Five questions for Dana Dabelea[1]
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After studying the incidence of diabetes among the Pima Indian population in Arizona, Dana Dabelea wrote one of the first papers detailing the trend of rising rates of Type 2 diabetes – once called adult-onset diabetes – in youth. Her research has expanded to look at maternity and the ways in which a mother's health and behavior can impact the incidence of diabetes in offspring and in future generations.
[3]

"From my work with the Pima Indians that has been replicated in many other populations, we know that Type 2 diabetes is no longer an adult chronic disease," she said. "We see it in children and it's increasing in children by about 30 percent in the last eight or nine years, which is substantial."

Dabelea, who has studied diabetes for 20 years, is the Conrad M. Riley Endowed Professor in epidemiology at the Colorado School of Public Health at the University of Colorado Anschutz Medical Campus. She also is principal investigator in numerous studies and is the director of the LEAD (Lifecourse Epidemiology of Adiposity and Diabetes) center.

1. How did you choose this career path and what influenced your decision?

I was trained at the University of Medicine, Timisoara, in Romania where I completed my Ph.D. in clinical sciences. After my doctoral training, I spent two years doing postdoctoral studies at the National Institute of Diabetes and Digestive and Kidney Disease (NIDDK) branch in Phoenix, Arizona, where I did research on the Pima Indians.

That was a life-changing experience. It was there that I started to be interested in Type 2 diabetes in youth, and I wrote one of the first papers highlighting this trend. Until that time, Type 2 diabetes used to be called adult-onset diabetes, and so describing it in a youth population was extremely novel and interesting and concerning.

Thereafter, I did research into diabetes during pregnancy in that population because the children with Type 2 diabetes were very likely to have mothers with diabetes while the babies were in utero. And that is how I started thinking about a life-course approach. For example, we found that intrauterine exposure to maternal diabetes during pregnancy was the strongest risk factor for diabetes for children. Almost half of Type 2 diabetes in youth in the Pima Indians could be explained or attributed to this intrauterine exposure. My work with the Pima Indian community and with my mentors, including Peter Bennett, who are outstanding diabetes epidemiologists, were life-changing experiences that motivated me to refocus my career. So I went back to Romania after my postdoc training there and convinced my family to emigrate. My husband was very supportive and we now have strong careers in Colorado.

In 2001, I accepted a junior faculty position at CU in the Department of Preventive Medicine and Biometrics in the School of Medicine, which became the Colorado School of Public Health in 2008. I chose CU over other potential places in the United States because the person who was going to become my mentor here, Dick Hamman, had just gotten a grant, along with five other sites in the U.S., to study pediatric diabetes, which went right along with the work I had done in Romania and Phoenix.

Once here, Dick Hamman allowed me to take over the local leadership for the study called SEARCH for Diabetes in Youth. In 2004, I became the principal investigator for the Colorado site of SEARCH, and in 2005, I became co-chair of this multi-center study at the national level. This is still an ongoing study and is now in the 17th year.

SEARCH is one of the most comprehensive projects, and perhaps the only U.S. project to address the epidemiology and natural history of diabetes in youth encompassing both diabetes type and all major racial and ethnic groups. It has a registry component, which includes surveillance of pediatric diabetes, and a cohort component that aims to understand the development of diabetes-related health outcomes, the risk factors for complications and barriers to quality health care in individuals diagnosed with diabetes as children.

Surveillance is the systematic collection of information that permits one to study the burden of a disease in a population. Rather than just recruiting volunteers, what we do is identify everyone, all the children aged less than 20

years old who have diabetes in five U.S. locations, including Colorado, regardless of whether they will participate in the study or not. We do that to be able to count them to determine how many kids there are by race and by diabetes type so that we can estimate the prevalence, incidence and trends in incidence over time.

2. Earlier this year, you presented a lecture as the winner of the Elizabeth Gee Memorial Lectureship and award, and you also will present a lecture later this year as the 2017 recipient of the American Diabetes Association Kelly West Award, the premier award for epidemiology given by the ADA. What were/are the topics of the lectures?

The Gee Award recognizes outstanding work on women's issues in academia. The lecture I gave in March focused on how my career unfolded, with examples of my mentoring experiences, scholarly accomplishments throughout various academic stages, as well as examples of mentoring and supporting CU women, junior faculty, students, fellows and staff.

The other one, the Kelly West Award, is the highest scientific award given annually to a person who has made a contribution to diabetes epidemiology. This lecture will be in June and will likely focus on pediatric diabetes as well as the life-course approach that I try to implement in my studies.

Children have a higher lifetime burden of diabetes than do adults. By studying younger people with diabetes, I think we increase our chances of finding risk factors for the disease progression before the complications develop. So the lecture will focus on what we've learned from studies like SEARCH and my work with the Pima Indians and some other studies I'm doing now about the life-course determinants of diabetes in youth and its complications as a motivation for future research and programs that will help us prevent it.

