Empowering Patients to Change Health Behavior

The Magic of the Baby Step

Terry Davis, PhD
Professor of Medicine and Pediatrics

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Legacy Health
Portland Oregon
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- American College of Physicians Foundation
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Stocks:
- Johnson & Johnson
- Abbott Laboratories
What’s the Big Deal About Health Literacy and Health Behavior?

Low health literacy linked to:
- ↓ understanding & adherence to medication instructions
- ↓ knowledge, confidence, & skills to manage chronic disease
- ↓ understanding of surgical procedures
- ↓ adherence to pre- and post-op instructions
- ↓ understanding of consent for procedures & trials
- ↓ preventive care & services – delayed diagnoses
- ↓ physical, mental health
- ↑ ER use, hospitalizations, and readmission
- ↑ disease related complications and mortality

Medication Error Most Common Medical Mistake

1.5 M adverse events (patient error >700,000)

- 2 out of 3 patients leave MD visit with Rx
- 3.9 Billion Rx filled in 2010
  - Up 50% - 60% in 10 years
- 82% adults take at least one med
- Elderly fill 20 Rx/year, see 8 physicians
- 1 in 6 pediatric Rx not dosed correctly
- >300,000 OTC meds (>600 contain acetaminophen)
- Most labels and inserts are in English only

U.S. Census Bureau, 2009; PDR for Non-Prescription Drugs, Dietary Supplements and Herbs (2007); IMS Health 2005; IOM 2006.
Video

It’s easy to make a mistake
“How would you take this medicine?”

395 medicine clinic patients in 3 states
48% <9th grade reading, averaged 1.4 meds

- 46% did not understand instructions ≥ 1 labels
- 38% with adequate literacy missed at least 1 label
- <10% attended to warning labels

“Show Me How Many Pills You Would Take in 1 Day”

Rates of Correct Understanding vs. Demonstration “Take Two Tablets by Mouth Twice Daily”

![Bar Chart]

- **Low Literacy Level**
  - Understanding: 71%
  - Demonstration: 84%
- **Marginal Literacy Level**
  - Understanding: 35%
  - Demonstration: 63%
- **Adequate Literacy Level**
  - Understanding: 89%
  - Demonstration: 80%

**Prescription Information**
- **Humibid LA** 600MG
- 1 refill
- John Smith
- Dr. Red

**Instructions**
- Take two tablets by mouth twice daily.
Patient Centered Label Can Improve Understanding and Adherence

<table>
<thead>
<tr>
<th>Michael Wolf</th>
<th>04/29/71</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyburide 5 mg</td>
<td></td>
</tr>
<tr>
<td>Take for Diabetes</td>
<td></td>
</tr>
<tr>
<td>Take 2 pills at breakfast</td>
<td></td>
</tr>
<tr>
<td>Take 2 pills at dinner</td>
<td></td>
</tr>
</tbody>
</table>

**Rx#: 1234567   10/30/2008**
You have 11 refills
180 pills
Discard after 10/30/2009

**Important**
Do not drink alcohol.
Limit your time in the sun.

Provider: Ruth Parker, MD
Emory Medical Center
(414) 123-4567

Pharmacy: NoVA Scripts Central
11445 Sunset Blvd.
Reston, VA
(713) 123-4567

NDC # 1234567

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RCT in 11 FQHCs.
845 pts w DM and/or HTN.
Average 5 meds
Mean age 52, 28% W,
39% low literacy

<table>
<thead>
<tr>
<th></th>
<th>Standard Label</th>
<th>PC Label</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Understanding</strong></td>
<td>59%</td>
<td>74%</td>
</tr>
<tr>
<td><strong>Adherence</strong> (3 months)</td>
<td>30%</td>
<td>49%</td>
</tr>
</tbody>
</table>

State Board of Pharmacy in CA passed legislation for this label
**Calculation: A Hidden Problem**

*Understanding Food Labels*

- You drink this whole bottle of soda. How many grams of total carbohydrates does it contain?
- 67.5 grams
- **32% answered correctly**
- 200 primary care patients
  - 73% private insurance
  - 67% at least some college
  - 78% read $\geq 9^{th}$ grade
  - 37% math $\geq 9^{th}$ grade

