



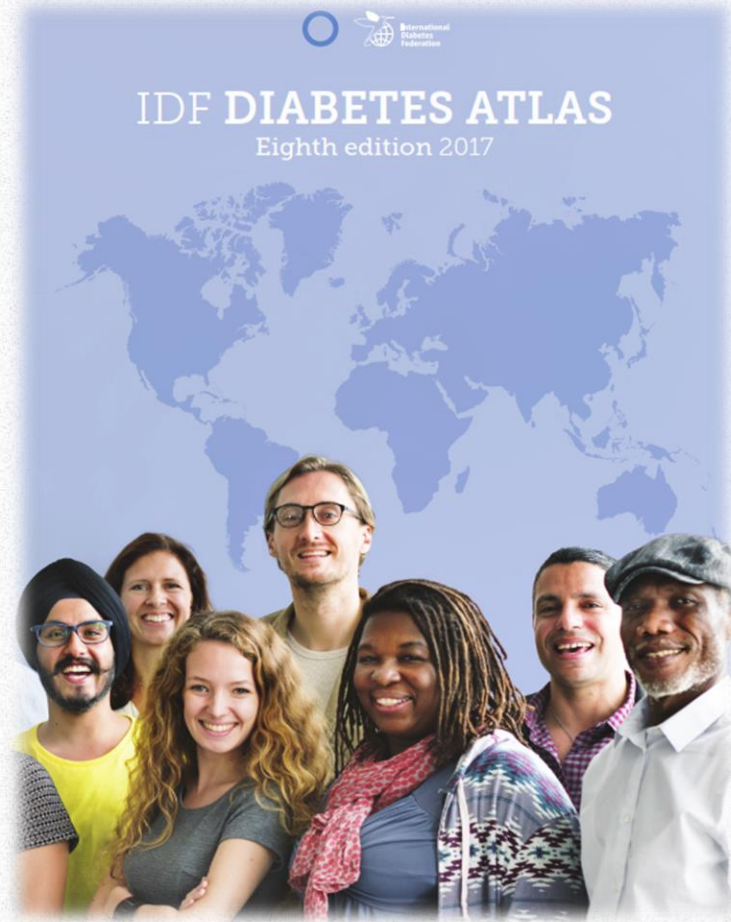
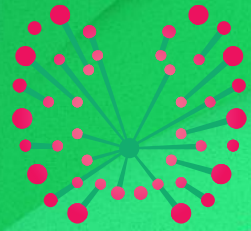
# 12° ENDO SUL



## Diabetes *mellitus*: Diagnóstico

**Alexandre Hohl, MD, MSc, PhD**

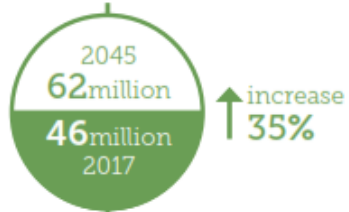
Vice-Presidente da Sociedade Brasileira de Endocrinologia e Metabologia (SBEM)  
Professor de Endocrinologia da Universidade Federal de Santa Catarina (UFSC)



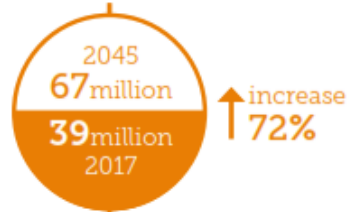
IDF Diabetes Atlas 8th Edition: <http://diabetesatlas.org/resources/2017-atlas.html>, accessed July 04, 2018

Number of people with diabetes worldwide and per region in 2017 and 2045 (20-79 years)

