

Oh Baby! Healthier Pregnancies Start with Diabetes Education and Innovation

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#AccessToHealthCare

Oh Baby! Healthier Pregnancies Start with Diabetes Education & Innovation

Women In Government
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EVERYONE WANTS A HEALTHY BABY..



DIABETES IN PREGNANCY



37% increase
2000-2010

1-2% of pregnant women have T1D or T2D

Pre-existing Diabetes

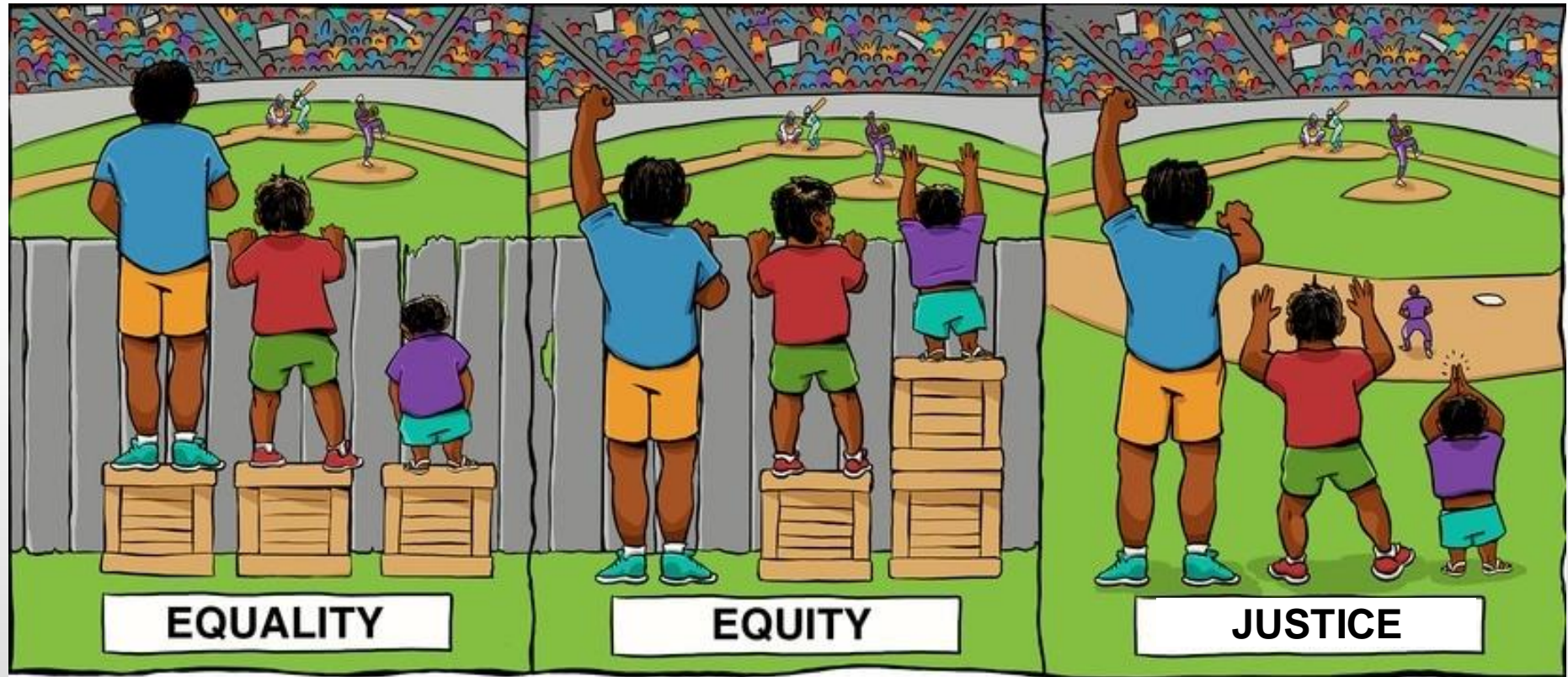
Gestational Diabetes

56% increase
2000-2010

6-9% of pregnant women develop gestational diabetes



HEALTH EQUITY



DIABETES IS NOT ONE-SIZE-FITS ALL



42

Factors that affect Blood Glucose

FOOD	BIOLOGICAL
<ul style="list-style-type: none"> ↑↑ 1 Carbohydrate quantity →↑ 2 Carbohydrate type →↑ 3 Fat →↑ 4 Protein →↑ 5 Caffeine ↓↑ 6 Alcohol ↓↑ 7 Meal timing ↑ 8 Dehydration ? 9 Personal microbiome 	<ul style="list-style-type: none"> ↑ 20 Too little sleep ↑ 21 Stress and illness ↓ 22 Recent hypoglycemia →↑ 23 During-sleep blood sugars ↑ 24 Dawn phenomenon ↑ 25 Infusion set issues ↑ 26 Scar tissue / lipodystrophy ↓↓ 27 Intramuscular insulin delivery ↑ 28 Allergies ↑ 29 A higher BG level (glucotoxicity) ↓↑ 30 Periods (menstruation) ↑↑ 31 Puberty ↓↑ 32 Celiac disease ↑ 33 Smoking