3. What is a life-course approach and how has this approach advanced research?

As we grow and develop from the womb to old age, there are multiple risk factors and exposures that happen to us over time, and these exposures – whether they are nutritional, environmental (like toxins and pollutants), physical, infectious and many others – cause us to respond in ways that we are just beginning to understand. Life course tries to integrate these multiple exposures as well as specific periods when they occur, which we call critical periods, to understand better how to reduce or prevent their long-term outcomes such as chronic diseases – obesity, diabetes, heart disease and cancer.

It seems that this is important not only during childhood, puberty or young adulthood or older age, but it appears to be especially important during pregnancies when multiple systems and organs in the offspring may be programmed about how to respond to such exposures both immediately before the baby is born, but also later in life. And there is evidence that these effects are transmitted or lasting into the next generation, and so the effect of exposures on one individual may be seen in grandchildren. This life-course approach gives us a more complete picture about disease etiology than something that we can develop by looking at one factor and one place in time.

This is a relatively new focus in epidemiology in general, and specifically, in diabetes research, but it's growing and we're learning more every day about how we can use this approach to prevent chronic disease such as diabetes. To relate to some of my studies, for instance, we know now from the types of studies that I and others have been doing, that focusing on achieving healthier pregnancies could result in less childhood obesity and less Type 2 diabetes in youth.

Healthier pregnancies may mean a number of things – more adequate weight gains, better diets, less sedentary lifestyles, no diabetes during pregnancy or better controlled diabetes during pregnancy if the mom happens to have diabetes. These healthier pregnancies are not just good for the mother but are actually good for the offspring and maybe for the following generation as well.

From some of these studies, we know that childhood obesity is one of the strongest risk factors for childhood Type 2 diabetes, but we also have learned that maternal obesity during pregnancy, maternal diabetes during pregnancy, unhealthy diets or sedentary lifestyles during pregnancy will lead to offspring adiposity and fatness, and obesity is the strongest risk factor for Type 2 diabetes. We're learning, for example, that what the mother eats during pregnancy

might influence taste development in the offspring and the satiety set point in the offspring. We've also learned from one of my studies that breast feeding has protective effects from childhood obesity and might mitigate the effects of exposure to maternal diabetes during pregnancy.

I think that this concept of looking backwards to understand what is happening now or to predict the future is what life course is all about.

4. You are the principal investigator in several ongoing studies, including the Healthy Start Study. What does the study hope to achieve?

The study involves a pre-birth cohort and explores whether and how developmental overnutrition is associated with childhood obesity and metabolic outcomes like diabetes and heart disease. In this study, we enrolled more than 1,400 mothers before the child was born and we asked them to continue to see us throughout the pregnancy and after the babies were born, until the children are ages 4 to 5 at this point. Additional funding will allow us to follow them until they are age 7 to 9.

Mothers were asked about what they ate, how much physical activity they had, whether they smoked or drank, and other questions. We looked at weight before, during and after pregnancy, measured blood fats and glucose levels, for instance. After the baby was born, we measured fat mass in a small chamber called a peapod, and that gave us an estimate of lean and fat tissues. This is important because we want to understand how maternal diet and activity changed the ratio of the amount of fat to lean tissue in the baby. Babies born at the same weight might have different amounts of fat tissues.

As we continue to study the cohort, we're asking about the home situation, the food environment, physical activity, growth and illness. Again, at age 4 to 5, the children will be put into a small chamber called a bodpod and we'll look at fat and lean mass, childhood diet, sleeping, physical activity, brain development, and more in-depth measures to really understand how pregnancy and early life experiences and exposures might have increased their risk or influenced their development.

We haven't analyzed data yet but we are developing a map of where participants in the study live to access information about air quality or air pollution, and we'll link that to these developmental measures to see what impact air pollution has. Another thing we're doing through ancillary study is to look at what people call environmental chemicals or endocrine disrupting chemicals or obesogens (chemical compounds that disrupt normal development and can lead to obesity). We've measured these in maternal blood samples or urine samples from pregnancy, hypothesizing that exposure to these chemicals during pregnancies might affect the baby or the next generation. We're measuring three classes of these widely used chemicals that are in everything from personal care products to children's toys to flame retardants, cooking utensils and plastic bottles.

We've already seen that more than 95 percent of our participants have detectable levels of some of these chemicals in their bodies. We haven't yet published any of these results, but a colleague of mine has an abstract that she presented last year in Rome and the paper has been accepted by an environmental health journal.

5. Do you have a favorite memory from your time at CU? If so what is it and why does it mean so much to you?

The development of the LEAD Center was started a couple of years ago, and that has to be a favorite memory. It's an accomplishment, of course, but also is a point in my life that allows me to start to focus on helping others achieve their goals and build successful careers.

