIA LRx.

## Clinician Location

We geocoded clinician address in the IQVIA LRx dataset to map contraception prescribers to counties. We excluded prescribers outside of the 50 states and District of Columbia. For the few addresses that we could not geocode, we used the Housing and Urban Development (HUD) Zip to County Crosswalk to match clinician zip code from IQVIA to a county.

## Clinician Density

Using ACS estimates, we determined the county and state female population of reproductive age (15-44) in 2019 – 2022 (we used 2021 data for 2022 as the 5-year estimates are not yet available). This was used as the denominator for the estimates of state- and county-level prescription contraception clinicians per 10,000 population. We then calculated rankings for states and counties, excluding counties with no contraception prescribers. We recognize that women are not the only people who need contraception services and seek to be inclusive of all genders. The ACS is the most comprehensive national database available but uses a binary gender indicator.

## Volume Threshold

We used the IQVIA LRx dataset to identify prescribers of the birth control pill, patch, and ring in 2019 – 2022. We included both new and refill prescriptions and limited our analysis to clinicians who prescribed 10 or more total contraception prescriptions (of the pill, patch, and/or ring) during the calendar year (2019 – 2022). The minimum of 10 prescriptions was used to exclude clinicians who were rare contraception prescribers who possibly provided contraception prescriptions outside the scope of their normal practice.

## Non-Prescribers

We calculated the total number of clinicians who did not prescribe at least 10 total prescriptions for the pill, patch, and/or ring by adding together two groups of clinicians:

1. The clinicians in the IQVIA LRx 2019-2022 data without at least 10 total prescriptions for the pill, patch, and/or ring by specialty, county, and year
2. The clinicians in the All Rx 2019-2022 file from IQVIA (who were not already in the IQVIA LRx data). We matched these clinicians using NPI to NPPES to get practice and/or mailing address, and then used the HUD Zip to County crosswalk to match clinicians with county. These clinicians were then aggregated by specialty, county, and year.

State and county counts of clinicians who did not prescribe at least 10 total contraception prescriptions are accessible through a [request for access](#) for a deidentified version of the data.

# Data Limitations

## IQVIA

From IQVIA's analysis, the LRx dataset had an average 94% coverage of retail prescription claims, with varying state-level coverage. In examining the prescription contraception workforce, we limited our analysis to clinicians present in the overall LRx dataset. However, we compared the total number of IQVIA clinicians by type to NPPES counts of clinicians and found similar numbers of clinicians by type. In some cases, it appears the IQVIA dataset may identify more clinicians in a specialty than the NPPES. This may be due to known limitations in the NPPES or variation in specialty designations. The LRx data particularly appear to identify fewer advanced practice clinicians than the NPPES. The underlying causes for this difference may be a combination of the coverage of the dataset, as well as the fact that the LRx will only identify clinicians who are actively prescribing. In addition, the LRx dataset does not include prescriptions dispensed by insurers who operate their own medical centers and pharmacies (e.g., Kaiser). For states with a large market share of HMO pharmacies, we may be undercounting the number of prescribers.

## NPPES

While the NPPES dataset is one of the most comprehensive lists of both physicians and non-physicians, the information is not updated systematically and is self-reported. Therefore, it includes clinicians who may have retired or who no longer work in active practice (e.g., in pharmaceutical or policy settings). However, it contains clinician NPI number, which allows for clinician address, gender, and specialty to be linked to other datasets. A further limitation of the NPPES data is the more limited inclusion of non-physician healthcare workers. This is of relevance for healthcare clinicians who are less likely to submit medical claims, such as nurses, social workers, and counselors.