Perfect Care in Diabetes: Improvement through process care redesign

Unimed Guarulhos
Sao Paulo - Brazil

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Unimed System

Unimed is the largest medical cooperative system in the world.

- It is present in 84% of the Brazilian territory, accounting for 30% of the market
- 351 cooperatives
- 115,000 cooperative doctors
- 20 million clients
Primary Care - leaderships visiting successful models at Europe and USA

- NHS (UK)
- Healthcare Improvement Scotland (Scotland)
- Netherlands
- Cambridge Health Alliance (US)
- Kaiser Permanente (US)
Unimed Guarulhos (1994)
86,000 clients
246 cooperative doctors
Primary Care Center

- Patient and family-centered care service
- Access to care - 48h
- Coordinated care
- Integrated and comprehensive team care
Improvement Science Methodology

- Science of Improvement
- Pilot - Implantation - Dissemination
- Improvement Projects
- Team communication skills
- Person and family centered service (shadowing, continuous improvement committee, patient engagement)
- Clinical care line
History:
Diabetes Mellitus Program at Unimed Guarulhos

2013
JUN
PHASE 1
32 DM patients from a Primary Care Center

2014
FEB
PHASE 2
32 DM patients join the project from 1 endocrinologist

2015
JUN
PHASE 3
Expansion to all Unimed Guarulhos DM patients

PILOT
32 patients

IMPLEMENTATION
32 patients

DISSEMINATION
5,000 patients

Improvement Science

I Workshop DM UG

Timeline
“What was the problem that we needed to solve?”

- **First:** Unimed Guarulhos didn’t know who the diabetic patients were.
- **Second:** Unimed Guarulhos didn’t know how they were being cared for.

“What was the percentage of diabetic patients with the perfect care?”
Perfect Care in Diabetes

10 items of care (minimum annual care)

Waist Circumference
Body Mass Index
Blood Pressure
Glycated Hemoglobin (Hb A1C)
Low Density Lipoprotein (LDL)
Microalbuminuria
Creatine
Eye Exam
Smoke Cessation
Foot Exam
“What was the percentage of diabetic patients with the perfect care?”

In a sample of 64 DM patients

% of patients with complete annual care = 0%

“Every system is perfectly designed to get the results it gets”

Paul Batalden
Patient’s Experience = a CHAOTIC scenario

- Nephrologist
- Endocrinologist
- Ophthalmologist
- Cardiologist
- Psychologist
- Nutritionist
- Social Worker
- Diagnostic Center
- Diabetes Mellitus Patient
- Hospital Admission
- A&E
Problems to be solved

- The care was fragmented
- There was no population perspective
- There was low engagement of everyone involved
- There wasn’t a systematic assessment of quality results
- There was a lack of an awareness strategy to educate diabetic patients to become partners in their own health care process.
Problems to be solved

- The care was fragmented
- There was no population perspective
- There was low engagement of everyone involved
- There wasn’t a systematic assessment of quality results
- There was a lack of an awareness strategy to educate diabetic patients to become partners in their own health care process
The Aim statement

Increase the percentage of patients with the Perfect Care in Diabetes Mellitus from 0% to over 40% in a sample of 64 patients from Unimed Guarulhos until September 2014.*

* Phase 1: 32 patients + Phase 2: more 32 patients
First step: building a Work Team

- Multi-professional team
  - Improvement advisor
  - Primary care physician
  - Primary care nurse
  - Care coordinator
  - Endocrinologist
  - Primary care admin assistant
  - Sponsor - managing director
  - Patient
Improvement Science Methodology

Driver Diagram

Organizational Learning Board

Sipoc Diagram

Ishikawa Diagram

Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

Act | Plan | Study | Do

Figure 1. SIPOC – understanding processes

Suppliers | Inputs | Process | Outputs | Customers

Start | S-7 major steps | End

Problem

Equipment | Process | People

Secondary cause

Primary cause

Materials | Environment | Management

Cause | Effect
Increase the percentage of patients with the Perfect Care in Diabetes Mellitus from 0% to over 40% in a sample of 64 patients from Unimed Guarulhos until September 2014.*

Annual Perfect Care:
- smoking
- BMI
- abdominal circumference
- blood pressure
- eye exam
- foot exam
- HbA1c (twice a year)
- creatinine
- microalbuminuria
- LDL

**Objective**

1. Changes in Diabetes Care System
   1.1. Development of Diabetes Care Plan
   1.2. Having an Array of Multidisciplinary, Accessible and Coordinated Care
   1.3. Proper Infrastructure