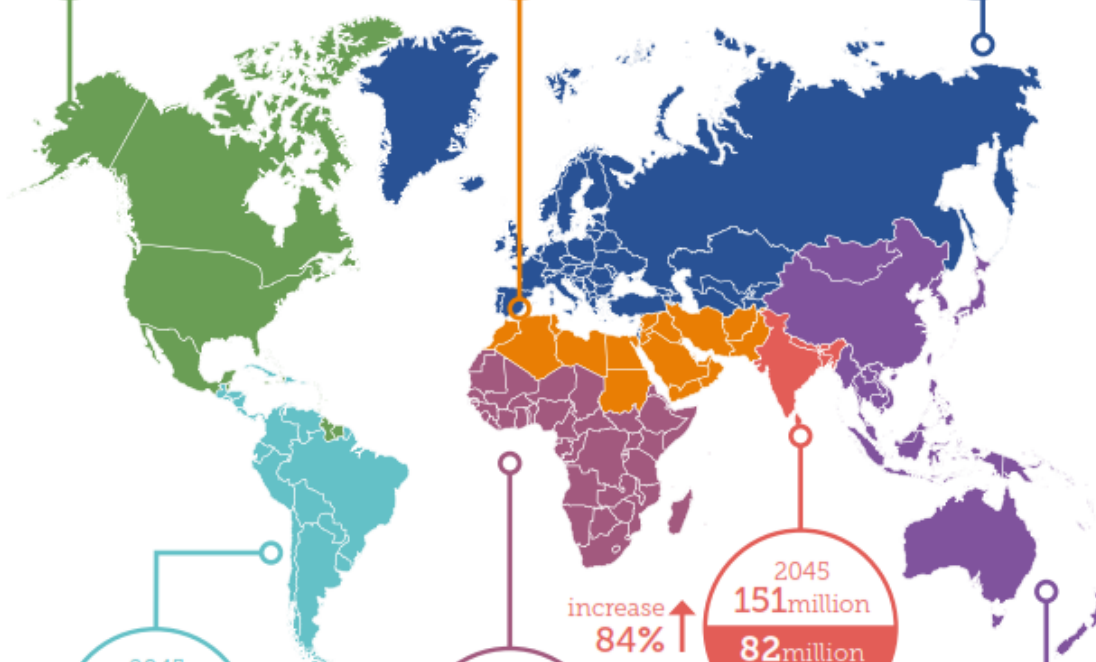
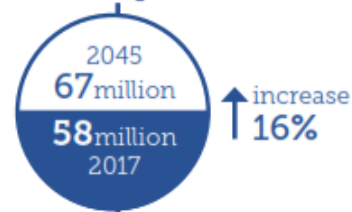
North America & Caribbean



Middle East & North Africa



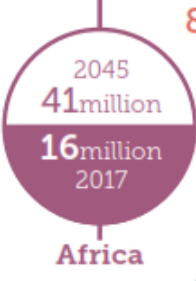
Europe



increase 62%



increase 156%



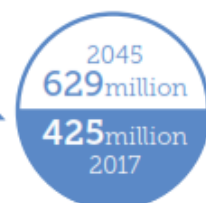
increase 84%



increase 15%



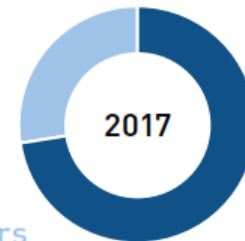
increase 48%



WORLD



123 million over 65 years



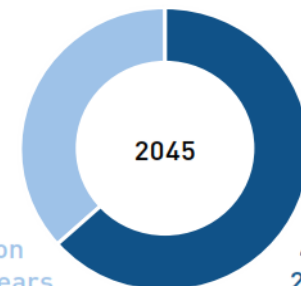
2017



327 million 20-64 years



253 million over 65 years



2045



438 million 20-64 years

**Table 3.2 Top ten countries/territories for number of people with diabetes (20-79 years), 2017 and 2045**

2017			2045		
Rank	Country/territory	Number of people with diabetes	Rank	Country/ territory	Number of people with diabetes
1	China	114.4 million (104.1-146.3)	1	India	134.3 million (103.4-165.2)
2	India	72.9 million (55.5-90.2)	2	China	119.8 million (86.3-149.7)
3	United States	30.2 million (28.8-31.8)	3	United States	35.6million (33.9-37.9 )
4	Brazil	12.5 million (11.4-13.5)	4	Mexico	21.8 million (11.0-26.2)
5	Mexico	12.0 million (6.0-14.3)	5	Brazil	20.3 million (18.6-22.1)
6	Indonesia	10.3 million (8.9-11.1)	6	Egypt	16.7million (9.0-19.1)
7	Russian Federation	8.5 million (6.7-11.0)	7	Indonesia	16.7million (14.6-18.2 )
8	Egypt	8.2million (4.4-9.4 )	8	Pakistan	16.1 million (11.5-23.2)
9	Germany	7.5 million (6.1-8.3)	9	Bangladesh	13.7 million (11.3-18.6)
10	Pakistan	7.5 million (5.3-10.9)	10	Turkey	11.2 million (10.1-13.3)