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The Problems With Food Labels

Difficult to navigate and interpret →

What is the essential info? How and where should it be displayed?
Strategies to Improve Health Communication, Patient Education & Consent

Step 1 – Put yourself in patient’s shoes
3 Problems with Face to Face Communication

1. Patients don’t understand unfamiliar medical terms. Those with low literacy rarely ask for clarification.
   - *Transcripts of 150 genetic counseling sessions found key terms (that were jargon) were typically repeated 20 times.*
   - *In study of 800 pediatric visits only 1 mother asked for clarification.*
   - *In a study of 250 orthopedic patients at 1st post-op visit, 45% knew bone fractured, 19% knew expected healing time, 45% knew weight bearing status.*

2. Many have difficulty understanding and recalling complex information, less satisfied with visit.
   - In a study of 100 surgery patients, 95% of surgeons believed patients understood when to resume normal activities vs. only 58% of patients.

3. Those with low literacy are less likely to actively participate in healthcare dialogue and decision making.

Solution: “Strip it down, bring it home, mix it up”

Easy ways to reduce ‘literacy burden’ in ‘face-to-face’ communication

Strip it down.

Limit unnecessary use of jargon and complex language. Goal - engage patient in conversation that facilitates understanding, establishes rapport and diminishes social distance.

Bring it home.

Make health information personally relevant. Make it concrete by grounding it in the patient’s life. Begin by asking patients what they know.

Mix it up

Cut the ‘mini lectures’/monologues. Increase “the back and forth”. Talk less - listen more. Check for understanding, buy in, or questions.

Have normal conversation.

Roter, D. 2011 Nursing Outlook
7 Health Literacy Steps to Improve Patient Education

1. Slow down
2. Avoid medical jargon, use living room language
3. Use pictures, teaching tools (pamphlets, brown bag meds)
4. Limit information – write brief take home information
5. Focus on need to know and do
6. Repeat and summarize info
7. ‘Teach back’/’show back’ to confirm understanding
Strategy for Limiting Information

*Lessons learned from patients*

**Tell me 3**
- What’s wrong? *(briefly)* *(Diagnosis)*
- What do I need to **do**? *(Treatment)*
- Why is it important that I do this? *(Benefit/Context)*

**If meds – “break it down” for me**
- What’s it for? *(indication)*
- When to take? How many pills at a time, how long? *(duration)*
- Why? *(benefit)*
- What to expect? *(side effects)*
The Dress Rehearsal for New Meds
Help patients make a detailed plan, focus on **behavior**

- When will you take this?
- How many pills do you take at a time?
- It has to be taken with food. When do you eat?
- Where will you keep it so you remember?
- When will you need to get it refilled?

Pictures Can be Good Teaching Tools

*Patients may not understand or use measurements*
Are Your Materials User Friendly?

• Is title compelling?
• Is layout user-friendly?
• Do illustrations tell the story?
• Is key message clear, easy to pick out?
• Is information actionable?
• Is it too much information?
• Is it culturally and language appropriate?
User Friendly Does Not Mean “Dumbed Down”

- Adults with high education and income still prefer brief, to-the-point materials.
- Most patients looking for “what I need to know and do”.
- Patients who want more detailed information appreciate links to websites.
- Web sites need to be user-friendly, easy to navigate and understand.
Templates Provide Useful Framework

- Uniform look, consistent message
- Makes development easier
- Easily reproducible
- Standard structure helps patients navigate the material

Cincinnati Children’s Hospital Template, 2012
Cincinnati Children’s Materials
Focused on Behavior