MEDICATION	ENVIRONMENTAL
<ul style="list-style-type: none"> →↓ 10 Medication dose ↓↑ 11 Medication timing ↓↑ 12 Medication interactions ↑↑ 13 Steroid administration ↑ 14 Niacin (Vitamin B3) 	<ul style="list-style-type: none"> ↑ 34 Expired insulin ↓↑ 35 Inaccurate BG reading ↓↑ 36 Outside temperature ↑ 37 Sunburn ? 38 Altitude
ACTIVITY	BEHAVIOR & DECISIONS
<ul style="list-style-type: none"> →↓ 15 Light exercise ↓↑ 16 High-intensity & moderate exercise →↓ 17 Level of fitness/training ↓↑ 18 Time of day ↓↑ 19 Food and insulin timing 	<ul style="list-style-type: none"> ↓ 39 More frequent BG checks ↓↑ 40 Default options and choices ↓↑ 41 Decision-making biases ↓↑ 42 Family and social pressures

The arrows show the general effect these 42 factors seem to have on blood glucose based on scientific research and/or our experiences at diaTribe. However, not every individual will respond in the same way, so the best way to see how a factor affects you is through your own data: check your blood glucose more often with a meter or wear a CGM and look for patterns.

CRITICAL DIABETES TECHNOLOGIES

Smart pens coming soon!