By creating the center, I'm hoping to create an infrastructure that supports their academic growth and development, hopefully throughout their own life course. The center focuses on researching obesity, diabetes, and chronic disease over the life course that puts together all of my studies, but also other people's studies that are similar. That means having a cohort to study for junior people who don't have the patients or participants they need to develop their own studies. That's one example of what we do. We also created research teams that can help others collect data or write successful grants and study protocols and we also provide research and career mentoring.

Celebrating a profound partnership for biomedical research[4]
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The University of Colorado this week celebrated its partnership with the Boettcher Foundation – the Boettcher Webb-Waring Biomedical Research Award[6] program – with an appreciation lunch at 1800 Grant St.

Dozens of current and former CU staff, Boettcher Foundation[7] staff and trustees, the award selection panel and others who have been instrumental in the thriving program's eighth year gathered Tuesday for the event.
[8]

Tim Schultz, who is marking his final year as president of the Boettcher Foundation, received special thanks from CU President Bruce Benson, who presented Schultz with a crystal buffalo as a token of the university's appreciation. Schultz played a key role in the program's creation and oversight.

The Boettcher Foundation's biomedical research grants program supports scientific innovation in Colorado by providing biomedical research funding for early career investigators at CU and other research institutions in the state. The biomedical research supported must be designed to find ways to prevent disease and improve human health through basic and applied biomedical research.

The intent of the program is to fund meritorious research that has the potential for new discoveries or advances a discovery to the proof of its potential value as an application to improve human health. This research will improve the understanding, treatment, and prevention of human disease.
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Besides President Bruce and Marcy Benson, guests at Tuesday's lunch included the selection panel's chair, Ron Sokol, M.D., a faculty member at the University of Colorado School of Medicine at the Anschutz Medical Campus, and the other panelists, who are faculty members at CU Anschutz, CU Denver and CU Boulder. Boettcher Foundation Trustees who attended included Pam Shockley-Zalabak, chancellor emerita of UCCS.
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Leading off the lunch program was a video[11] highlighting the awards program's mission.

The Webb-Waring Foundation, which has supported biomedical research in Colorado for decades, entrusted the Boettcher Foundation with its assets in 2008, and, with other significant contributions from the University of Colorado and the University of Colorado Foundation, the Boettcher Foundation agreed to match that money to create a dedicated funding stream of more than $40 million to support biomedical research. The resulting program, the Webb-Waring Biomedical Research program, continues Webb-Waring's tradition by funding the work of promising biomedical researchers at Colorado institutions.
[12]

Recipients of Webb-Waring Biomedical Research Awards, or Boettcher Investigators, are awarded research grants of $235,000, covering up to three years of biomedical research. The grants help Boettcher Investigators establish themselves and their research. As a result, they become competitive for major awards from federal agencies and private sources. By funding researchers at this critical juncture, the Boettcher Foundation seeks to keep promising research on track and ensure that Colorado's best scientific minds are not compelled to leave the state in search of funding.

To date, CU's 28 Boettcher Investigators have been awarded nearly $6.5 million via the 2010-2016 programs. For this competitive program, the peer review process for CU applications is managed by the Office of the President.

The 2017 class of Boettcher Investigators will be announced in June.

CU introduces two new dental plans for Open Enrollment[13]
[14]
Closer examination
Watch a video comparison of the two dental options and see plan details on the Dental Plans[15] page.

The University of Colorado will offer two new dental plans during this year's Open Enrollment, which runs through May 12.

CU Health Plan - Essential Dental will replace the EPO dental plan.

CU Health - Plan Choice Dental will replace the PPO dental plan.

If benefits-eligible faculty and staff do not take action to select a new plan, they will be automatically transferred on July 1 to a new plan at their current plan year coverage level. See the auto-enrollment page[16] for details.

Administered by Delta Dental, both plans cover all costs of preventive services, which include as many as four cleanings per year and services like oral exams, X-rays, sealants and fluoride treatments. With the new plan year, diagnostic and preventive services no longer count toward annual benefit maximums. Plus, rates for both plans are decreasing.[17]

Both plans cover children under age 13 in the Right Start 4 Kids program, which this pays 100 percent of all covered in-network services with the exception of orthodontics.

"I am excited to share the details about the Right Start 4 Kids program," said Michelle Martinez, director of benefits at Employee Services. "This program not only removes those cost barriers for the parents, it supports parents as they teach their children the importance of good oral hygiene. I firmly believe if your children develop a positive relationship with their dentist at a very early age, it will continue as they grow into teens and eventually become adults."

New features of CU Health Plan – Essential Dental

In the Essential plan, enrollees may only visit dentists in Delta Dental's PPO network. This plan has a $25 yearly deductible and a $2,000 plan-year maximum per person.