1 page handout “voice of the child”
What I can do & parent can do to help me

<table>
<thead>
<tr>
<th>What I Can Do</th>
<th>How You Can Help Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understand a lot more words than I can say. I may be able to say Mama or one or two other small words. I will move my body and point to tell you what I want.</td>
<td>Tell me what you are doing when you are working around the house.</td>
</tr>
<tr>
<td>I can feel sad. I hate when you go away, but I need to learn you can go away and still come back.</td>
<td>Say in words what I am doing. “You give me your cup, you must be thirsty.”</td>
</tr>
<tr>
<td>Read to me.</td>
<td>Read to me.</td>
</tr>
<tr>
<td>Tell me what we are doing in words. “First we put on your sock then your shoe”.</td>
<td>Tell me what we are doing in words. “First we put on your sock then your shoe”.</td>
</tr>
<tr>
<td>Tell me when you are leaving. I will cry but if you let me be sad and I will figure out that I can be sad and then be happy again. If you do this I will learn to trust you.</td>
<td>Tell me when you are leaving. I will cry but if you let me be sad and I will figure out that I can be sad and then be happy again. If you do this I will learn to trust you.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>What I Can Do</th>
<th>How You Can Help Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can figure out that if an object is covered up that it is still there.</td>
<td>I can shake a rattle, toss a ball, and bang two blocks together.</td>
</tr>
<tr>
<td>I can shake a rattle, toss a ball, and bang two blocks together.</td>
<td>Show me a favorite toy then lay it down and cover it with a light piece of material and show me how to pull it off to find the toy. “Yay we found it!”</td>
</tr>
<tr>
<td>Roll a ball to me and let me toss it back. Show me how to bang blocks together and then let me do it.</td>
<td>Give me things that make noise, get out the pots and pans and a spoon and show me how to bang them. “I feel like a rock star!”</td>
</tr>
</tbody>
</table>

Cincinnati Children’s Hospital Medical Center, 2012
American College of Physician’s Patient Self-Management Guides:

A good model to engage people in their health

Guides focused on:

- Patient not disease
- ‘Need to know and do’

Help patients change health behavior:

- Increase knowledge and confidence managing disease
- Help patients solve self-care problems
Focus Is On Doing

- ‘You Can Do It’ checklist at end of each chapter
- Concrete examples of successful action plans
- Emphasis on small steps and patient choice

You Can Do It!

It’s not about giving everything up. It’s about making little changes you can live with. Choose one of these easy ideas, or write down one or two things you will do for the next few weeks. Take charge!

- I will eat breakfast every morning.
- I will not eat seconds at dinner.
- I will not “super size” my meals at fast-food restaurants.
- I will pack a lunch instead of eating out.
- I will weigh myself once a week.
- I will join a weight loss support group.
- I will ask the waiter not to bring bread to the table.
- I will not eat cookies out of the bag.

"I don't wait until I've gained five pounds. I make a change when I've gained just two or three pounds."
Story of the ACP Diabetes Guide

• National team of providers, health literacy and communication experts
• Reviewed existing diabetes patient education materials
• Conducted focus groups in 5 states (English & Spanish)
  – Over 100 patients in public and private sector
  – Over 100 providers (physicians, nurses, pharmacists, and dieticians)
• Careful text development with multiple rounds of wordsmithing (English & Spanish) 800 photographs
• Developed iterative drafts based on cognitive interviews with >50 patients

Selegman, Am J Health Behav. 2007
Lessons Learned: Patients

18 focus groups

• Want information focused on \textit{how} to manage & \textbf{not why}
• Want practical strategies for hunger, eating out, exercise
• Commonly confused by
  • portion sizes
  • food measurements
  • carbohydrates
  • keeping track blood sugar
• Rarely call Doctor’s office for help – may not know questions to ask
Beyond Information, Patients Want Support

Patients often:

• *feel* alone, like a failure, overwhelmed
• *need* ongoing support from their physician, healthcare team, family, and support groups
• *want* physicians to be positive and proactive
• *know* more than they *do* – difficulty with problem solving

“The hardest thing about having diabetes is trying to juggle everything – not doing what I know to do.”
Physicians Want to Inform Patients on:

- Severity of diabetes
- Associated health risks
- Meaning of A1c tests
- Importance of checking blood sugar regularly

Patients and providers want different information. *Important to consider needs of both.*
Physicians Want to Teach Patients – but...