### The symptoms of type 1 diabetes



Abnormal thirst and dry mouth



Sudden weight loss



Frequent urination



Bedwetting



Lack of energy, fatigue



Constant hunger



Blurred vision

### The symptoms of type 2 diabetes

# ASSINTOMÁTICO



People with diabetes are at **higher risk** of developing periodontal disease

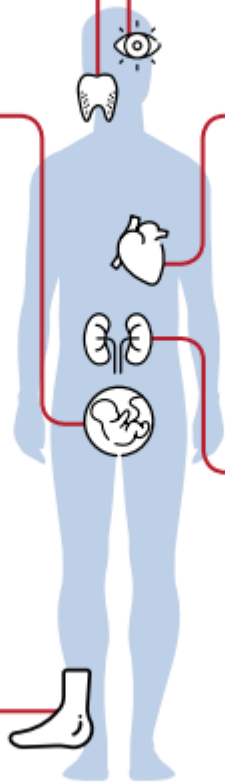
Diabetic retinopathy affects over **one-third** of all people with diabetes and is the leading cause of vision loss in working-age adults.

Pregnant woman with diabetes or at high risk for GDM should manage their glycaemia throughout their pregnancy to avoid long-term consequences for themselves and their children, and **transgenerational effects** (higher risk of obesity, diabetes, hypertension and kidney disease in the offspring)

People with diabetes are **2 to 3 times** more likely to have cardiovascular disease (CVD)

The prevalence of end-stage renal disease (ESRD) is up to **10 times higher** in people with diabetes

Every **30 seconds** a lower limb or part of a lower limb is lost to amputation somewhere in the world as a consequence of diabetes



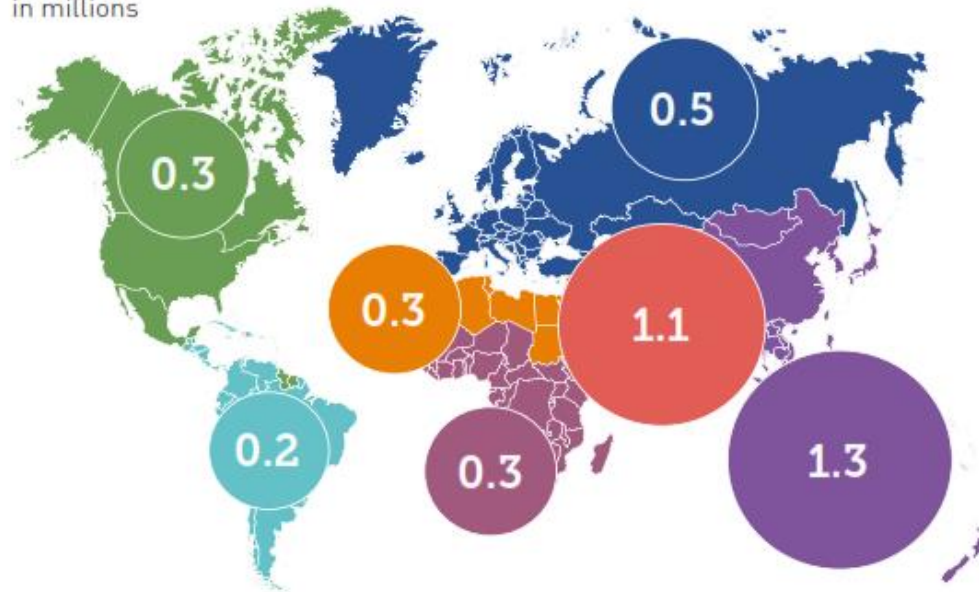
Cardiovascular and renal complications are the **main cause of death** in people with diabetes around the world and this can be avoided by **appropriate treatment**

Diabetes complications can be present **at the moment of diagnosis** in people with type 2 diabetes and early (around 5 years) after onset of type 1 diabetes and therefore should be screened accordingly

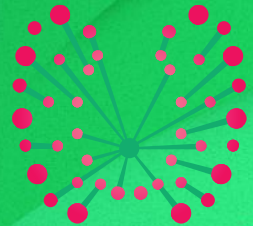
**Patient self-management** is an important part of successfully preventing or delaying diabetes complications

## Number of deaths due to diabetes (20-79 years) in 2017

in millions



- Estima-se que cerca de **40 (3,2-5,0) milhões** de pessoas com idade entre **20 e 79 anos** morreram por causa do diabetes em 2017, o que equivale a **uma morte a cada oito segundos**.
- O diabetes foi responsável por **10,7% da mortalidade global** por todas as causas entre as pessoas nessa faixa etária.
- Isto é superior ao número combinado de mortes por doenças infecciosas (1,1 milhões de mortes por **HIV / AIDS**, 1,8 milhões por **tuberculose** e 0,4 milhão por **malária** em 2015).
- Cerca de **46,1%** das mortes por diabetes no grupo etário dos 20 aos 79 anos são em pessoas com **menos de 60 anos**.



