

# **Improving Diabetes Care**



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Part 2

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**Can we help people with  
diabetes to live longer,  
healthier lives?**

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## **Why is this all important?**

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- The biggest potential for health care savings in this country is by better management of chronic diseases
- The only approach that makes sense is proactive, population-based care
- Everyone will win -- the reason costs go down is because outcomes improve

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## **Why is diabetes so hard to deal with?**

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- It is a chronic disease, in which patients can “get by,” remaining unobtrusive for long periods of time, with very little effort
- Good management of diabetes requires enormous behavioral changes on the part of patients, providers and systems.
- Current “health care” systems are really “illness treatment” systems, and are set up for acute reactive care

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## The biggest mistakes in the organization of diabetes care are that:

- Patients are only seen when they show up with a “problem”
- Most of the visit time is spent on the wrong things
- Patients show up at random times in the middle of chaotic days to be seen by providers who are stressed out, behind schedule and disorganized
- All care is organized round the “clinic visit”

Sacred cow,  
or Bull?



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## So how should diabetes care be organized?

- Patient care is individualized and planned
- Most of the time is spent efficiently on the right things
- Patients can choose a variety of ways to get their needs met
  - Planned 1-on-1 visits
  - Group visits
  - Web-based self-management support
  - Web- or phone-based follow-up

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## Why should the approach to care be patient-centered and based in primary care?

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- >99% of diabetes care occurs in the patient's own life
- >90% of all clinical contact occurs in a primary care setting

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## Ask these questions of yourself and / or your organization

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- Can you identify all (or nearly all) the diabetic patients who are enrolled with you?
- Do you know what services those patients should be offered in any given year?
- Have you organized care so that the right services are offered to the right patients?
- Do you have a system for tracking how you are doing?

This is a practical description of  
**POPULATION-BASED** care.

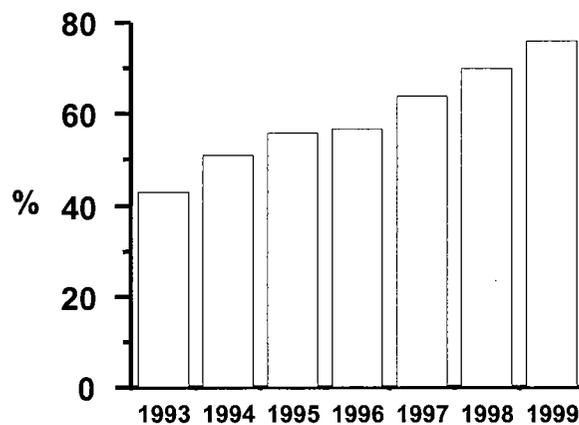
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## In which areas do providers need the most support in order to deliver high-quality care to diabetic patients in a primary care setting?

- Information support
  - EMR, registries
- Practice redesign
  - Group visits, diabetes mini-clinics, flexible methods of follow-up
- Patient self-management support
  - Interactive assessment, secure e-mail, patient Web-interface, support groups
- Evidence-based guidelines
  - Embed them in the system
- Access to expertise
  - Roving mentorship

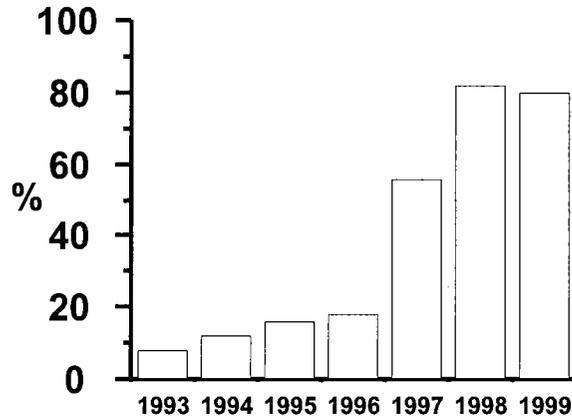
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## Patients known to have had a dilated retinal eye exam in previous 12 months