9 focus groups

• Feel they lack time
• May give information that is not useful
• May overwhelm patients with too much information or give too little
• Young physicians often use scare tactics; older physicians may be fatalistic
• Fear is not effective long term
Lessons Learned: DM Educators

Care is often not coordinated between DM educators & physician

Insurance may not pay for diabetes education

Patient materials not concise or consolidated.
Ah Ha’s

- Patients don’t see themselves as “patients” or live in silos
- Relationships (family, friends) are important
- Pictures of real people in their real lives are compelling
- People want to see themselves in positive light, not giving up, adapting
- Patient’s “voice” giving tips on living with DM useful
Evidenced Based Strategies & Considerations in Helping Patients Change Behavior & Improve Health
First Beware of Faulty Assumptions About Patient’s Need to Change Behavior

- The patient
  - **ought** to change
  - **wants** to change
  - **knows how** to change

- If patient does not change – visit has failed
- Patients are either motivated to change or not
- Now is the right time to change
- I’m the expert – patient must follow my advice
Consider the Spirit of Motivational Interviewing

- Behavior change is most effective if patient, not doctor, chooses area to work on
- Motivation to change should be elicited from patient, not imposed by provider
- Relationship functions best as partnership, not expert/recipient
- It is patient’s task— not provider’s— to articulate and resolve resistance to change
- Rational arguments not effective in resolving resistance

Hecht, J Am Behav Med, 2005
Bunny or Duck?
What problem does the patient need to work on?
Why Focus on Diabetes Self-Management?
Diabetes is Prevalent and Increasing

- >11% adults have diabetes; 27% adults ≥ 65 years,
- African Americans and Hispanics almost 2X more likely to have diabetes (19% vs. 10% for whites)
- 35% adults ≥ 20 yrs have pre-diabetes, 50% adults ≥ 65yrs
What About Obesity?

- Over 36% U.S. adults are obese (34% white; 39% Hispanic; 50% African American). 18% of children are obese.

- 27% of adults in OR are obese, 24% of adults in Portland (increased >150% since 1990)

- No state has an obesity rate <15% (the national goal)

www.americashealthrankings.org/OR, CDC 2012
Easy Framework to Help Patients Manage Their Diabetes, Lose Weight

1. INTRODUCE Diabetes Guide (briefly review).
2. ASK: Is there anything you are willing to do this week to improve your health? Then wait, don’t jump in.
3. COACH patients to set goals and create action plan to change behavior.
4. ASSESS confidence (7 on 10 point scale).
5. TEACH BACK & then write plan down in guide
6. SET TIME to call patient to check progress (maintain, modify, new AP)

Provider serves as partner, not expert, in helping patient change behavior

Seligman H, Davis T, Am J Health Behav, 2007
Action Plans (Baby Steps) Engage Patients in Improving Health Behavior

- Provider coaches patient to narrow a long term goal (patients choose) to a specific, easy-to-achieve, short term “baby step” behavior.

  - **Long-term goal:** lose weight
  - **Patient decides:** to walk
  - **Baby step:** I will walk around the block after dinner 3 times next week.
    - Encourages “buy-in”.
    - Teaches problem-solving.
    - Increases confidence.

“Baby Step Coaching”
The Patient is in Charge

- Patients **choose** areas motivated to work on
- Patients **need a few minutes to come up with a plan.**
- At first confused by **doctor asking** what they want to work on.
- **Avoid telling** them what they need to work on or giving unsolicited advice
Baby Step Action Plans are Easy-to-Achieve

– Too often patients feel they are unable to do what doctors tell them to do

– Goal: make your patients feel good about their ability to make behavior changes

– Check confidence using scale from 1-10

– If < 7 – re work
### Action Plans are Very Specific

Help patient turn *goal* – lose 10 lbs – into *Action Plan* – I will walk 2 blocks with my family after work 3 times next week

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What</td>
<td>Walk</td>
</tr>
<tr>
<td>How much</td>
<td>2 blocks</td>
</tr>
<tr>
<td>When (time of day)</td>
<td>After work</td>
</tr>
<tr>
<td>How often</td>
<td>3 times</td>
</tr>
</tbody>
</table>
Examples of Actual Baby Steps

• “I will dance like I saw in the book everyday for 2-3 songs on the radio.”