# Diagnóstico





## 78% dos médicos recém-formados erram diagnóstico de diabetes, aponta Cremesp [COMENTE](#)

ESTADÃO *conteúdo*

Paula Felix

Em São Paulo 22/02/2018 | 13h30



Ouvir texto

Imprimir

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# STANDARDS OF MEDICAL CARE IN DIABETES—2018

## CLASSIFICATION

Diabetes can be classified into the following general categories:

1. Type 1 diabetes (due to autoimmune  $\beta$ -cell destruction, usually leading to absolute insulin deficiency)
2. Type 2 diabetes (due to a progressive loss of  $\beta$ -cell insulin secretion frequently on the background of insulin resistance)
3. Gestational diabetes mellitus (GDM) (diabetes diagnosed in the second or third trimester of pregnancy that was not clearly overt diabetes prior to gestation)
4. Specific types of diabetes due to other causes, e.g., monogenic diabetes syndromes (such as neonatal diabetes and maturity-onset diabetes of the young [MODY]), diseases of the exocrine pancreas (such as cystic fibrosis and pancreatitis), and drug- or chemical-induced diabetes (such as with glucocorticoid use, in the treatment of HIV/AIDS, or after organ transplantation)

# STANDARDS OF MEDICAL CARE IN DIABETES—2018

**Table 2.2—Criteria for the diagnosis of diabetes**

FPG  $\geq$ 126 mg/dL (7.0 mmol/L). Fasting is defined as no caloric intake for at least 8 h.\*

OR

2-h PG  $\geq$ 200 mg/dL (11.1 mmol/L) during OGTT. The test should be performed as described by the WHO, using a glucose load containing the equivalent of 75-g anhydrous glucose dissolved in water.\*

OR

A1C  $\geq$ 6.5% (48 mmol/mol). The test should be performed in a laboratory using a method that is NGSP certified and standardized to the DCCT assay.\*

OR

In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose  $\geq$ 200 mg/dL (11.1 mmol/L).

\*In the absence of unequivocal hyperglycemia, results should be confirmed by repeat testing.

# STANDARDS OF MEDICAL CARE IN DIABETES—2018

**Table 2.4—Categories of increased risk for diabetes (prediabetes)\***

FPG 100 mg/dL (5.6 mmol/L) to 125 mg/dL (6.9 mmol/L) (IFG)

OR

2-h PG during 75-g OGTT 140 mg/dL (7.8 mmol/L) to 199 mg/dL (11.0 mmol/L) (IGT)

OR

A1C 5.7–6.4% (39–47 mmol/mol)

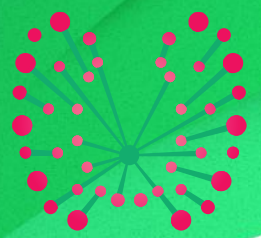
\*For all three tests, risk is continuous, extending below the lower limit of the range and becoming disproportionately greater at the higher end of the range.



