

Development of a Low-Literacy “Rx for Physical Activity” for a Rural Community Health Center

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Setting: Rural county in DE
Served by La Red Health Center (FQHC)



Partners

- University of Delaware,
School of Education
- **Delaware Diabetes Prevention
& Control Program (DCPC)**
- Federally Qualified Health
Center (FQHC)—La Red



La Red Health Center



- Serves most rural county (Sussex)
- FQHC since 2004
- Patient population
 - 80% minority (mostly Hispanic)
 - 50% live at or below 200% of Federal Poverty Level
 - 250 active patients with diabetes

Aim

- Develop simple physical activity tools
 - For clinic staff to use,
 - To aid patients with pre-diabetes or diabetes,
 - And accessible to patients with low literacy (low literacy = poor reading, learning, reasoning skills)
- 2 projects
 - Rx for physical activity
 - Rx for walking with pedometer

Rx for Physical Activity: Four Guiding Questions

1. What activity resources are available?

- Safe
- Low/no cost
- Close & accessible

2. What resources will patients actually use?

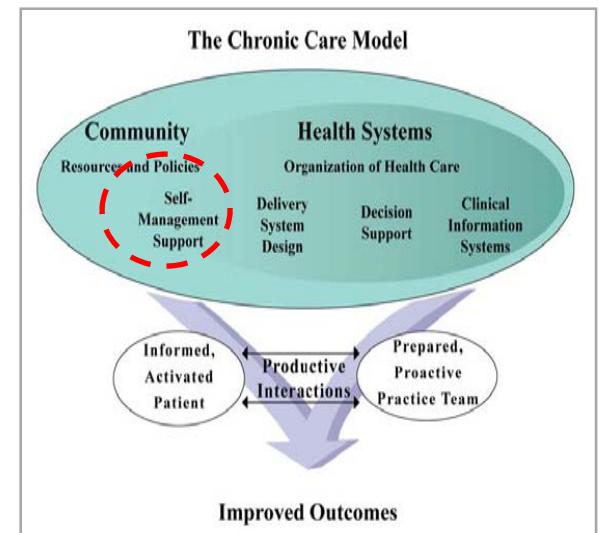
- Rx is comprehensible with low literacy (simple maps with icons)
- Activities fit into family/cultural life (soccer games)—enhance, not burden
- Activities provided/reinforced by community organizations (churches, major employers)

3. What tools will staff actually use?

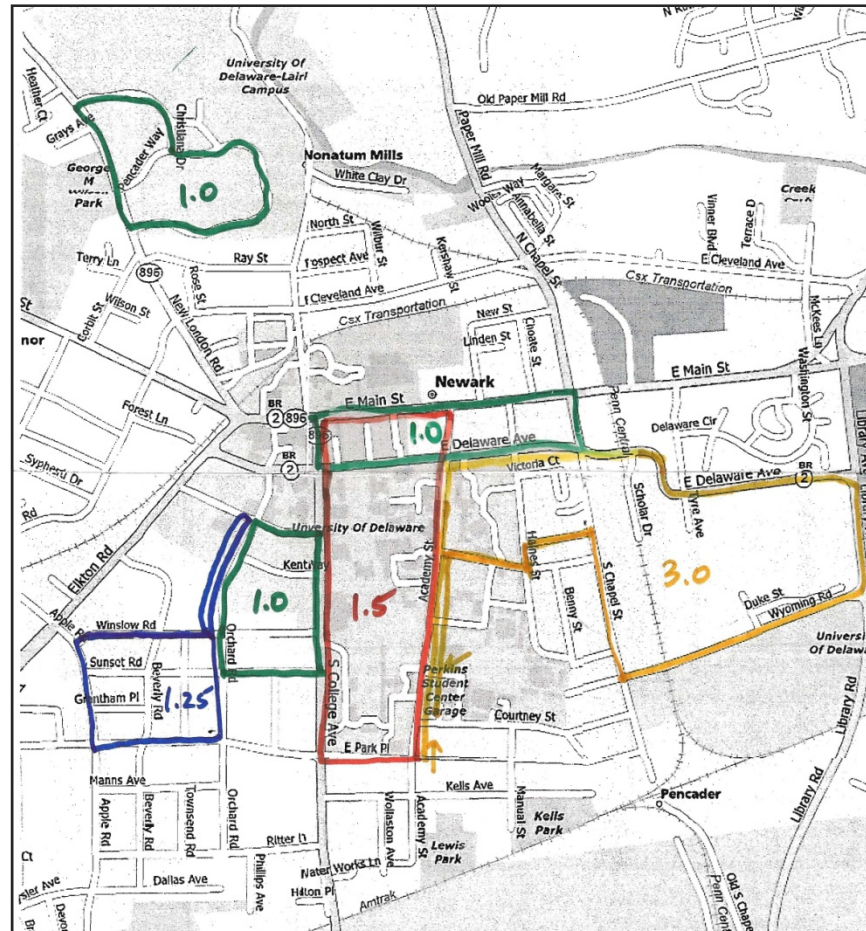
- Supports Chronic Care Model (Self-Management)
- Fast (90 seconds)
- Easy (scripts for staff, materials to give patients)