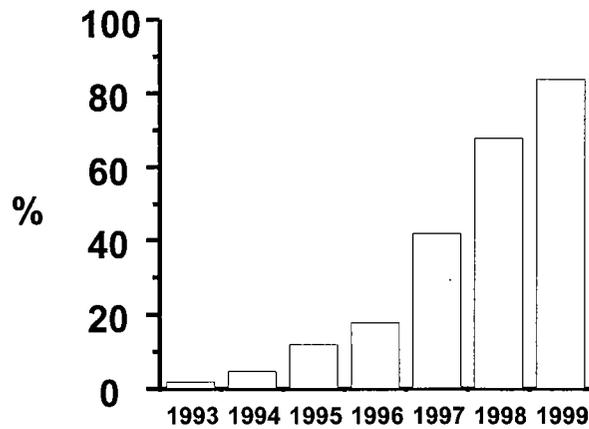
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**Patients with documented evidence-based  
foot exam in previous 12 months**



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**Patients with microalbuminuria screen  
in previous 12 months**



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	1995	1996	1997	Change
IP Days /1000	1311	1175	978	-26%
ALOS	4.52	4.53	4.07	-10%
PC visits	6.4	5.9	5.9	-7%
Spec visits	3.9	3.1	3.0	-23%
Pharm costs	\$70	\$76	\$81	+\$11 +16%
Total costs	\$566	\$541	\$504	-\$62 -11%

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**Where do we have solid, strong, grade-1 evidence of how to improve long-term outcomes for diabetic patients?**

Clinical Issue	Evidence
Use of ACE-inhibitors	HOPE...
Use of statins	HPS...
BP control	UKPDS...
Glycemic control	UKPDS, DCCT...
Retinal screening & laser treatment	DRS...

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## Use of ACE-inhibitors

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- Should be used:
  - To treat hypertension
  - In anyone with microalbuminuria
  - In anyone who meets the HOPE trial criteria (over 55 and with any other risk factor for CVD)
- Controversies:
  - How to screen for microalbuminuria
  - How often to measure microalbuminuria
  - Lisinopril versus ramipril
  - Dose of ACE-I
  - When to use ARBs

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## Use of Statins

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- Should be used:
  - In anyone who meets the HPS criteria [diabetics over age 40 (age, sex, PMH of vascular disease, baseline lipid level, treated lipid level are all “irrelevant”)]
- Controversies:
  - Whether or not to measure lipids
  - Whether to use simvastatin or lovostatin
  - How often to measure ALT and CK

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## **United Kingdom Prospective Diabetes Study (UKPDS)**

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- Over 5,000 newly diagnosed patients with type 2 diabetes randomized to different approaches to blood glucose control and blood pressure control with over 53,000 patient-years of follow-up
- Results presented on Sep 10-11, 1998

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## **UKPDS**

### **Blood Pressure Control – Epidemiological Analysis**

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- A 10mm Hg reduction in BP resulted in:
  - 11% reduction in all-cause mortality
  - 11% reduction in MI
  - 17% reduction in stroke
  - 13% reduction in microvascular endpoints
  - 15% reduction in heart failure
- There was no BP threshold effect
- There was no evidence of a J-shaped curve

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## Blood Pressure Management

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- Treat all diabetics to <130/80 or less (there is no threshold or J-shaped curve)
- Controversies:
  - How to measure and track it
  - How low to push it
  - Use of home BP measurements
  - Which drugs to use

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## UKPDS

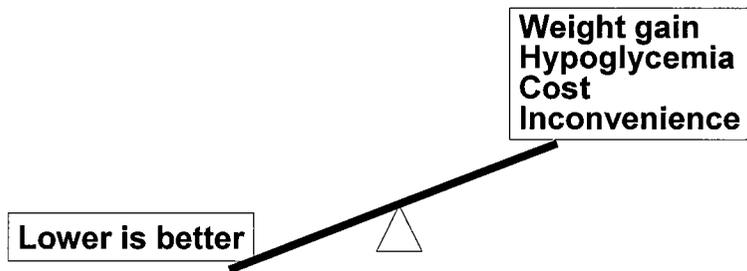
### Glycemic Control - Epidemiological Analysis