# STANDARDS OF MEDICAL CARE IN DIABETES—2018

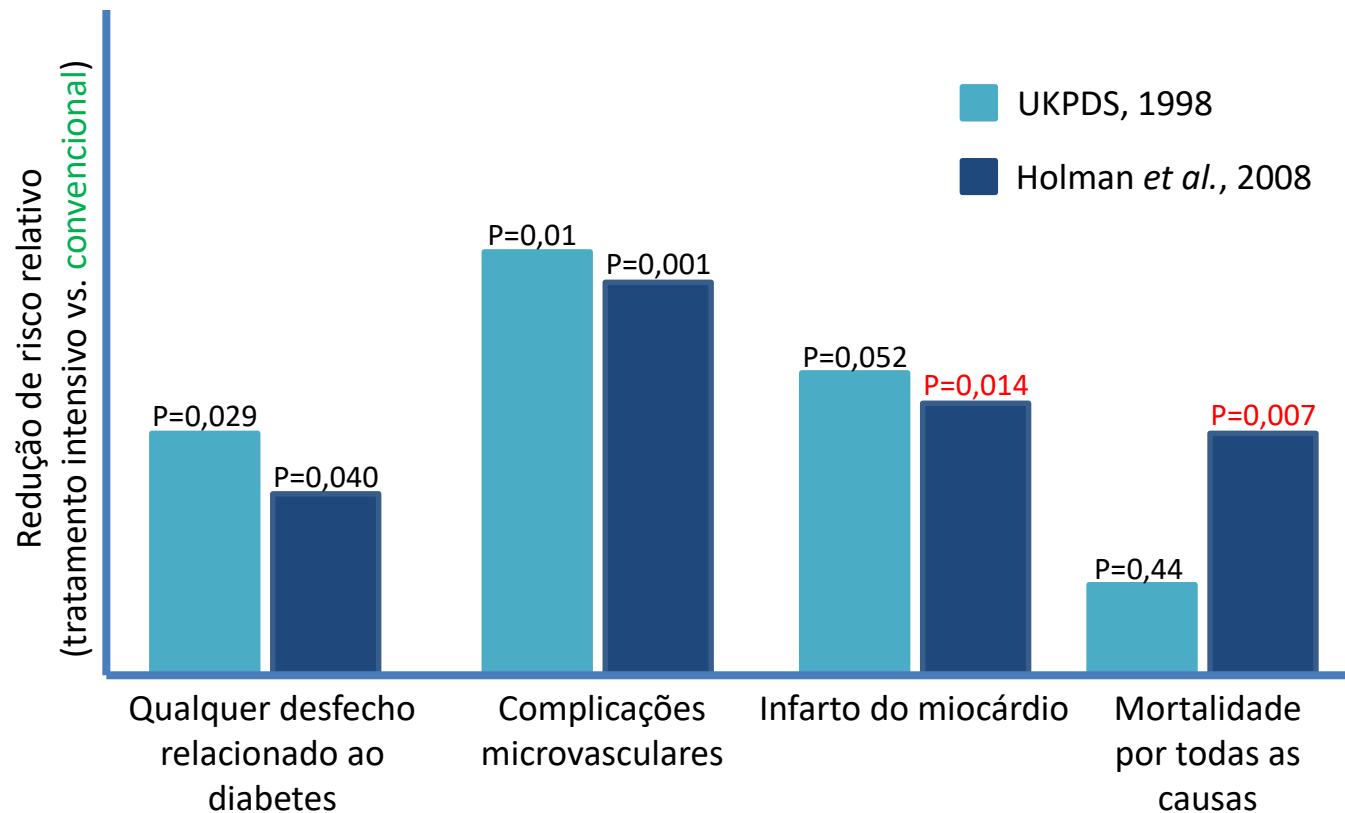
**Table 2.3—Criteria for testing for diabetes or prediabetes in asymptomatic adults**

1. Testing should be considered in overweight or obese ( $\text{BMI} \geq 25 \text{ kg/m}^2$  or  $\geq 23 \text{ kg/m}^2$  in Asian Americans) adults who have one or more of the following risk factors:
  - First-degree relative with diabetes
  - High-risk race/ethnicity (e.g., African American, Latino, Native American, Asian American, Pacific Islander)
  - History of CVD
  - Hypertension ( $\geq 140/90$  mmHg or on therapy for hypertension)
  - HDL cholesterol level  $< 35$  mg/dL (0.90 mmol/L) and/or a triglyceride level  $> 250$  mg/dL (2.82 mmol/L)
  - Women with polycystic ovary syndrome
  - Physical inactivity
  - Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)
2. Patients with prediabetes ( $\text{A1C} \geq 5.7\%$  [39 mmol/mol], IGT, or IFG) should be tested yearly.
3. Women who were diagnosed with GDM should have lifelong testing at least every 3 years.
4. For all other patients, testing should begin at age 45 years.
5. If results are normal, testing should be repeated at a minimum of 3-year intervals, with consideration of more frequent testing depending on initial results and risk status.



Important  
Message

# Resultados do UKPDS: Legado do bom controle glicêmico inicial







# CBEM 2018

33º Congresso Brasileiro de  
Endocrinologia e Metabologia

7 a 11 de agosto

Belo Horizonte | MG

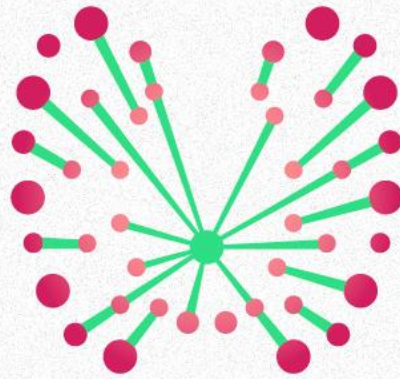
**Expo Minas**







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