4. How well did Rx work?

- Record of Rx given
- Follow-up of patients



Exemplar Activity: Walking routes on main UD campus



Miles:

1.0

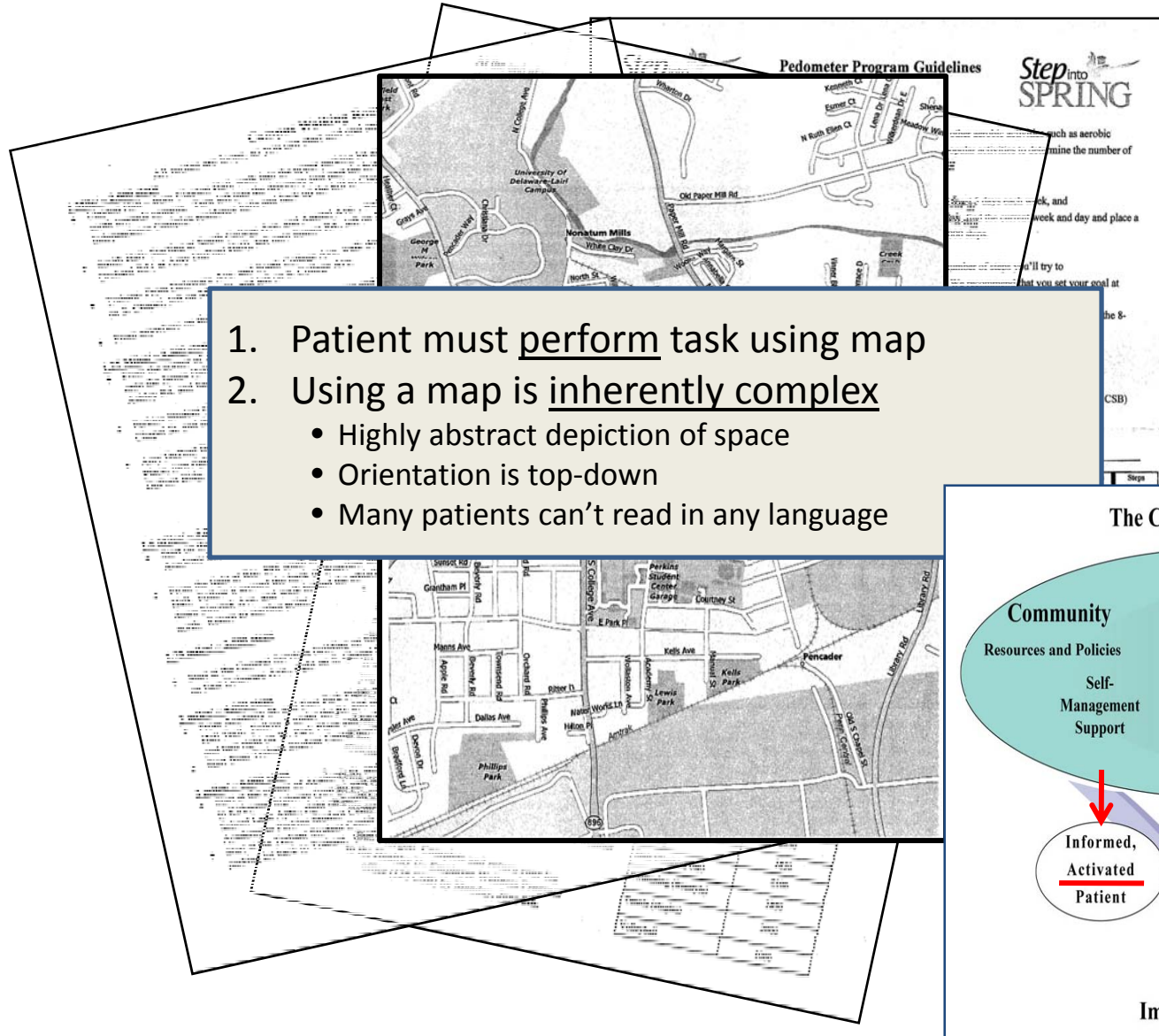
1.25

1.5

3.0

Great idea but has really big problem

The Literacy Challenge



Literacy Demands of Sample Daily Tasks

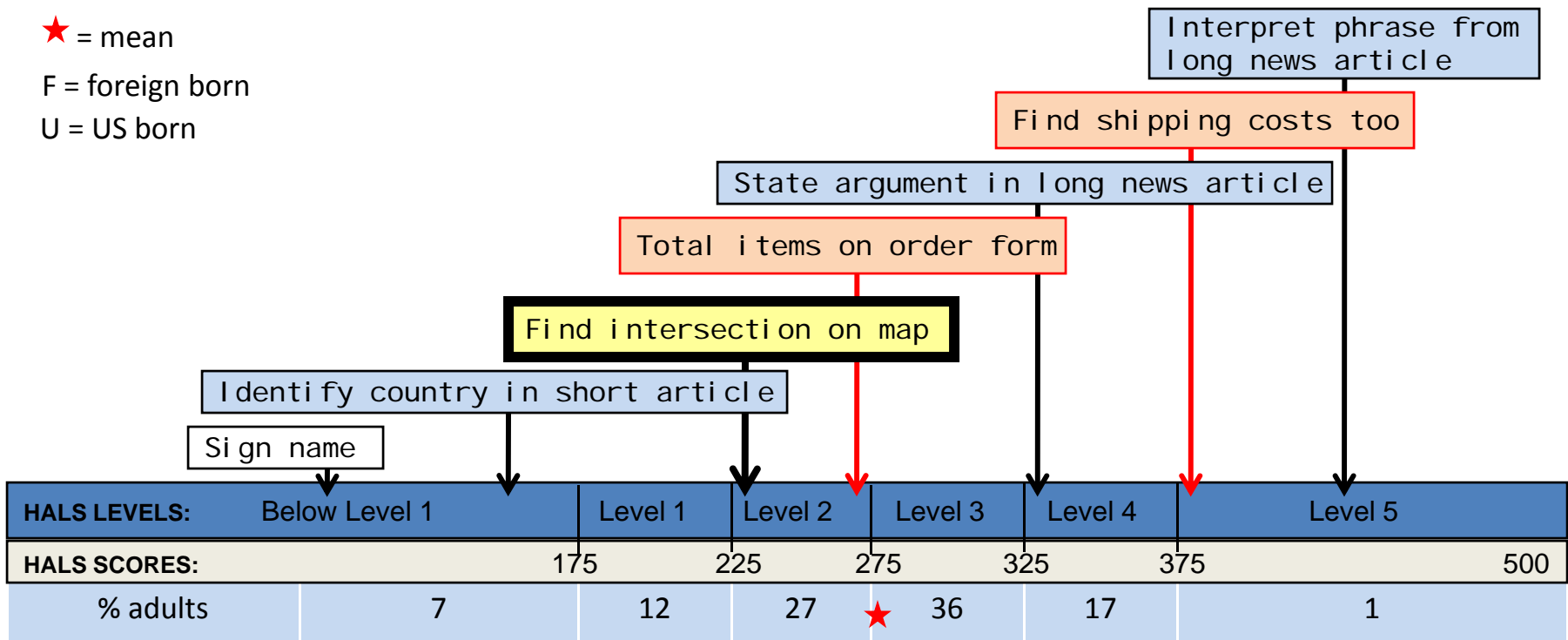
(Tasks from NALS adult functional literacy test)

Level	<1	1	2	3	4	5
White	3	9	26	★ 40	21	2
Black	12	22	★ 41	22	3	*
Hispanic	30 (half foreign-born) F	15	★ 27 U	22	5	*
Over age 65	19	29	★ 33	16	3	*

★ = mean

F = foreign born

U = US born



Be mindful that—even simplest tasks can be difficult for some people

Process—Environmental Scan

- 3 locales scanned for:
 - Safe, accessible walking routes
 - In-town facilities (ball fields, YMCA, ...)
 - More distant sites (beach, state parks, ...)
- Info gathered by:
 - KS & LG
 - interviewed local social service agencies
 - met with La Red staff on patient needs/preferences/barriers
 - toured locales, identified large employers
 - located mapping resources :UD Applied Demography Center, Delaware DataMIL (state's internet mapping service at datamil.delaware.gov)
 - UD student assistant
 - telephone, internet searches
 - physically inspected 3 locales
 - assessed “walkability” of streets
- Info recorded in spreadsheets
 - Type, location, hours, costs, clientele, disability access, parking, contacts
- Intended products
 - Rx
 - Lists of resources for patients, with maps