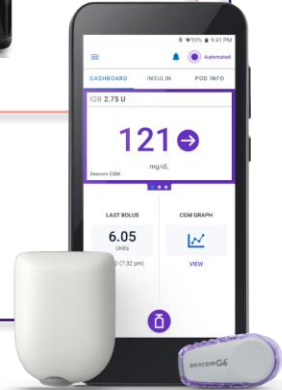
GLUCOSE MONITORING



INSULIN ADMINISTRATION



CONNECTED / AUTOMATED INSULIN DELIVERY SYSTEMS



CARE CONTINUUM IMPROVES OUTCOMES

← **GOAL: BLOOD SUGAR LEVELS WITHIN NORMAL RANGE** →

PRE-
CONCEPTION

PREGNANCY

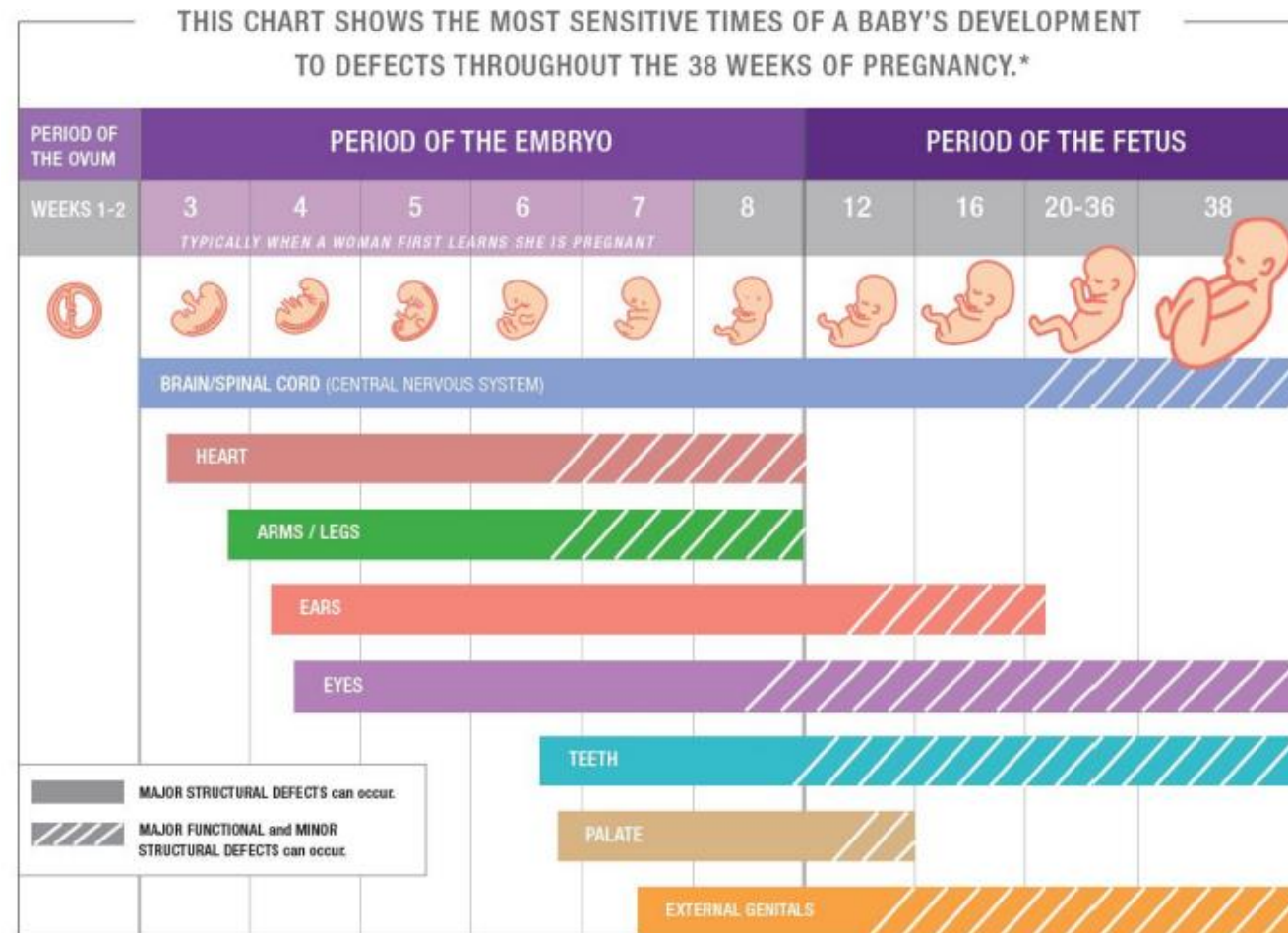
POST
PARTUM

- Diabetes screening
- Counseling
- Care

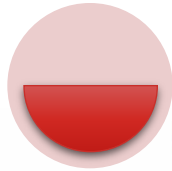
- Whatever she needs
- When she needs it

- Diabetes screening
- Diabetes management or prevention
- Lactation support
- Weight management
- Contraception

CRITICAL PERIODS OF FETAL DEVELOPMENT

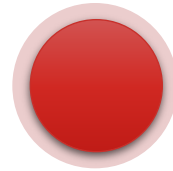


RISKS TO MOM & BABY



MOM

- Miscarriage
- Stillbirth
- Pre-term birth
- Pre-eclampsia
- High blood pressure
- Cesarean delivery
- Perinatal depression
- Future diabetes or obesity



BABY

- Birth defects
- Large size
- Breathing difficulty
- Jaundice
- Birth injuries
- Future diabetes, hypertension or obesity



DIABETES PRECONCEPTION CHECKLIST

- Medical screening
- Gynecological screening
- Family planning
- Weight management
- Physical activity
- Healthy food choices
- Folic acid supplementation
- Avoid toxic substances
- Screening for depression
- Diabetes screening



