Understanding Therapeutic Inertia in 2019: Why should you care?

Amisha Wallia, MD, MS
Economic Costs of Diabetes in the US in 2017

- 327 billion were spent in 2017 on diagnosed diabetes.
  - $237 billion in direct medical costs and $90 billion in reduced productivity

- Direct medical costs represent a 26% increase (adj for inflation) since 2012 (increased prevalence and the increased cost per person affected)

- More than 300 million work days are lost to the economy due to diabetes

- Diabetes resulted in 277,000 premature deaths.

Economic Costs of Diabetes in the US in 2017

• Medications directly used to treat diabetes = $31 billion, $15 billion of which is for insulin.
  - Increased by 45% over 5 years after adjusting for inflation

• 1 in every 4 health care dollars spent (24 percent) was for the care of people with diabetes

• 1 of every 7 health care dollars (14 percent) can be attributed directly to care for diabetes.

Therapeutic Advances Over Past 20 Years

ADA Standards of Care
1989

- SGLT-2 Inhibitor
- Bromocriptine
- DPP-4 inhibitor
- Pramlintide
- GLP-1R agonist
- Meglitinide
- TZD
- Basal insulin
- Rapid-acting insulin
- αGlucosidase inhibitor
- Metformin
- Insulin
- SFU
Despite increasing number of new diabetes medications and technologies …

• Achievement of individualized targets declined from 69.8% to 63.8%
Despite increasing number of new diabetes medications and technologies …

• The percentage with HbA1c >9.0% increased from 12.6% to 15.5%
Disruption is Needed to Improve Care Quality in Diabetes
Type 2 Diabetes Trends in the U.S. 2006-2013

Advances in health technology, drug therapies and policy have NOT translated to improvements in diabetes care quality

What’s wrong with this picture?

- Decline in % of patients at HbA1c <7%
- At best, only about 50% of patients at Goal
- Increase in % of patients with very poor control
- Unacceptable level of morbidity and mortality
- Diabetes-related costs to society are tremendous

ALL THIS DESPITE MORE THAN 40 NEW T2D TREATMENT OPTIONS APPROVED SINCE 2005
The root of the problem ...

Therapeutic Inertia
Therapeutic Inertia: Rational and Clinical Relevance

• The failure to establish appropriate targets and escalate treatment to achieve treatment goals
• Responsible for substantial, preventable complications of diabetes with the associated excess in direct and indirect health care costs
Treatment Intensification In Patients With Type 2 Diabetes Who Failed Metformin Monotherapy

Time To Treatment Intensification For All Patients (A),

**Median** = 14.0 mo

Fu et al. *Diabetes, Obesity and Metabolism*; 2011;13: 765–769
Treatment Intensification In Patients With Type 2 Diabetes Who Failed Metformin Monotherapy

Time To Treatment Intensification For All Patients (A), By Index HbA$_1c$ Level (B),

Fu et al. *Diabetes, Obesity and Metabolism*; 2011;13: 765–769
Treatment Intensification In Patients With Type 2 Diabetes Who Failed Metformin Monotherapy

Time To Treatment Intensification For All Patients (A), By Index HbA₁c Level (B), By Metformin Daily Dose (C)

Fu et al. *Diabetes, Obesity and Metabolism*; 2011;13: 765–769
Our view ...

• Although therapeutic inertia impacts all populations, targeting individuals with type 2 diabetes is our first priority

• The causes of clinical inertia are multifactorial, with contributory elements from five stakeholder groups:
  • People with diabetes
  • Clinicians and other healthcare providers
  • Healthcare systems
  • Payors
  • Industry
### Promoters of Therapeutic Inertia Often Cited…

<table>
<thead>
<tr>
<th>Clinician-Related</th>
<th>Patient-Related</th>
<th>Healthcare System/Practice –related</th>
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<tbody>
<tr>
<td>• Insufficient time</td>
<td>• Denial of having the disease</td>
<td>• No clinical guidelines</td>
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<tr>
<td>• Failure to set clear goals</td>
<td>• Denial that the disease is serious</td>
<td>• No disease registry</td>
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<td>• Failure to initiate treatment</td>
<td>• Low health literacy</td>
<td>• No visit planning</td>
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<tr>
<td>• Failure to titrate treatment to achieve goals</td>
<td>• High cost of medication</td>
<td>• No active outreach to patients</td>
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<td>• Failure to identify and manage comorbidities (e.g. depression)</td>
<td>• Too many medications</td>
<td>• No decision support</td>
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<td>• Patient ‘highjacks’ the clinical encounter</td>
<td>• Medication side-effects</td>
<td>• No team approach to care</td>
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<tr>
<td>• Reactive rather than proactive care</td>
<td>• Poor communication between physician and patient</td>
<td>• Poor communication between physician and staff</td>
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<tr>
<td>• Underestimation of patient's need</td>
<td>• Lack of trust in physician</td>
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Impact of Clinical Inertia on Risk of CVD

Poor glycemic control combined with delayed treatment intensification significantly increases CV risk in patients with T2D.

