

## Improving Medication Safety During Pregnancy

The **ReproAnswer™ Application** was developed by RightAnswer.com, Inc. working with teratology experts from the University of Washington, and with funding from the CDC (U.S. Centers for Disease Control and Prevention) via SBIR (Small Business Innovation Research) grants. The new App supports improvement in medication safety for pregnant women by delivering current and authoritative information to health-care providers, helping to reduce premature births and birth defects.

### According to the CDC:

*“A few existing databases provide an expert review and evidence summary of the available literature on the fetal risks of specific medications, but these resources are not widely available to women or their healthcare providers and are thus underutilized.”*

*“With no ‘gold standard’ information source to consult regarding these health decisions, clinical uncertainty exists, leading to significant variations in care, thus vast potential to improve health equity and outcomes for mothers and their babies.”*

### Why is this new tool for medication safety in pregnancy significant?

*“Almost every pregnant woman will face a decision about taking medicines before and during pregnancy. However, not all medicines are safe to take during pregnancy. Some medicines may cause birth defects, pregnancy loss, prematurity, infant death, or developmental disabilities.”*

### The CDC has also stated:

*“Published research has shown an important potential for reducing adverse outcomes by shifting prescribing practices to medications with lower risk.”*

- *10% of U.S. women experience pregnancy each year, and more than 90% of women take at least one medication during pregnancy and lactation*
- *Medication use in pregnancy is up more than 60% in the last 30 years, yet for most medications the safety or risk profile is unknown or hard to find*
- *It is difficult for healthcare providers and women to weigh risks and benefits of treatment options during pregnancy*
- *Preterm birth and birth defects are the leading cause of infant mortality*
- *Adverse fetal outcomes comprise a major health public health burden – to women, families, society, health systems, governments*

**This new App bridges the gap between healthcare providers and the expert teratogen information needed to support better decisions for medication use in pregnancy.**

## Why wasn't there already a comprehensive App for medication risk assessment related to pregnancy?

**It is not as easy as just developing an App -- there were substantial content and design challenges involved.**

Based on its research, RightAnswer developed and tested versions of the application with healthcare providers in the human-computer interaction lab at the University of Washington. Overall, healthcare provider ratings of the ReproAnswer™ App were very positive and indicated above-average usability. 90% said they would be very likely or extremely likely to adopt the decision support App for medication use in pregnancy.

Further, the testing reconfirmed the project findings that healthcare providers have four distinct information needs and usages addressed by the App:

- ✔ **Find** authoritative information to support medication safety in pregnancy and lactation
- ✔ **Understand** quickly by efficiently searching for and returning topic-specific information
- ✔ **Decide** on the most appropriate medication treatment options for pregnancy and lactation
- ✔ **Explain** to patients and family members so they feel more comfortable with decisions

### Features and Benefits

#### Connectivity:

- ✔ App does not require internet or wi-fi connectivity for use
- ✔ Connect to the internet only for initial data download and periodic data/app updates

#### Data Sources:

- ✔ Curated, fully integrated data sources returned by a single search
- ✔ MotherToBaby Fact Sheets (OTIS) – free to all users upon registration
- ✔ Fee-Based Data Sources: ReproTox® | Shepard's Catalog | TERIS
- ✔ Other data sources may be added as appropriate

#### Ease of Navigation:

- ✔ Bookmarks – returns users to previously bookmarked documents
- ✔ Search History – returns users to previously accessed documents
- ✔ Drill Down – allows users to target information more specifically by:
  - SEARCHING within a returned document
  - SCROLLING within a returned document

#### Customized Display Options of Targeted Search Results:

- ✔ Users can customize display of search results
- ✔ Search takes users to a list of documents, or targeted location within returned document(s)
- ✔ Users can search by: Title | Keyword | Free text search

#### Filter Searches by:

- ✔ Title | Risk Magnitude | Data Quality | Data Source

#### Print Patient Handouts / Documents in PDF Format:

- ✔ Print data source documents for easier reading
- ✔ Patient handouts – MotherToBaby Fact Sheets, or other relevant documents
- ✔ Print/compare multiple documents for in-depth review