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- A 1.0% reduction in HbA1c resulted in:
  - 17% reduction in all-cause mortality
  - 18% reduction in MI
  - 15% reduction in stroke
  - 35% reduction in microvascular endpoints
  - 18% reduction in cataract extraction
- There was no HbA1c threshold effect

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# Glycemic Control



**Patients need to make informed decisions**

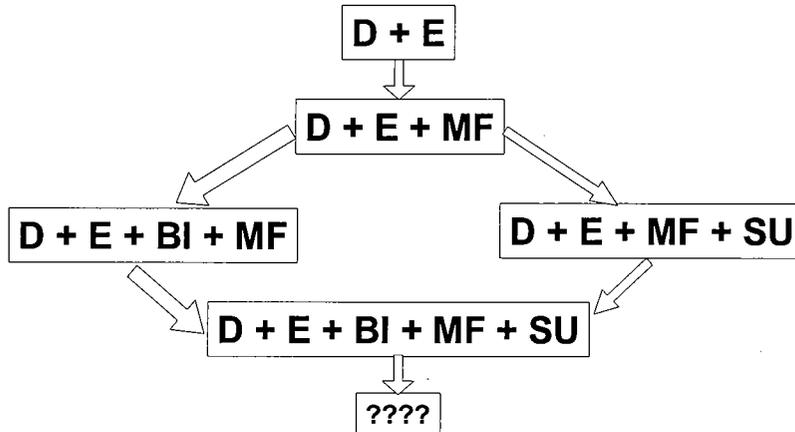
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## Evaluate: The HbA1c is high because of one or more of these four problems:

1. They don't have their head on straight  
(depression, anger, denial)
2. They don't know which end is up  
(lack of knowledge about diabetes insulin resistance, cause and effect of diet)
3. They are on inadequate treatment
4. They are in a rut  
(unable to make or sustain meaningful behavioral change)

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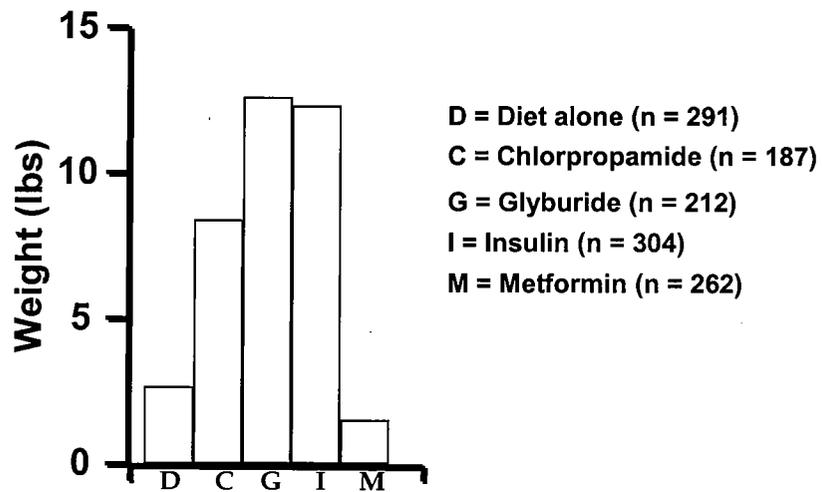
## Current GHC Glycemic Control Guideline



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**Why use metformin first?**

