Specialized Technology Education for Pumps & Pens in Underserved Populations with Diabetes

The STEPP-UP Project: Designing Low Literacy Teaching Tools for Use of Devices in a Minority Population

Authors: Valerie F. Ruelas, MSW, LCSW, Martha Walker, RD, Anne Peters, MD
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Presented by: Valerie Ruelas, MSW, LCSW
Program Director, USC Diabetes Research

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Notice of Requirements For Successful Completion
- Please refer to learning goals and objectives
- Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
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  - Anne Peters, M.D. - None
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Learning Objectives
1. Define key components of creating low-literacy educational materials.
2. Discuss how utilization of target audience focus groups can enhance educational material development.
1. Utilize the guides provided with their patients.

Specialized Technology Education for Pumps & Pens in Underserved Populations with Diabetes (STEPP-UP)
- After the implementation of the Affordable Care Act (ACA or Obamacare) and the expansion of MediCal, insulin pens and pumps became available to more patients through the new coverage options these plans provided.
- But insurance coverage wasn't enough; there was still a barrier to learning how to use new devices because all of the training guides were written at an 11th grade reading level.
- A grant from the Leona M. and Harry B. Helmsley Charitable Trust and input from our patient and community advisors, we were able to develop a series of simple language 5th grade level guides that introduced the basics of how insulin pens and pump work and described how patients could improve their diabetes treatment.

Steps to Achieving Lower Literacy Guides
- Gathered available material
- Created draft guides
- Held Focus groups: English and Spanish speaking adults with type 1 diabetes attended a total of 8 focus groups to provide before and after guide development feedback.
- Key Requests from patient/community advisors:
  - Illustrations to break up the text
  - Question and answer conversation format between patients and diabetes care team providers
  - Use of “Clear Language” simplified wording
  - More information on basic diabetes management
  - Glossary of terms
  - Classes to accompany the guides
Most Challenging Aspect to Lower Literacy Guides

- Medical and technology terms
  - The use of over 100 illustrations along with the glossary of terms was reported to have significantly increased the readers understanding of the information presented. Fran Milner, Illustrator
  - A readability consensus of 8 scales scored the material text at an “easy to read” reading level with a grade level of “5” and a reader’s age of “8 - 9 (grades 4 and 5)”/Lorena Sprager, Clear Language Specialist

- Creating non-branded images
  - Developed generic images with detailed labels
  - In some instances used pictures of actual devices

Detail of Clear Language and Unbranded Pictures

What are the Types of Pumps?

PUMP WITH TUBING
Some pumps have tubing. These pumps look like a small box that has tubing. The tubing attaches to a little “button” that you put on yourself every 3 days.

Conversation Format – Use of Humor and Real Speech

What is carb counting? And why does it matter in type 1 diabetes?

Carb counting means learning how many carbs you eat in a meal or snack. This is so you can give just the right amount of insulin for the carbs you are eating.
Conversation Format – Repetition and Safety

If your blood sugar does not come down with a correction dose through your pump, it is possible that your pump is not giving you insulin. This could be due to clogged tubing, a bad site or other reasons. The only way you can be sure you are getting insulin in your body is if you give it with a shot.

My blood sugar is 320 and it still has not come down after I use the pump bolus feature to give a correction dose. What is happening?

Some Data

64 adults with type 1 diabetes were enrolled in an observation trial to see the effects of diabetes education using low-literacy education guides.

- 50 completed baseline and 6 month - post education measures:
  - No statistically significant changes in A1C, overall health, depression, diabetes distress, or incidents in severe hypoglycemic or DKA events.
  - Statistically significant increase in Diabetes Knowledge (p = 0.03097) and Hypoglycemic Fear (p = less than 0.0001)

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<thead>
<tr>
<th>Mode of Delivery</th>
<th>Baseline</th>
<th>6 Months</th>
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<tbody>
<tr>
<td>Pump</td>
<td>6</td>
<td>7</td>
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<tr>
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<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Pen</td>
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<tr>
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</tr>
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Open Source PDF Versions Are Freely Available

http://www.uscdiabetes.com/#pens

How Can I Manage My Type 1 Diabetes Better?
¿Cómo puedo controlar mejor mi diabetes tipo 1?

Is the Insulin Pen Right for Me?
¿La pluma de insulina es adecuada para mí?

Is the Insulin Pump Right for Me?
¿La bomba de insulina es adecuada para mí?

How Do I Use an Insulin Pump?
¿Cómo se usa la bomba de insulina?
Next Steps

- Developing Pediatric Guides
- Developing guides for continuous glucose monitoring for providers, adult and pediatric populations (current working titles)
  - Is CGM Right For Me?
  - How do I Use CGM?
  - How Can Carb Counting and Using CGM Help Me Manage My Type 1 Diabetes Better?
  - Beyond the basics of CGM - How do you interpret CGM data for diabetes management

Questions?

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