PRECONCEPTION CARE CHECKLIST

Table 15.1—Checklist for preconception care for people with diabetes (16,19)

Preconception education should include:

- Comprehensive nutrition assessment and recommendations for:
 - Overweight/obesity or underweight
 - Meal planning
 - Correction of dietary nutritional deficiencies
 - Caffeine intake
 - Safe food preparation technique
- Lifestyle recommendations for:
 - Regular moderate exercise
 - Avoidance of hyperthermia (hot tubs)
 - Adequate sleep
- Comprehensive diabetes self-management education
- Counseling on diabetes in pregnancy per current standards, including natural history of insulin resistance in pregnancy and postpartum; preconception glycemic targets; avoidance of DKA/severe hyperglycemia; avoidance of severe hypoglycemia; progression of retinopathy; PCOS (if applicable); fertility in people with diabetes; genetics of diabetes; risks to pregnancy including miscarriage, still birth, congenital malformations, macrosomia, preterm labor and delivery, hypertensive disorders in pregnancy, etc.
- Supplementation
 - Folic acid supplement (400 µg routine)
 - Appropriate use of over-the-counter medications and supplements

Health assessment and plan should include:

- General evaluation of overall health
- Evaluation of diabetes and its comorbidities and complications, including DKA/severe hyperglycemia; severe hypoglycemia/hypoglycemia unawareness; barriers to care; comorbidities such as hyperlipidemia, hypertension, NAFLD, PCOS, and thyroid dysfunction; complications such as macrovascular disease, nephropathy, neuropathy (including autonomic bowel and bladder dysfunction), and retinopathy
- Evaluation of obstetric/gynecologic history, including a history of: cesarean section, congenital malformations or fetal loss, current methods of contraception, hypertensive disorders of pregnancy, postpartum hemorrhage, preterm delivery, previous macrosomia, Rh incompatibility, and thrombotic events (DVT/PE)
- Review of current medications and appropriateness during pregnancy

Screening should include:

- Diabetes complications and comorbidities, including comprehensive foot exam; comprehensive ophthalmologic exam; ECG in individuals starting at age 35 years who have cardiac signs/symptoms or risk factors and, if abnormal, further evaluation; lipid panel; serum creatinine; TSH; and urine protein-to-creatinine ratio
- Anemia
- Genetic carrier status (based on history):
 - Cystic fibrosis
 - Sickle cell anemia
 - Tay-Sachs disease
 - Thalassemia
 - Others if indicated
- Infectious disease
 - *Neisseria gonorrhoeae/Chlamydia trachomatis*
 - Hepatitis C
 - HIV
 - Pap smear
 - Syphilis

Immunizations should include:

- Rubella
- Varicella
- Hepatitis B
- Influenza
- Others if indicated

Preconception plan should include:

- Nutrition and medication plan to achieve glycemic targets prior to conception, including appropriate implementation of monitoring, continuous glucose monitoring, and pump technology
- Contraceptive plan to prevent pregnancy until glycemic targets are achieved
- Management plan for general health, gynecologic concerns, comorbid conditions, or complications, if present, including hypertension, nephropathy, retinopathy; Rh incompatibility; and thyroid dysfunction

DKA, diabetic ketoacidosis; DVT/PE, deep vein thrombosis/pulmonary embolism; ECG, electrocardiogram; NAFLD, nonalcoholic fatty liver disease; PCOS, polycystic ovary syndrome; TSH, thyroid-stimulating hormone.



BLOOD GLUCOSE TARGETS

	Preconception	Pregnancy	Postpartum
Hemoglobin A1C (A1C)	<6.5%	<6%	<7% <8%*
Continuous Glucose Monitoring (CGM) (70-180 mg/dL)	>70% TIR <25% TAR <4% TBR	70% (T1)* 85% (GDM)* *(63-140 mg/dL)	>70% TIR <25% TAR <4% TBR
Blood Glucose Monitoring (BGM) • Pre-meal • Post-meal	• 80-130 mg/dL • 180mg/dL	• <95 mg/dL • <140 mg/dl (1 hour) • <120 mg/dL (2 hours)	• 80-130 mg/dL • 180mg/dL



