The Role of Design in Creating SDM
Care That Fits
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**Weight Change**
- **Metformin**: None
- **Insulin**: 4 to 6 lb. gain

**Low Blood Sugar (Hypoglycemia)**
- **Metformin**: None
- **Insulin**: More than 2 lb.

**Blood Sugar (A1c Reduction)**
- **Metformin**: 1 - 2%
- **Insulin**: Unlimited %

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**Daily Routine**
- **Metformin**: 24 OR
- **Insulin**: 24 OR
- **Pioglitazone**: 24
- **SGLT2 Inhibitors**: None

**Daily Sugar Testing (Monitoring)**
- **Metformin**: No monitoring necessary.
- **Insulin**: Monitor once or twice daily, less often when stable.
- **Pioglitazone**: No monitoring necessary.
- **Sulfonylureas**: Monitor twice daily after meals when used with Sulfonylureas. Otherwise, not needed.
- **Gliptins**: No monitoring necessary.
- **SGLT2 Inhibitors**: No monitoring necessary.

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**Cost**
- **Metformin (Generic available)**: $0.10 per day / $50 / 3 months
- **Insulin (No generic available – prices vary by dose)**: $43 - $43
- **Pioglitazone (Generic available)**: $10.00 per day / $900 / 3 months
- **Liraglutide/Exenatide (No generic available)**: $11.00 per day / $1,000 / 3 months
- **Sulfonylureas**: Glipizide, Glyburide, Glibenclamide
- **Gliptins**: None
- **SGLT2 Inhibitors**: None

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https://diabetesdecisionaid.mayoclinic.org
Process of Design
1. Observation
2. Evidence Synthesis
3. Prototyping
4. Refinement

In the real world
Upon entering the room, the nurse goes to call the patient. Dr. Smith approaches the patient. The patient is somewhat seated, having trouble speaking. Dr. Smith: "It must be the daughter interpreting most things." Says he's comfortable and not in pain.

- Overall mood is calm.
- Open discussion.

Patient: Has remarked to family: "Like that he likes the smaller one because it's warmer." - although it must be small for family.

Dr. also discusses the patient's support by the right of the patient, delirium, which can vary over time.

Son seems disengaged, repeatedly checks cell phone.
<table>
<thead>
<tr>
<th><strong>Insulin</strong></th>
<th><strong>Exenatide</strong></th>
<th><strong>Metformin</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FORM</strong> Injected medication</td>
<td><strong>FORM</strong> Pill</td>
<td><strong>FORM</strong> Pill</td>
</tr>
<tr>
<td><strong>USED WITH</strong> Metformin or Sulfonylureas</td>
<td><strong>USED WITH</strong> Alone or with Sulfonylureas</td>
<td><strong>USED WITH</strong> Alone or with Metformin</td>
</tr>
<tr>
<td><strong>EFFECTIVENESS</strong> able to lower A1c by 0.5–1%</td>
<td><strong>EFFECTIVENESS</strong> able to lower A1c by 1–2%</td>
<td><strong>EFFECTIVENESS</strong> able to lower A1c by 1–2%</td>
</tr>
<tr>
<td><strong>WHEN TAKEN</strong> twice (2) daily in the 1 hour before breakfast and dinner</td>
<td><strong>WHEN TAKEN</strong> twice (2) daily with meals ideally but not absolutely necessary</td>
<td><strong>WHEN TAKEN</strong> once (1) daily could be used twice a day take 30 minutes before breakfast</td>
</tr>
</tbody>
</table>

**WEIGHT SIDE EFFECTS**
- loss of 1.5–3kg (3–6 lbs) after 6–7 months
- loss of about 1.5kg (3 lbs)

**OTHER SIDE EFFECTS**
- initial nausea; about 40 in 100
- persistent nausea; about 15 in 100
- severe nausea; 3 in 100
- diarrhea; 12–15 in 100

**SEVERE HYPOGLYCEMIA**
- none

**MINOR HYPOGLYCEMIA**
- 5 in 100
- 30 in 100 (within 30 weeks of use)

**MONITORING NEEDS**
- initially 2–5 times/week, less when stable occasionally 2–3 hours after eating initially daily and after eating, then 2–5 times/week or less when stable

**WEIGHT SIDE EFFECTS**
- minimal to no weight gain

**OTHER SIDE EFFECTS**
- some nausea, dyspepsia and diarrhea possible in the first two (2) weeks. Then most people can get used to it.

**SEVERE HYPOGLYCEMIA**
- 0 in 100 (within year of use)

**MINOR HYPOGLYCEMIA**
- 1-2 in 100 (within year of use)

**MONITORING NEEDS**
- none when used alone

**+ Sulfonylureas**
- 2-5 times/week Initially

**+ Insulin**
- daily
Designing SDM, supporting SDM

A conversation in which patients and clinicians work together to figure out what to do in response to a human problem.

Co-creating care that makes intellectual, practical, and emotional sense for the person and their situation.
Designing conversation

A conversation in which patients and clinicians work together to figure out what to do in response to a human problem.