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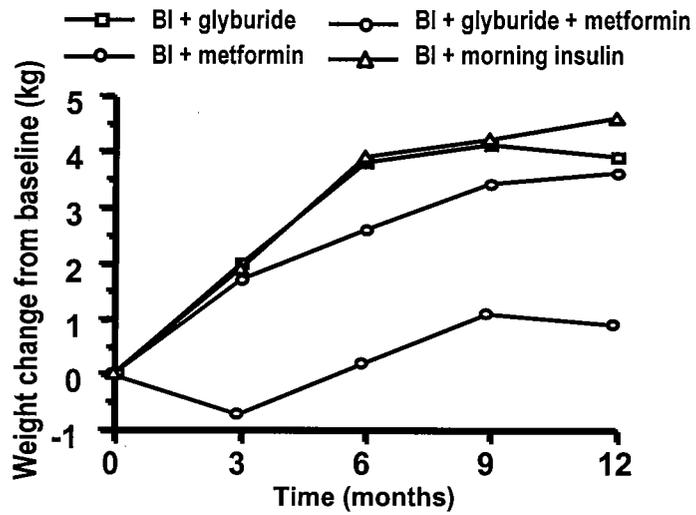


UKPDS-13. BMJ 310: 83-88, 1995

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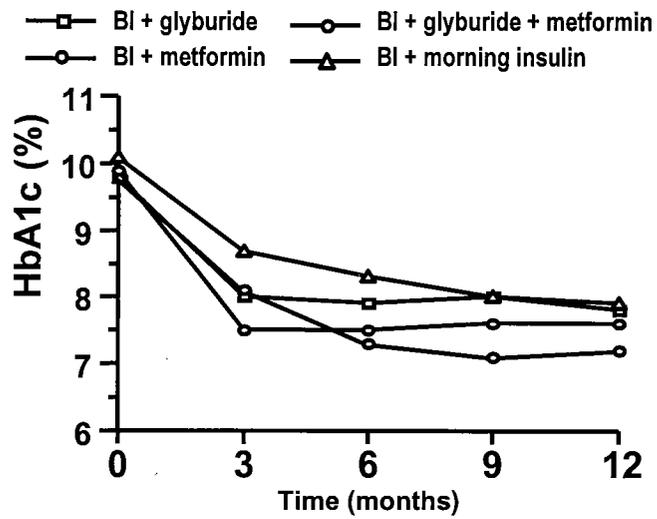
**Why use bedtime insulin  
before adding a second pill?**

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Yki-Järvinen, et. al. Ann Int Med 130: 389-96, 1999

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Yki-Järvinen, et. al. Ann Int Med 130: 389-96, 1999

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## Glycemic Control

- Treat everyone to as close to normal as possible (without screwing up their lifestyle) -- there is no threshold
- Controversies:
  - Balance between decreased HbA1c and increased weight gain and hypoglycemia
  - Which drugs to use
  - How often to measure HbA1c
  - How best to support patients (phone, groups, Internet, etc.)
  - How often to see patients back
  - How often to ask patients to check their blood glucose
  - Myriads of other practical implementation details

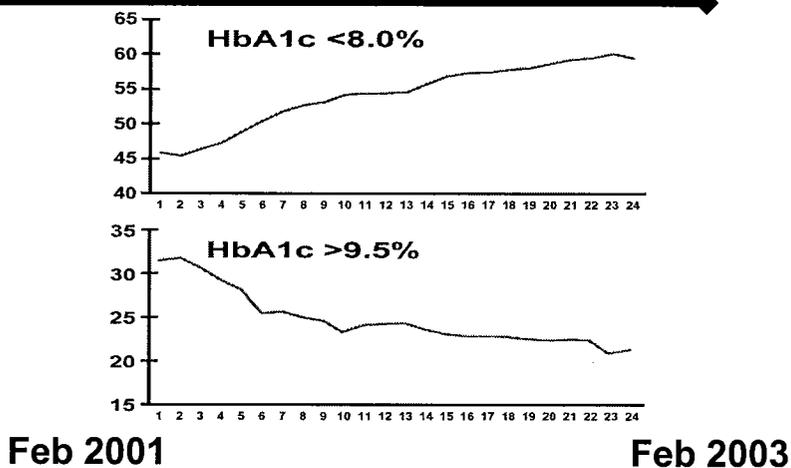
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## Tracking Improvement in Glycemic Control