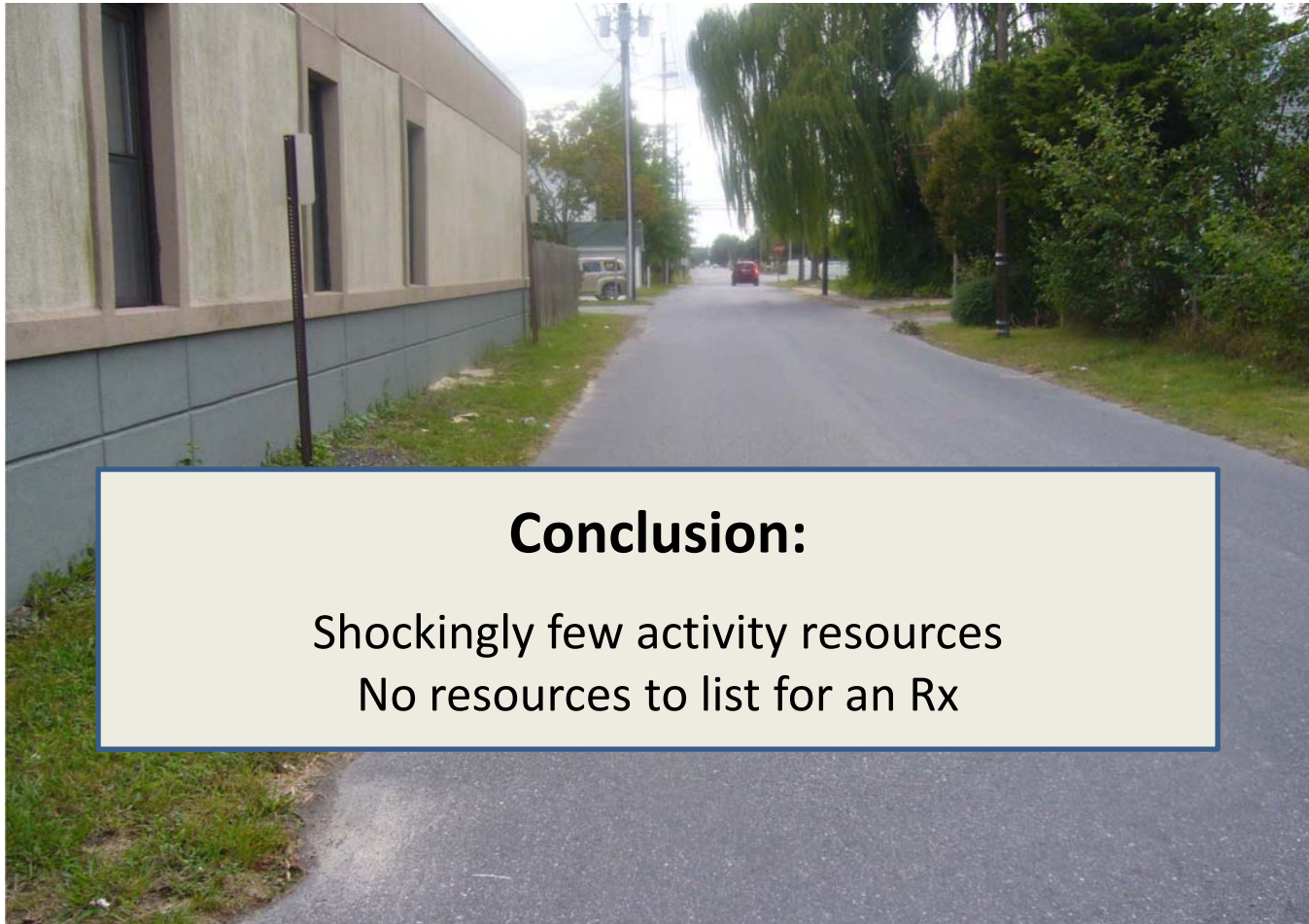
Results of Environmental Scan

- None
 - YMCA, YWCA
 - indoor malls (mall walking)
 - public use of school athletic fields
 - walking to school (too far, not walkable, bussed)
- Rare
 - 1 city park
 - 1 soccer field (Saturday use)
 - walkable sidewalks (not even for half mile)

