incidence rates (intensive versus standard glucose control) for specific microvascular complications are expressed as “number needed to treat” (NNT) to prevent one microvascular complication. The impact of BP control and fenofibrate use on microvascular complications was also assessed. **Results:** In ADVANCE, near normalization of glucose reduced new or worsening nephropathy (NNT=77 for 5 years to prevent one occurrence), but not eye or foot complications. In ACCORD, near normalization of glucose did not reduce pre-specified composite measures of advanced microvascular complications, and impact on secondary microvascular outcomes was mixed. The ancillary ACCORD Eye Study found reduced progression in retinopathy with near-normalization of glucose (NNT=32 for 4 years), and with blinded fenofibrate therapy (NNT=27 for 4 years), but neither intervention reduced vision loss. ADVANCE showed a benefit of intensive BP control (mean BP 133/70 mm Hg) on microvascular complications, independent of glucose control. **Conclusions:** End-stage microvascular complications were not altered by near normalization of glucose. Some early manifestations of microvascular complications were reduced, with inconsistencies across studies in which were affected. These early and inconsistent microvascular effects must be weighed against significantly increased severe hypoglycemia, weight gain, and (in ACCORD) increased total mortality (NNT=94 for 3.5 years for one excess death) consistently found in all prespecified patient subgroups. Alternative clinical strategies, such as moderate BP control or fenofibrate treatment may reduce microvascular complications independent of glucose control. The data strongly support personalized glucose control goals based on clinical factors and patient preferences for our

Keywords: Type 2 diabetes, Glucose control, Clinical guidelines

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PS2-35:

Associations of Body Mass Index with Measures of the Built and Social Environments in Children and Adolescents: The Environmental Health Institute Child and Adolescent Obesity Study

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Background/Aims: No prior studies in children have evaluated how age may modify relations of the built and social environments with obesity outcomes, nor evaluated the range of scales and contexts over which these influences may operate. **Methods:** We performed a cross-sectional, multilevel analysis of body mass index (BMI) data from over 47,000 Geisinger primary care patients 5 to 18 years old, residing in a 31-county region of Pennsylvania. Individual-level data were obtained from the clinic's electronic health record. A total of 33 environmental measures were derived to characterize land use (e.g., population density, intersection density, average block size), land use change (e.g., change in population and population density 1990 to 2000), physical activity (e.g., density and diversity of and accessibility to nine categories of physical activity establishments), and social environments (e.g., indexes of community socioeconomic deprivation and social disorganization). Associations of environmental measures with BMI z-scores were evaluated in various contexts and at a range of scales (e.g., 0.5 mi network buffers, census tracts, minor civil divisions [townships, boroughs, cities], a mixed definition of place [townships, boroughs, census tracts in cities], counties), first in all children and also in three age strata (5-9, 10-13, and 14-18 years), controlling for individual-level covariates. **Results:** In all children, only lower community socioeconomic deprivation and higher diversity of physical activity establishments were associated with lower BMI. There were some differences in associations of environmental measures in the age strata, especially when comparing associations in the various scales and contexts. For example, higher population density was associated with lower BMI in older children, and this effect appeared to operate most clearly in the larger contexts. Similarly, lower county sprawl was also associated with lower BMI in older children. **Conclusions:** There was some evidence of effect modification by age. This suggests that no single intervention to change the built environment is likely to be effective across the childhood age range.

The observation that surrogates for compact development may operate over larger contexts can be a challenge in many regions of the U.S. as zoning and planning are generally done on smaller scales.

Keywords: Obesity, Built environment, Children

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C-A3-02:

Identification of Extreme Weight Gain Among Users of Atypical Antipsychotic Medications

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Background/Aims: The purpose of this study was to develop a protocol using electronic medical records to identify cases of extreme weight gain (EWG) among adult users of atypical antipsychotics for future pharmacogenomics research. **Methods:** We used literature reviews and input from an expert panel to develop a working phenotype definition of EWG. We identified eligible antipsychotic users at Group Health and Geisinger Health System from 2004-2009 and extracted a standardized dataset, including: demographics, enrollment, vitals, pharmacy, inpatient and outpatient diagnoses and procedures, and laboratory measures. We then identified subjects with weight gain >7%, >15%, or >25% during an antipsychotic drug treatment episode. Visual inspection of the weight trajectory of each case was used to confirm weight gain during the drug treatment period. A standardized set of decision rules allowed for consistent application of the EWG phenotype across both sites. **Results:** We identified 43,639 adult users of antipsychotic medications with available weight measures both before and after initiating treatment. Among these, 3,113 (7.1%) had a documented increase in body weight of at least 7% after starting an atypical antipsychotic. To date we have reviewed the individual prescription histories and weight trajectories on a subset of 1,104 cases that had a documented increase in body weight of >15% or >25%. Among these, a total of 249 (23%) are considered to be “confirmed” cases, with valid weight measures that clearly indicate a change in weight at or above the 15% or 25% threshold. An additional 341 (30%) were categorized as “possible” cases and will require chart review and patient interview for confirmation. Most (~55%) of the confirmed EWG cases occurred among adults who were overweight or obese pre-treatment. **Conclusions:** In this large cohort of adult users of atypical antipsychotic medications from two integrated health plans, we find that 7.1% are suspected of experiencing weight gain of >7% after initiating treatment. This degree of weight gain has been suggested by other research as clinically meaningful and associated with increased risk of obesity-related comorbidities. We believe that this adverse event is both common and serious and warrants further genetic and clinical research.

Keywords: Obesity, Antipsychotic, Genetic

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C-C3-04:

A Comparison of Cardiovascular Disease Risk Factors in Asian-Indian and White, Non-Hispanic Men in the California Men's Health Study

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Background: Asian-Indians are the third largest group among Asians in the US. Between 1990 and 2000, the Asian-Indian population in California doubled in size from 93,557 to 200,633. Cardiovascular disease (CVD) rates are substantially higher in Asian-Indians compared to other racial/ethnic groups. The purpose of this study is to evaluate lifestyle CVD risk factor differences between Asian-Indian and white, non-Hispanic (WNH) men. Subjects are participants in the California Men's Health Study (CMHS), a multiethnic cohort of 84,170 men 45-69 years of age enrolled in Kaiser Permanente Southern and Northern California at baseline (2001-02).