Co-creating care that makes intellectual, practical, and emotional sense for the person and their situation.
The most important step in designing a conversation aid is working out what problem it’s addressing.
Acute Otitis Media
Acute Otitis Media

Lack of understanding of the limited effect of antibiotics
In 100 children over the next 2-to-3 days

85 will feel better naturally

11 will have continued ear pain and may need to see a doctor or begin a stronger antibiotic

4 will feel better because they took an antibiotic
A knowledge gap is not a problem

Knowledge might possibly be part of a solution
Acute Otitis Media

Lack of understanding of the limited effect of antibiotics

A crying child and tired, worried parents
SDM is a method

Like any method, its use is determined by the problem it addresses

Many kinds of problems, many kinds of SDM each with its own purpose
Current Risk
of having a heart attack

Over 10 years

8 people will have a heart attack

92 people will have no heart attack

Future Risk
of having a heart attack

Over 10 years

6 people will have a heart attack

92 people will have no heart attack

2 people will be saved from a heart attack by taking medicine
Quit for good.

Reasons you might choose to quit for good.

Quit for a bit.

Reasons you might choose to quit smoking around the time of surgery.

Continue to smoke.

Reasons you might choose not to quit.

Image: Mayo Clinic
Good things about quitting for a bit

- Better healing after surgery
- Helps circulation
- No or mild cigarette cravings before and after surgery

Bad things about quitting for a bit around the time of surgery

- Cigarettes may help me cope with surgery
- I have other things to worry about
- Quitting can be hard

Just like you don’t eat on the morning of surgery, don’t smoke — and stay off cigarettes for at least one week after your surgery.
Are these areas of your life a source of **satisfaction**, **burden**, or both?

<table>
<thead>
<tr>
<th>Leave blank if not part of your life</th>
<th>Satisfaction</th>
<th>Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>My family and friends</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>My work or finances</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Free time, relaxation, fun</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Spirituality or life purpose</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Where I live</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Getting out and transportation</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Being active</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Social media, TV or screen watching</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>My emotional life</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>My memory or attention</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>The food I eat</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

What are the things that your doctors or clinic have asked you to do to care for your health?

Do you feel that they are a **help**, a **burden**, or both?

<table>
<thead>
<tr>
<th>Leave blank if not part of your life</th>
<th>Help</th>
<th>Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take medications</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Monitor symptoms</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Manage my diet and exercise</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Get enough sleep</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Come in for appointments or labs</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Reduce alcohol use, smoking, etc.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Insurance or support services</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Manage stress</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Write in any others</td>
<td>☐</td>
<td>☐</td>
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<td></td>
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</tr>
<tr>
<td>I struggle with remembering, taking, or managing my medications.</td>
<td>I struggle with monitoring my blood sugar.</td>
<td>There are things I would like to do but can’t or won’t because of my diabetes.</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I am having problems with low blood sugar.</td>
<td>I would benefit from more help managing my diabetes.</td>
<td>I find it hard to follow your suggestions about diet and exercise.</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>I have another issue related to my diabetes that I’d like to talk about.</td>
<td>I have something I’d like to share with you but I know you probably won’t be able to do much about it.</td>
<td>Diabetes has had some positive impacts on my life.</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
</tbody>
</table>

https://patientrevolution.org/qbsafe
The kinds of things that we need to talk through

As we discuss the possibility of hand transplant, there are four kinds of topics that we'll return to:

**Your situation, problems, and the feasibility of transplant**
Before making a decision we need to be sure that transplant is the right fit for your life and any problems that you are experiencing.

**People**
It is important that you, those who care about you, and your care team are committed to transplant before proceeding.

**Upsides and Downsides**
There are a lot of pros and cons to transplant that need careful weighing before making a decision.

**Meaning**
We also need to consider what limb loss and transplant means for you as a person, how you see yourself, and your larger life's story.
• Identify a time when discussing alcohol is challenging (2 min)
• Role play this conversation, realistically (10 min)
• Reflect (10 min)
• Come up with ideas for improving conversation (10 min)
• Role play these ideas in conversation (10 min)
• Sketch/describe intervention
**How does alcohol affect my life?**

In these areas, does alcohol affect my life for **better**, for **worse**, or both? (It's okay if the answer is neither.)

- My family
- My friends
- My work
- Where I live
- My emotions
- My memory & attention
- My body
- My sleep & rest
- My sense of purpose
- Relaxation & fun
- My finances
- My legal situation

**What might we do?**

- **Healthy practices**
  - Safer drinking strategies
  - Reducing or stopping alcohol use
  - Rest and nutrition
  - Activities you enjoy and are healthy

- **Individual counseling**
  - Confidential sessions with a trained therapist

- **Community support**
  - Mutual support groups, online or in-person
  - Sober living houses or wet houses

- **Outpatient care**
  - Regularly scheduled visits with a clinician
  - Can include therapy and medicine to help with withdrawal

- **Inpatient care**
  - Confidential, in-facility program with supportive environment & services

**How would an approach work in my life?**

- **Healthy practices**
  - Cost: Self-managed
  - Time: Regular weekly or monthly visits, or appointments as needed

- **Individual counseling**
  - Support groups can meet daily, weekly or less frequently
  - Sober living houses are 24/7 commitments

- **Community support**
  - 1 to 6 hours / week for 1 to 3 months (minimum)

- **Outpatient care**
  - Minimum 30 days
  - Optional 60 or 90 days

- **Inpatient care**
  - Minimum of 30 days
  - Optional 60 or 90 days