Obstructions on sidewalks



Sidewalks Rare



Conclusion:

Shockingly few activity resources
No resources to list for an Rx

Plan B—Rx for Pedometer Walking

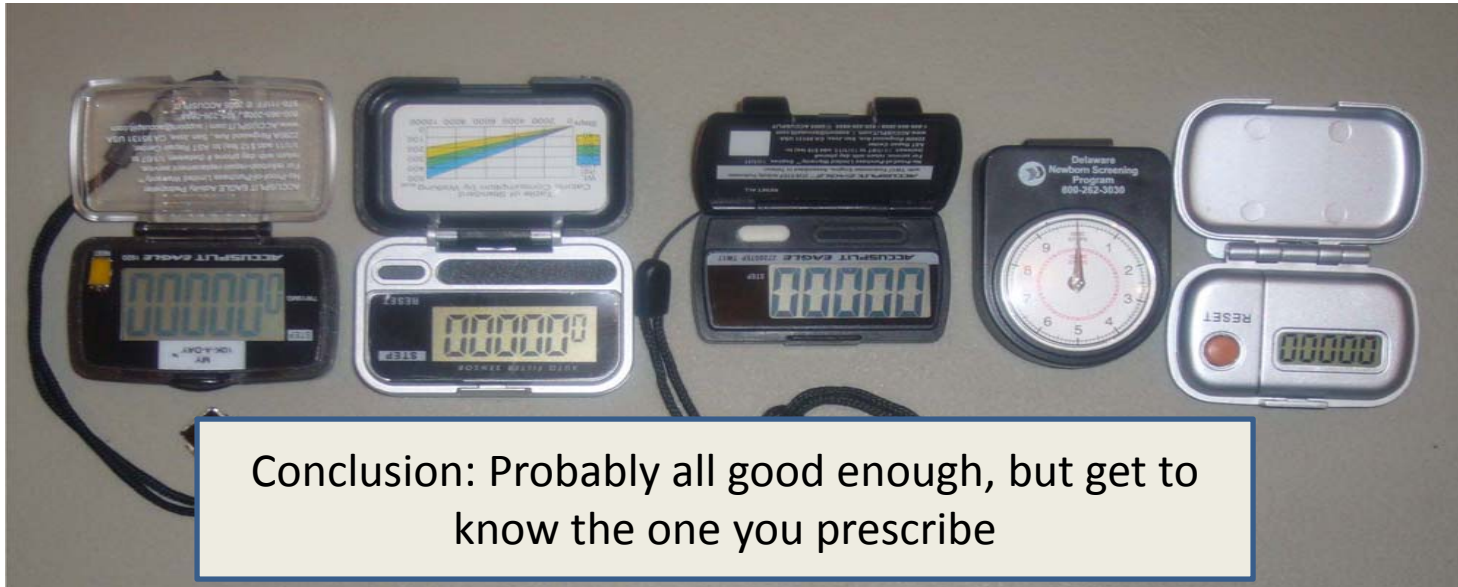
Guiding questions

1. What kind pedometer available & appropriate ?
2. How many steps to prescribe: at start, increments, end-goal?
3. Who prescribe & explain Rx (MD, other)?
4. How should Rx be explained (scripts for staff)?
5. How should Rx be followed up and reinforced?

Considerations with free/donated pedometers



Variability in recording



	A (UD)	B (ours)	C	D	E
200 steps, TM	93	180	162	220	149
Total-Day 1	.7	1.0 (5681)	1.2	1.3	1.0
Treadmill	.7	1.0 (4236)	1.2	1.2	1.1
Total-Day 2	1.0	1.0 (2975)	1.4	1.4	failed
Street walk	.9	1.0 (2557)	1.1	1.1	failed

Rx for Pedometer Walking

English

LA RED HEALTH CENTER
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NAME _____ DATE _____

Rx for walking with pedometer

Amount per week:			
Week 1:	1,000 steps	in 20 minutes	4 days per week
Weeks 2 & 3:	1,500 steps	in 20 minutes	4 days per week
After week 3:	2,000 steps	in 20 minutes	4 days per week

Next visit: _____

Patient's signature Prescriber's signature

Spanish

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NOMBRE _____ FECHA _____

Rx para caminar con un pedometro

Cantidad por semana:			
Semana 1:	1,000 pasos	en 20 minutos	4 días por semana
Semanas 2 & 3:	1,500 pasos	en 20 minutos	4 días por semana
Despues de la 3ra. Semana:	2,000 pasos	en 20 minutos	4 días por semana

Proxima visita: _____

Firma del paciente Firma del proveedor

What regimen is reasonable to prescribe?