A 1-year delay in treatment intensification in uncontrolled patients (A1c >7%) without previous CVD significantly increased the risk of MI, HF, stroke, and a composite endpoint of CV events.

The risk of CVD is shown for patients with A1c consistently >7% in the 2 years following diagnosis for whom treatment intensification is delayed by ≥1 year vs that of patients with A1c consistently <7% in the same period. Illustration based on data from Paul SK, et al. Cardiovasc Diabetol. 2015;14:100. CI: confidence interval; CV: cardiovascular; CVD: cardiovascular disease; HF: heart failure; IT: intensification of treatment; MI: myocardial infarction; T2D: type 2 diabetes.

Copyright 2016. Khunti. K & Millar-Jones. D. Clinical inertia to insulininitiation and intensification in the UK: A focused literature review. Primary Care Diabetes. 2017, 11: 3–12. Illustration based on data from Paul et al. [8]. This article is distributed under the terms of the Creative Commons Attribution 4.0 International License ([http://creativecommons.org/licenses/by/4.0/](http://creativecommons.org/licenses/by/4.0/)).
Clinical Inertia Plays an Important Role in Delaying Intensification of Diabetes Therapy

Substantial inertia exists at each sequential intensification step

1.6-2.9 years

6.9-7.2 years

6-7.1 years

3.7 years

- Patient on 1 OAD
- Adding 2nd OAD*
- Adding 3rd OAD*
- Adding insulin*
- Adding GLP-1 RA, premixed and bolus insulin†

*From time when A1c was ≥7.0%, ≥7.5%, or ≥8.0%; †From time when A1c was ≥7.5%.

GLP-1 RA: glucagon-like peptide-1 receptor agonist; OAD: oral antidiabetic drug.

Slide courtesy of Steve Edelman, MD.
Elements of multifaceted approaches to improve medication adherence

<table>
<thead>
<tr>
<th>Positive relationships and quality of the clinical environment</th>
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<tbody>
<tr>
<td>Ongoing reinforcement, motivation, and support at every step in the health care system</td>
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<td>Simplifying dosage regimens</td>
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<td>Involving patients in the decision-making process and setting goals that are later reviewed with the patient</td>
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<td>Education about the medication, its benefits, side-effect management, duration of therapy, and what a patient can expect</td>
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<tr>
<td>Follow-up care and reminders</td>
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<td>Rewards for achieving goals</td>
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<td>Social support, including family members, when possible</td>
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<td>Self-management training</td>
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What else is important to know about therapeutic inertia?

• Early tight control leads to longer term maintenance of glycemic control.\(^1\) – A legacy effect.

• Therapeutic inertia leads to a reduced likelihood of achieving target levels later in the disease trajectory.\(^2\)

• Early intensification of treatment, in appropriate patients, is associated with a shorter time to subsequent glycemic control.\(^3\)

• Therapeutic inertia has been associated with a reduced quality of life for the patient, along with increased risks of morbidity and mortality.

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2. D Mauricio, L Meneghini, et al. Change in insulin dose and HbA1c by geographical region—results from the diabetes unmet need with basal insulin evaluation (DUNE) Study. *Diabetes* 2018; 67(Suppl. 1). DOI: 10.2337/db18-1037-P.

What can you expect from this workshop?

• Practical advice from real-world settings
• Case-based presentations that will provide ideas for:
  • Optimizing your practice workflow
  • Addressing communication barriers
  • Dealing with patient self-care/self-management resistance
• Opportunities to discuss and share both your biggest challenges and solutions that work for you
• Leave with ideas you can use in your practice right now that could make the measurable difference in reducing TI in your practice.
Today is about…

• Solutions
• Discussion
• Sharing
• Patients

It is not about…

• Finger-pointing
• Blame
• Ego
• Self-interest
We Value Your Partnership!

Together, we can do so much toward our unified goals to improve the lives of those with diabetes!

Words to live by!

- “Coming together is a beginning. Keeping together is progress. Working together is success.” --Henry Ford

- "The strength of the team is each individual member. The strength of each member is the team." --Phil Jackson