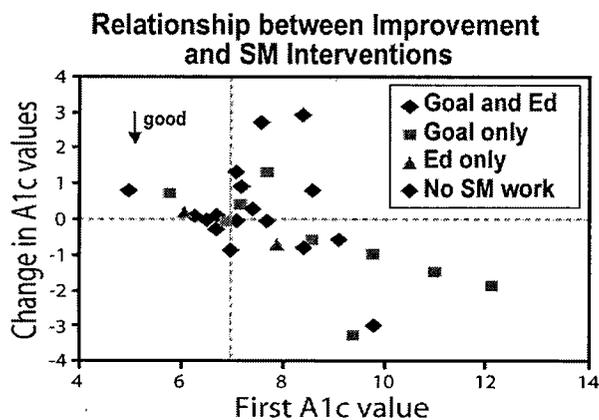
- What percentage of patients in the registry have had one (or two or more) HbA1c tests done in the past 12 months?
- What percentage have HbA1c below 8.0% or above 9.5%?
- Of those with two or more tests, how many show a decrease in HbA1c over time?

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## Trends in Glycemic control among 18,000 diabetic Patients at Group Health in the past 2 years



## Change in HbA1c related to self-management support



# Guidelines

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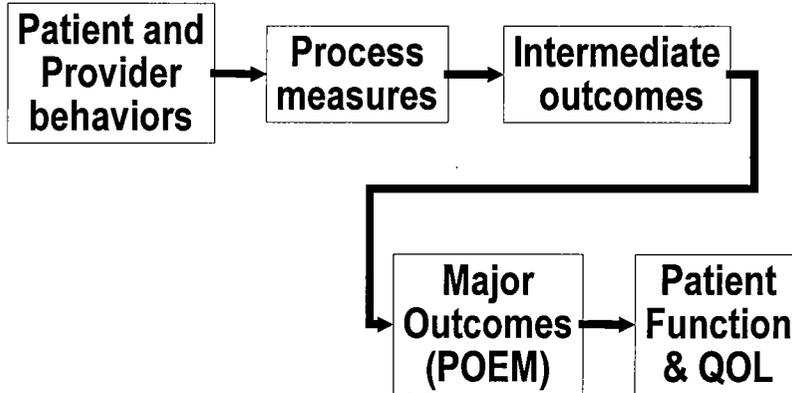
## Don't Re-invent the Wheel

Take existing guidelines and find:

- One (or more) that everyone can get behind
- What elements of it everyone can agree on
- Practical ways to embed it into your system

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## The Spectrum of Linked Elements



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## The Spectrum of Linked Elements Lower Extremity Problems

Patient and Provider Behaviors	Process Measures	Intermediate Outcomes	Final Outcomes	Patient Function & QOL
What are patients doing for their feet now? What do providers believe about preventive care?	No. and quality of foot exams Documented intervention.	No. of high risk feet No. of foot ulcers. Antibiotic use Hospitalization Use of ancillary services	Amputation rates	Physical functioning Days off work COSTS
<p style="text-align: center;">How could you capture and track these data elements?</p>				

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## Compliance?

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- As human beings, we all make decisions about our behavior that make sense to us, on some level, at the time we make a particular choice
- Try to understand where the patient is coming from, and why he or she is making particular choices and trade-offs

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## Blood Glucose Monitoring: How often should a patient check?

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- Four times a day (before breakfast, before lunch, before the evening meal and before bedtime)

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## Blood Glucose Monitoring: How NOT to approach a patient who has stopped checking

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- “I told you to check your blood glucose four times a day, Mrs. Smith, and to bring your results with you so that I could review them. I see that you have done neither. This visit is really a waste of our time, then, isn't it? Let's reschedule in a month.”

Exasperated, patronizing, judgmental,  
guilt-inducing, disease-centered,  
doctor-centered and INEFFECTIVE

Patient labeled non-compliant and unlikely to  
show up very often

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## Blood Glucose Monitoring: How often should a patient check?