- Hard to find guidance
- Made prudent guess

- Keep form simple
- Limit content to the essentials

Keep Regimen Simple

Front

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NAME _____ DATE _____

Rx for walking with pedometer

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Next visit: _____

Patient's signature

Prescriber's signature

Must increase dose over time but:

- Changed only one element of regimen

Back

Extra Steps	MON	TUES	WED	THUR	FRI	SAT	SUN
Week 1							
Week 2							
Week 3							
Week 4							

Provide record-keeping form with Rx

Support clinic staff with scripts when they—

1. Give the Rx (MD, CDE, other)
2. Explain how to use the pedometer with Rx
3. Follow-up patient use of pedometer

Why?

- Hidden complexities for patients in adhering to Rx
- Hidden complexities for staff in explaining Rx

Script 1: Key Ideas to convey to patient when staff give “Rx for Walking”

Key idea	Sample statements
<u>Why</u>	
[general benefit]	“Exercise is important for staying healthy.”
[concrete example]	“Walking helps keep your heart strong; it can help you lose weight; it also helps to relieve stress.”
[personalize]	“Exercise is especially important for you because you have diabetes.”
[meaningful metaphor]	“For people with diabetes, exercise is as important as the medicines they take to control their blood sugar.”
<u>What</u>	
[pull out Rx for walking] [sign & enter patient’s name]	“I am giving you a prescription for something that helps many people to start walking more.”
[basics of a pedometer]	“It’s for a pedometer. It’s a little thing that you clip onto your belt/pants/skirt, and it counts many steps you take.”
[most crucial point in prescription] [point to the contents of the Rx]	“This prescription tells you how many <u>extra</u> steps I want you to take.”
[next most important point]	“The idea is to gradually increase how much walking you do each week, and how fast you do it.”
[specify end-goal]	“That way you can work up to getting the amount of exercise you need to control your diabetes, and have more energy for the things you like to do.”
[activate mindset that good health requires <u>active self-care</u>]	“The pedometer is a tool to help you do that in a way that works for you.”
<u>Where</u>	
[Tell patient where to take the prescription to get the pedometer.]	
[preview of session—reassurance that all will be explained]	“The [nurse, physician assistant/etc.] will give you the pedometer and show you how to use it.”
[reinforce active self-care mindset]	“S/he will also help you think about different ways you might enjoy taking the extra steps I have prescribed for you.”

NOTE: Record “prescribed pedometer” in the patient’s chart

If MD, have only 90 seconds

Key ideas =

Implicit training for the ‘teacher’

- Pedagogical principles—
be concrete, personalize,
use meaningful metaphors, etc.

Sample statements =

‘Curriculum’ for teacher

- Not all content would be obvious,
how to handle contingencies, etc.

Script 2: Key Ideas to Convey When Staff Explain “Rx for Walking”

Key ideas to convey to patient when clinic staff explain “Rx for walking”

Version: April 2009

NOTE: Can vary order of sections below and expand different points to fit each patient's particular needs and circumstances.

Key idea	Sample statements
<u>Why this Rx?</u>	
[reinforce MD's reason for Rx]	“The aim is to get you walking more, because that will improve your health. Walking is like medicine, and it's especially important for people with diabetes. That's why Dr. ___ has prescribed it for you.”
[concrete example of benefits]	“For you in particular, it will ___ (name benefits based on their particular condition) ___.”
[repeat MD's most crucial point about what the Rx prescribes]	“As the doctor said, the prescription is for walking <u>extra</u> steps during the week, in <u>addition</u> to what you already do.”
<u>Patient's current habits</u>	
[determine where, when, and how much the patient currently walks]	“Tell me about the walking you do now. It can be, for example, when you are doing errands, at work, or during your commute.”
[reinforce active self-care mindset]	“This information is important, because I'd like to know what kinds of extra walking would fit best into your current routine.”
[also signal follow-up]	“That might take some experimenting on your part, so let's follow-up with you in a few weeks.”
<u>How the Rx works</u>	
[“dosing” schedule—4 elements]	“Let's talk now about how much extra walking the schedule he has set out for doing it. It's really about how many <u>pills</u> to take, how many <u>extra steps</u> to take, and how often to take them.”
[reinforce active self-care]	“And like any other prescription, he's not going to do it for you. That's your job. My job is to help you understand enough that you might even <u>like</u> taking them.”
[1. Frequency—same number of “doses” of walking—4—every week]	“The doctor wants you to do the extra walking four days a week.” “It doesn't matter which four days you pick, as long as you do four days sometime during the week.”
[2. Amount—same number of minutes—20—in every “dose”]	“The prescription is for 20 minutes of extra walking each day. So that's an extra 20 minutes, four days a week.” “If you can't do 20 minutes at one time at first, don't worry. Just do two 10-minute walks that day instead.”
[modification, if appropriate]	