• “I will eat ½ of a candy bar instead of a whole one for my afternoon snack.”

• “Instead of eating fast food every night, I will start cooking one night a week.”

• “Two days a week I will eat sugar free ice cream instead of the regular ice cream I normally eat every night.”
Baby Steps: Lessons Learned

- Goal setting with a provider was not a familiar strategy
- Patients' 1st goals too general. “I want to lose weight” – had to learn “baby step” plan
- Many physicians expect too big a step or too many steps
Response From Providers

• Quickly get health literacy principles looking at Guide.

• Many apply baby step method to their approach to patients (and their own lives).

• Medical students appreciate structure of “baby step” approach to patient ed.

• Focus on small changes helps patients AND providers problem-solve and feel positive.
Patients Recalled Action Plans  
Changed Behavior And Problem Solved

<table>
<thead>
<tr>
<th>2 Week Calls</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Recall AP</td>
<td>96%</td>
</tr>
<tr>
<td>- Behavior sustained</td>
<td>75%</td>
</tr>
<tr>
<td>- Other behavior</td>
<td>56%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17 Week Visits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Recall AP</td>
<td>88%</td>
</tr>
<tr>
<td>- Behavior sustained</td>
<td>67%</td>
</tr>
<tr>
<td>- Other behavior</td>
<td>45%</td>
</tr>
</tbody>
</table>

• Most patients (89%) chose diet and exercise  
• Equally effective with low and high literacy patients

225 patients, LSU, UNC, UC-SF Med Clinics  
(76% minority; DM 9yrs; BMI 36; A1C 8.6)

Significant Improvement In 6 Months

9 FQHCs in Missouri, 666 patients,
30% African American, 33% low literacy,A1c 8.5, SBP 140

Self report

↑ knowledge
↑ self-efficacy
↓ diabetes distress
↑ taking ownership of health
↑ self-reported diabetes management

Chart documentation

↓ HbA1c ( 7.7. p <.001)
↓ SBP (133, p=.02)

Will Plan Work in Community Clinics?
Test of 2 Approaches to DM Self-Management

‘Carve In vs. Carve Out’

Carve-In:
Clinic identifies patient “champion” to review guide and engage patients in action planning.

Carve-Out:
Assumes clinics cannot sustain
Clinic distributes guides, refers patients to offsite DM Counselor
DM Counselor reviews guide engages patient in action planning

9 FQHCs in Missouri, 666 patients, mean age 55
30% African American, 33% low literacy, A1c 8.5, SBP 140
5590 income < $15,000

Carve Out Patients More Likely to Complete Action Plans

Mean # action plans: 4.6  vs. 1.8

Completion of Action Plans by Intervention Arm

<table>
<thead>
<tr>
<th>Time</th>
<th>Carve-in (n=213)</th>
<th>Carve-out (n=269)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>61%</td>
<td>90%</td>
</tr>
<tr>
<td>2 Weeks</td>
<td>46%</td>
<td>85%</td>
</tr>
<tr>
<td>2 Months</td>
<td>32%</td>
<td>81%</td>
</tr>
<tr>
<td>3 Months</td>
<td>17%</td>
<td>76%</td>
</tr>
<tr>
<td>6 Months</td>
<td>16%</td>
<td>71%</td>
</tr>
<tr>
<td>9 Months</td>
<td>10%</td>
<td>57%</td>
</tr>
</tbody>
</table>

p < 0.001

Multivariable models controlling for age, gender, literacy, baseline values and # of action plans completed.
Carve Out More Feasible and Effective

At 1 year carve out patients more likely to:

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Improvement</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall telephone calls</td>
<td>79% vs 46%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Set action plans</td>
<td>4.6 vs 1.8</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Find intervention helpful</td>
<td>7/10 vs 4/10</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Want to continue</td>
<td>76% vs 62%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Achieve glycemic control (hbA1C&lt;7)</td>
<td>48% vs 21%</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Video