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- As often as they think it is giving them useful information

Corollary: That IS how often most patients are checking! If they are not checking as often as you wanted or expected there is always a good reason why (financial, frustration, depression...)

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# The Art of Empowerment

Bob Anderson, EdD, and Martha Funnell, MS, RN, CDE

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- "... helping people discover and use their own innate ability to be responsible for their life (and the part diabetes plays in it)."

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# The Art of Empowerment: Talk less and listen more...

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- Talk:
    - It's not your fault that you have diabetes.
    - I feel for you -- it's "the pits" having diabetes.
    - You have every right to feel discouraged, angry or frustrated.
  - Listen:
    - What is it about diabetes that troubles you most?
    - Take me through a typical day for you.
    - I see that your blood glucose was great that day! Tell me what you did that worked so well that day.

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## Collaborative Goal-setting

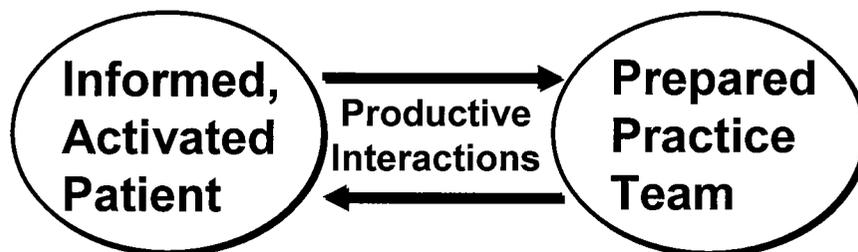
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- In a non-judgmental way, work through the range of issues that may adversely affect the patient's future health and quality of life
- "Some of these are things I can help you with. Others are things that you control."
  - Are there any areas you would like to work on?
  - What would be a realistic short-term goal for you?
  - How confident are you of achieving this?
  - Can you think of what steps you could take?

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## Essential Elements for Good Chronic Illness Care

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## What characterizes a “prepared” practice team?

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### Prepared Practice Team

- At the time of the visit, they have the patient information, decision support, people, equipment and time required to deliver evidence-based clinical management and self-management support

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## What characterizes an “informed, activated” patient?

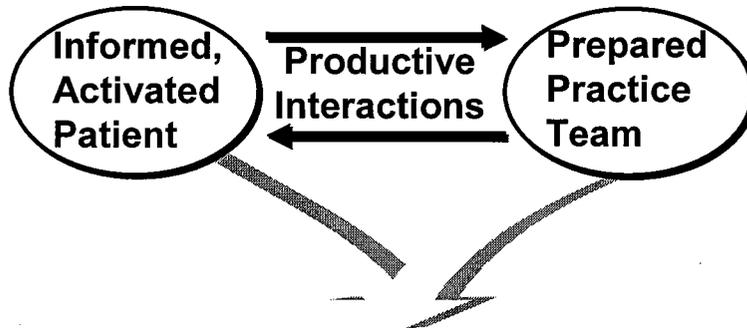
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### Informed, Activated Patient

- Patient understands the disease process and realizes his/her role as the daily self manager
- Family and caregivers are engaged in the patient's self-management
- The provider is viewed as a guide on the side, not the sage on the stage!

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**SUMMARY:**  
**The Essentials of Good Chronic Illness Care**



**Demonstrated Success**  
By anyone's definition

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**Grateful thanks to...**

- All the many people who cope bravely with diabetes every day, in their own unique ways -- They constantly amaze me and teach me
- Ed Wagner – friend, colleague and inspiration.
- The MacColl Institute for Healthcare Innovation
- Group Health Cooperative of Puget Sound
- The Center for Health Studies (at GHC)
- Friend, colleagues and critics around the world

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## Epidemiologic Perspectives

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- Ed Boyko, MD, MPH, Seattle ERIC Director, interviews Brad Anawalt, MD, Assistant Chief, Primary Care, VA Puget Sound Health care System and Associate Professor of Medicine, University of Washington, about advances in diabetes.

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