Can't assume anything:

That patient will know:

- What a pedometer is
- Understand regimen on the Rx

That the staff will know:

- your aim (e.g., extra steps)
- how to explain & adjust regimen

[3. Intensity—number of steps per “dose” increases in second and fourth weeks] [metaphors to help explain a complex concept]	<p>“You are probably wondering how the pedometer fits in. This is the interesting part. To be good medicine, walking needs to get your heart working a bit harder. If you walk as slowly as a snail, it won't do you much good. And it'd be <i>really</i> boring besides.”</p> <p>“This is where the pedometer comes in. We want you to walk at least a certain number of steps in those 20 minutes. For the first week, the doctor wants you to try to walk at least 1,000 steps during the 20 minutes. The pedometer will count the steps for you. I tell you in a minute how to use it.”</p> <p>“The next week he wants you to walk more steps—not 1,000 like before, but 1,500—during each 20 minutes. This means that you will have to walk faster. That's the whole idea—to get your heart and legs working a bit harder. They've been able to walk the 1,000 steps in 20 minutes.”</p> <p>“If it takes longer than two weeks, that's OK. What matters is not how soon you reach the goal.”</p> <p>“Your goal for you is to reach 2,000 steps in 20 minutes.”</p>
	<p>“20 minutes a day, four days every week. That's the prescription. This is 20 minutes of <u>extra</u> walking <u>added</u> to what you're already doing.”</p> <p>“How fast you are supposed to walk. Every day, walk more steps during those 20-minute walks—faster—and further.”</p> <p>“People with diabetes usually have to take it for the rest of their lives. So, the same is true for getting you to keep doing it. That's why your prescription is for walking even after you reach the fastest speed.”</p>
[based on patient health and stamina, adjust expectations and advice; accelerate the timetable or slow it down, if necessary; give cautions, where appropriate]	“The prescription can always be adjusted if it needs to be.”

Script 2: cont.

<u>What a pedometer does</u>	
[open it] [now close it again] [shake it up and down, then open it up again to show that number has increased] [demonstrate]	<p>"A pedometer automatically counts how many steps you take."</p> <p>"See, here is where it records the number of steps. Right now it says ____ steps."</p> <p>"If I go walking, it will record how many steps I took. Here, let me show you."</p> <p>"You attach it like this to your belt/pants/skirt. Be careful when you put on your coat, go to the bathroom, or pick something up. That's when people accidentally knock them off and lose them."</p> <p>"In order for the pedometer, to count correctly, it has to be worn right-side-up or upside-down, or in your pocket."</p>
<u>Getting ready to walk with pedometer</u>	
[demonstrate]	<p>"Here's what you do with the pedometer with prescribed walks:</p> <ul style="list-style-type: none"> • Open it up • Press the button to make the number zero • Close it • Put it on your belt"
<u>Using the pedometer during prescribed walks</u>	"Here's how to use the pedometer to follow your prescribed walks:
[two tricky things in this section: (a) when to consult the pedometer, and (b) how to use its results to gradually adjust the rate at which they walk.	"First, decide where you are going to walk. Choose comfortable shoes—and your pedometer! You'll get thirsty. Consider walking with a friend. It'll be more rewarding—and seem easier—if you do."
	"You need to time your walk (20 minutes), alone, or with a friend. If you have a friend, one, perhaps you can walk with someone who does. Do you have a way to time your walks?"
	"When you are ready to actually start your walk, figure out what time it will be when you cross the 20-minute finish line. If you start at 2:00 in the afternoon, your finish line will be at 2:20. That is when you will check your pedometer—your pedometer check-point."
	"For your first walk, walk at a speed that is comfortable for you. Don't worry whether you'll end up walking less than 1,000 steps—or more than that. Just enjoy the walk."