POSTPARTUM CARE

Type 1 or Type 2

- Reevaluation of medication
 - Insulin/other diabetes agents
 - Hypoglycemia prevention
- Lactation
 - Benefits
 - Support
- Contraception
 - Critical to avoid unplanned pregnancies
 - Contraception discussions

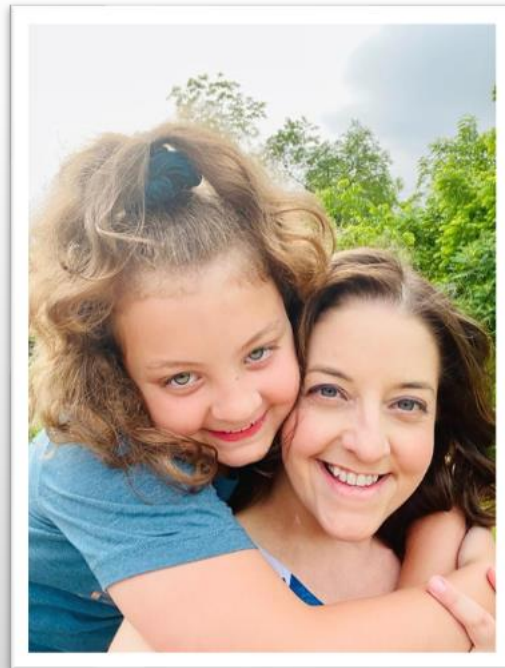
Gestational Diabetes

- Diabetes Screening
 - 4-12 weeks postpartum
 - Every 1-3 years
- Weight management
- Diabetes prevention
- Contraception



My journey with self-advocacy began with my diagnosis of type 1 diabetes 25 years ago. Advocating for health insurance coverage, access to medical technologies and information, and competent care is an ongoing requirement of life with this chronic illness. My most important personal victory came after 8 years of being told by PCPs, gynecologists and even some endocrinologists that I should not consider pregnancy with type 1.

Not only did I consider it, I found an amazing healthcare team who helped make it possible, leveraged all of the tools, medicines and knowledge to help me deliver a healthy baby girl in October of 2012.



“SHE WAS AND ALWAYS WILL BE MY DIABETES MIRACLE – BUT THE REALITY IS THAT I HAD TO LEARN MORE, DO MORE, AND SEEK ACCESS TO BETTER OPTIONS TO MAKE THIS DREAM POSSIBLE.”



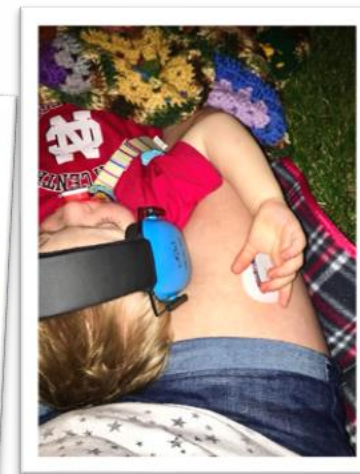
“IN TODAY'S WORLD OF DIABETES ADVANCEMENTS, IT IS POSSIBLE TO DELIVER A HEALTHY CHILD, EVEN MULTIPLE CHILDREN. THE KEY IS EDUCATION, COMPREHENSIVE MEDICAL CARE, DEDICATION AND ACCESS TO TOOLS, DEVICES AND MEDICATIONS TO ATTAIN SUCCESS.”

When I was diagnosed with type 1 diabetes in 1993, I was advised not to become a mother. Yet, in 2007, I became pregnant and lived to tell the tale of a successful, non-eventful pregnancy with type 1 diabetes. It was the most challenging hurdle I faced living with diabetes; I spent 38 weeks carefully monitoring blood sugars, adjusting the settings on my insulin pump, and attending countless medical appointments.

Thanks to an informed and compassionate medical team, I delivered a healthy baby boy. I will forever be grateful to my medical team who provided physical and mental support to myself and my husband, helping us navigate this journey.