The Essential plan features co-insurance, meaning enrollees pay a percentage of the cost for a procedure. This is a change from the EPO plan's co-pays, where enrollees paid a set price for a service.

"In many cases, you'll pay less for services," Martinez said.

Looking at some examples from the CU Health and Welfare Trust, which based its estimates on rates from Denver's most highly utilized dentists, members should pay less for most procedures – a root canal will typically cost $50 less on average, periodontal scaling will cost $19 less and a filling will cost about $6 less.

Other new features:
Implants now covered Periodontal cleanings now 100 percent covered Orthodontic coverage lifetime maximum reduced from $4,000 to $2,000 Adults are no longer eligible for orthodontic benefit
Important to note, adults currently receiving orthodontic treatment through the EPO dental plan will need to select CU Health Plan-Choice Dental to retain adult orthodontic coverage.

New features of CU Health Plan – Choice Dental

In the Choice plan, enrollees can see the dentist of their choice, whether it's a dentist in the Delta PPO network, the Delta Premiere network or out of network. However, costs are significantly lower when using a PPO network dentist.

The plan's annual deductible has reduced from $50 to $25 a person. Its annual benefit maximum has increased from $2,000 to $2,500.

Other new features:
Periodontal cleanings now fully covered Posterior composites and implants now covered Orthodontic coverage maximum increased to $4,000 from $2,000 Adults are now eligible for orthodontic benefits
Choose the best options for you

CU faculty and staff have until 5 p.m. May 12 to choose their benefits plans. The Benefits Enrollment Tool will be unavailable from 6-10 p.m. May 4 as part of system maintenance. Please plan accordingly.

Visit the Open Enrollment website for full plan details.[18]

When love hurts, a placebo can help[19]

CU names UCCS chancellor finalists [20]

UCCS raises funds for Shockley-Zalabak main stage theater[21]

CU Denver leaders provide updates, take questions at latest campus conversation meeting[22]

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VanGenderen named CU Boulder's first chief sustainability officer[24]

Reynolds named interim University Libraries dean[25]

Hill to receive College of Business Lifetime Entrepreneurship Award[26]

Skop receives distinguished scholar award[27]

7Everyday Hero Jim Leibold is a volunteer tour guide at CU South Denver[28]

CU Boulder student, family, provide gift of music to young Syrian refugees[29]

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[1] https://connections.cu.edu/spotlights/five-questions-dana-dabelea[2] https://connections.cu.edu/sites/default/files/5q-dabelea_top.jpg[3] https://connections.cu.edu/sites/default/files/5q-dabelea_01-1.jpg[4] https://connections.cu.edu/stories/celebrating-profound-partnership-biomedical-research[5] https://connections.cu.edu/sites/default/files/boettcher_top.jpg[6] http://www.cu.edu/boettcher-foundation-webb-waring-biomedical-research-awards[7] http://boettcherfoundation.org/[8] https://connections.cu.edu/sites/default/files/boettcher_01.jpg[9] https://connections.cu.edu/sites/default/files/boettcher_02.jpg[10] https://connections.cu.edu/sites/default/files/boettcher_03.jpg[11] https://player.vimeo.com/video/189663981[12] https://connections.cu.edu/sites/default/files/boettcher_04.jpg[13] https://connections.cu.edu/stories/cu-introduces-two-new-dental-plans-open-enrollment[14] https://connections.cu.edu/sites/default/files/oe-16-17_top.png[15] http://www.cu.edu/employee-services/dental-plan-options[16] http://www.cu.edu/employee-services/auto-enrollment-1[17] https://connections.cu.edu/stories/cu-health-plan-rate-changes-minimal-most-2017-18-plans[18] https://www.cu.edu/employee-services/open-enrollment[19] https://connections.cu.edu/stories/when-love-hurts-placebo-can-help[20] https://connections.cu.edu/stories/cu-names-uccs-chancellor-finalists[21] https://connections.cu.edu/stories/uccs-raises-funds-shockley-zalabak-main-stage-theater[22] https://connections.cu.edu/stories/cu-denver-leaders-provide-updates-take-questions-latest-campus-conversation-meeting[23] https://connections.cu.edu/stories/community-campus-partnership-highlights-aurora-engagement[24] https://connections.cu.edu/people/vangenderen-named-cu-boulders-first-chief-sustainability-officer[25] https://connections.cu.edu/people/reynolds-named-interim-university-libraries-dean[26] https://connections.cu.edu/people/hill-receive-college-business-lifetime-entrepreneurship-award[27] https://connections.cu.edu/people/skop-receives-distinguished-scholar-award[28] https://connections.cu.edu/itn/7everyday-hero-jim-leibold-volunteer-tour-guide-cu-south-denver[29] https://connections.cu.edu/itn/cu-boulder-student-family-provide-gift-music-young-syrian-refugees