	<p>"When you cross the 20-minute finish line, open the pedometer. How many steps does it say you walked? Write down the number, or try to remember it. This is your starting point. If it was less than 1,000, then try to walk a bit faster the next day. Before too many days, your pedometer will be giving you good news—you will be getting closer to 1,000 steps within 20 minutes."</p> <p>"As I said before, don't worry if you can't go the whole 20 minutes the first time. How many minutes <u>were</u> you able to do? Next time you walk, see if you can add a few more minutes. Every minute you add is proof that the walks are working!"</p> <p>"If you were able to take at least 1,000 steps during the 20 minutes, congratulations! You are off to a fast start. Keep up that pace for the week (4 walks)."</p>
	are able to do 1,000 steps in 20 minutes, for 4 days, pick up your pedometer and walk up to 1,500 steps in 20 minutes. Once you can that for 4 days a week for two weeks, work up to 2,000 steps in 20 minutes."
	at least a week, and bingo? You've reached the fastest speed you've been able to do. Keep it up."
	—do as appropriate, depending on patient]
	to use the pedometer at other times of the day too, if you want. You can do. For example, you might want to see how much walking you can do in a whole day. Or maybe how many steps it is to the end of the block. So on. It really opened <i>my</i> eyes when I started looking at how much walking I was doing <i>little</i> —I was walking in a typical day. Some people say it helps keep track of it. They say it's harder to fool themselves about how much exercise they're really getting."
[get a sense of patient interests and life style; explore with patient the types and timing of walks they might enjoy and thus keep doing]	[No samples—do as appropriate for specific patient. The more that walking can be made a social affair or part of their regular schedule, the better. For example, do they regularly attend local soccer games with family and friends? They could walk around the perimeter before, during, or after the game.]
[schedule follow-up contact]	[As appropriate for patient—but signal that important to us to find out how they are doing with their Rx walking]
<u>Record-keeping</u>	<p>[In patient chart: record that prescription given and was explained]</p> <p>[in prescription log: record DATE, PATIENT NAME, BIRTHDATE, SEX]</p>

Quite challenging
to design clear, concise
explanations that simultaneously
anticipate common errors
and attempt to motivate

Script 3: Follow-up on Patient's Use of Pedometer During First Month

Follow-up on patient's use of pedometer during first month

FROM PATIENT'S CHART:

Patient's name _____ Phone number _____

Date of birth _____ Sex _____ Date pedometer prescribed _____

Today's date _____ Interviewer's name _____

[Before calling patient, please calculate:]

How many weeks ago is that? ____ Walking prescribed for previous week was:

Check one	Week	Extra steps	Within (minutes)	Days per week
<input type="checkbox"/>	1	1,000	15	3-4
<input type="checkbox"/>	2	1,500	15	3-4
<input type="checkbox"/>	3	1,500	15	3-4
<input type="checkbox"/>	4	2,000	20	3-4

[After greeting the patient, ask them these questions.]

1. Did you use the pedometer at all?

No ____ **[Skip to Question 6]**

Yes ____

2. Did you use it at all in the last week?

No ____ **[Skip to Question 6]**

Yes ____

3. How many days during the last week (7 days) did you go walking with the pedometer?

Days ____ (At least 3 days ____)

(1-2 days ____)

4. How many steps did you get up to during those walks?

Steps ____ (At least 2,000 ____) If **[Skip to Question 6]**

(Less than 2,000 ____)

5. How many minutes did this take you?

Minutes ____ (20 minutes or less ____) **[Congratulate them and end the interview]**

(More than 20 ____)

6. Why weren't you able to do any/more walking with your pedometer? ("any," if "no" to Q. 1)

(Check all that apply)

Lost the pedometer ____

Didn't know how to use it ____

Bad weather ____

No one to walk with ____

Too tired ____

Health changed ____

Too busy ____

Forgot ____

Not interested ____

Didn't have any benefit ____

Other (explain) ____

[Thank the patient, praise them for anything they accomplished, and encourage them to continue.]

Degree of adherence

Reasons for non-adherence (barriers)

Lessons Learned

- Scarcity of activity resources
 - No malls, YM/WCA, parks
- Competing demands
 - Clinic staff
 - Patients
- EMR introduction: absorbing energies

Thank you

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Slides are available at:

http://www.udel.edu/educ/gottfredson/reprints/2009CDC_Rx.ppsx

or

http://www.udel.edu/educ/gottfredson/reprints/2009CDC_Rx.ppt