**“DIABETES TAKES A VILLAGE.
BEING PREGNANT TAKES A
VILLAGE. BEING PREGNANT
WITH DIABETES TAKESWELL,
IT TAKES A LOT. A LOT OF
PEOPLE, LOVE, SUPPORT, AND
GUIDANCE.”**



Being pregnant with type 1 is completely unpredictable. I couldn't have done it without my team – an endo who I trusted, my OB/MFM teams, my parents, my husband, my family, and friends. I was not prepared for almost triple the amount of insulin one day, and barely taking any insulin another day. I couldn't have done it without my team!! And thanks to them, I have two new team members! Both pregnancies were vastly different – from throwing up any time I would eat glucose tablets and an unexpected emergency delivery at 33 weeks, to a full-term baby who had to go to the NICU due to my blood sugar dropping during the c-section. You never know what diabetes will throw with you, and your team is who will help you through it!

STATE POLICY & PROGRAM LEVRS



HEALTH PLANS

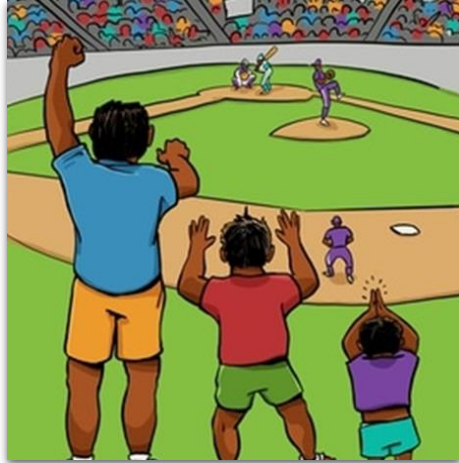
- Medicaid
- CHIP
- State employees
- Exchanges
- Fully insured employer



PUBLIC HEALTH PROGRAMS

- Screening
- Awareness
- Interventions

BREAK DOWN BARRIERS TO DIABETES CARE



Benchmark diabetes & pregnancy coverage to national guidelines

- Diabetes screening
- Medications
- Diabetes technology
- Provider visits and services

Keep removing barriers in your state's access & affordability ecosystem

- Diabetes Action Plans
- Prescription drug access and affordability
 - Insulin and diabetes supply copay caps
 - Rebate pass through
 - Copay accumulator/maximizer bans
 - Prior authorization/step therapy standards
 - Generics and biosimilar coverage
- Medicaid expansion and redeterminations



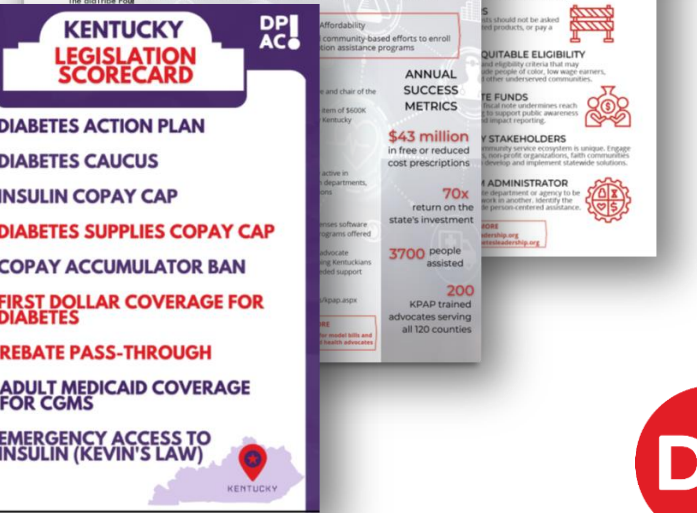
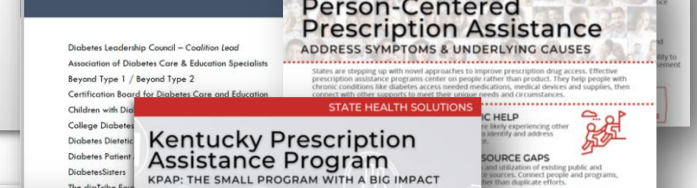
RESOURCES FOR CHANGE-MAKERS



- Subject matter experts
- Policymaker briefings
- Consensus statement
- Issue briefs



- Grassroots advocates
- State score cards
- Advocate training
- Diabetes & obesity handbook **coming soon*





THANK YOU

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