Action Plans are key to success
Other Support/Outreach Strategies Improve DM Behavior and Outcomes

• More frequent visits
  – Morrison, *Arch Int Med* 2011

• Automated telephone calls (literacy & language appropriate)
  – Ratanawonga, *BMC Health Services Research* 2012

• Interactive conference calls with patients
More Frequent Patient-Provider Visits Lead To Faster Diabetes Control

Retrospective Study 26,500 DM patients with elevated A1C (8.1), BP(140/78), and LDL-C (113.4)

(Brigham and Women’s and Mass Gen patients, mean age 59, 67% white, 41% private insurance)

<table>
<thead>
<tr>
<th></th>
<th>visits every 2 wks</th>
<th>visits 3-6 mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Med time to A1C &lt;7 (no insulin)</td>
<td>4 mo</td>
<td>25 mo*</td>
</tr>
<tr>
<td>(w/ insulin)</td>
<td>10 mo</td>
<td>53 mo*</td>
</tr>
<tr>
<td>Med time to BP &lt; 130/85</td>
<td>1 mo</td>
<td>13 mo*</td>
</tr>
<tr>
<td>Med time LDL-C &lt; 100 mg/dL</td>
<td>5 mo</td>
<td>33 mo*</td>
</tr>
</tbody>
</table>

*p<0.001

Morrison F, Shubina M, Turchin A. Arch Intern Med. 2011..
Several UCSF studies with safety-net patients with poor DM control, 59% low literacy

- Calls - 1-2x/week, 6-12 minutes for 9-12 months
- Patients selected call times.
- Language concordant – English, Spanish, Cantonese
- Calls used narratives to discuss diet, physical activities, glucose monitoring, depression, etc.
- Patients “keyed in” responses.
- Patients responding “out of range” got nurse call back within 24 hours to help problem solve.
- Patients completed mean of 22 of 34 calls (RN called back average of 9 times)

Automated Calls vs Group Visit vs Usual Care

- Compared to usual care, AT calls and group visits showed improvement in all pt self-assessments, self-management
- Patient engagement 54% ↑ with AT calls vs. group visit
- Pts had fewer “bad” days with AT, less interference with ADL
- Pre – post A1c – AT (9.3-8.7), GP (9.3-9.0), UC (9.8-9)
- AT calls most effective with patients with limited literacy
- ATR costly, startup $65,000, ongoing $32,000,
- $277 per patient for 10% increase meeting ADA guidelines

U.S. Direct and Indirect costs DM = $156B
Telephone DM Prevention Program
Individual Calls vs Conference Calls

1st year- 16 sessions, 2nd year - 12 sessions
Nurses made calls, alternated with dieticians
Patients participated in an average of 9 calls

<table>
<thead>
<tr>
<th>Weight Loss at:</th>
<th>6 months</th>
<th>12 months</th>
<th>24 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC</td>
<td>9.5 lbs</td>
<td>10.1 lbs</td>
<td>4.9 lbs</td>
</tr>
<tr>
<td>CC</td>
<td>9.9 lbs</td>
<td>10.8 lbs</td>
<td>13.7 lbs</td>
</tr>
</tbody>
</table>

5 PC Clinics- Upstate NY
85% white, 11% low ed
Average BMI: 39

Weinstock, J Gen Intern Med 2013
Bottom Lines: Helping People Change Health Behavior

- Changing behavior is a process
- Information alone is not enough
- Patients & providers need practical frameworks
- “Baby Step” approach is effective, invites engagement, problem solving, empowerment
- Ongoing support “touch points” are essential
- Telephone outreach, particularly with groups, improves outcomes & satisfaction
What’s Legacy Health’s Bridge to Action?

• How does this talk stimulate your thinking, practice?
• What more could Legacy Health do to help patients improve health behavior?
• What research ideas and collaborations does talk spark?
Terry Davis, PhD
Department of Medicine and Pediatrics
LSU Health Shreveport
TDavis1@lsuhsc.edu
(318)675-8694