2. Engagement of Everyone Involved
   2.1. Incentives for Patients
   2.2. Incentives for Doctors
   2.3. Incentives for the Support Team

3. Coordination of Information
   3.1. Active Search for Diabetic Patients
   3.2. Gathering Exam Results and Complementary Evaluations
   3.3. Collecting Information from Data Base and Monitoring Parameters
   3.4. Feedback to Doctors

**Primary Guidelines**

1.1.1 - Create New Patient Flow
1.1.2 - Elaborate the Shared Plan Card (with Goals) to Empower the Patient
1.1.3 - Create Care Support Service for Patient (Programs, Foot Exam, Circ.Abd, PA, BMI)
1.2.1 - Have a Team Which Consists of a Doctor, a Nurse, a Care Coordinator for the Diabetic Patient Care

**Secondary Guidelines**

2.1.1 - Define the Medication Membership Policy, Certificates, Group Consultation, Pedometer
2.2.1 - Specialist Doctor Payment Reform
2.2.2 - Research and Develop a Fringe Benefits Package to Cooperative Doctors
2.2.3 - Communicate the Care Plan to Cooperative Specialists
2.3.1 - Team Training in Motivational Approach

**Changes**

3.1.1 - Define and Select Patients Through Eligibility Criteria (CID, USE)
3.2.1 - Request Diagnostic Centers to Send Exam Results to Doctors
3.3.1 - Create the Flow of the Shared Plan Card and Other Documents
3.4.1 - Develop the Routine of Blood Samplings, Analysis and Publication of Information Collected
Necessary infrastructure: Complementary Care
### Patient empowerment

**Shared Plan Card with goals**

**Plano de cuidados com o Diabético**
Leve este cartão a todas as consultas e solicite ao seu médico o preenchimento dos dados.

**Nome do paciente:**

<table>
<thead>
<tr>
<th>Medicamentos em uso</th>
<th>Dose</th>
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**Tabagismo:**
- [ ] Não
- [ ] Sim

#### 1. Cálculo do IMC (Índice de Massa Corpórea)
Mera: menor que 25. Pelo menos uma avaliação ao ano.

<table>
<thead>
<tr>
<th>Data</th>
<th>IMC</th>
<th>Carimbo</th>
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#### 2. Pressão arterial
Mera: menor que 13 x 9 cmHg.

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<th>Data</th>
<th>PA</th>
<th>Carimbo</th>
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#### 3. Exame dos pés
Mera: pelo menos uma avaliação ao ano.

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<th>Data</th>
<th>Resultado</th>
<th>Carimbo</th>
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#### 4. Cintura abdominal
Mera: < 94 cm (homens)/ < 80 cm (mulheres). Pelo menos uma avaliação ao ano.

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#### 5. Avaliação do fundo de olho
Mera: pelo menos uma avaliação ao ano.

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#### 6. Hemoglobina glicada
Mera: menor ou igual a 7%. Pelo menos duas avaliações ao ano.

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#### 7. LDL
Mera: menor que 100 mg/dl. Pelo menos uma avaliação ao ano.

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#### 8. Microalbuminúria (avaliação dos rins)
Mera: menor que 30. Pelo menos uma avaliação ao ano.

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#### 9. Creatinina (avaliação dos rins)
Mera: 0.6 a 1.3 mg/dl. Pelo menos uma avaliação ao ano.

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**CAS:**
- [ ] A
- [ ] B
- [ ] C

**Observações médicas:**
Engagement of Everyone Involved

Patients
- Group consultations
- Home visits

Doctors
- Monthly Feedbacks

Support Team
- Team training and alignment of concepts
- TEAM TRAINING IN MOTIVATIONAL APPROACH
- Meetings to share data

Managers and Unimed Guarulhos Board
- Meetings to share data
The Previous Model
Patient’s Experience = a CHAOTIC scenario
The new model
A family of processes and outcome measures have been reported monthly.
Number of patients in the Program

Number of patients in the Program

Pilot Phase

Implementation Phase

Dissemination Phase

Doctors included as partners:
- Pacientes NAPS
- Início Dr. Carlos
- Início Dr. Horta
- Início Dra. Lucy
- Início Dra. Flávia
- Início Dra. Edna e Dr. Mohamed
- Início - Dra. Liliane, Dr. Cleiruberto, Dr. Alvaro, Dr. Roberto, Dr. Cristóvão.
Patients with more than 6 perfect care items, improved from 60% to 89%
Nephropathy screening from 14% to 72%
Percentage of patients with annual foot exam improved from 36% to 89%

Tests performed with unequal sample sizes
The Triple Aim

- Patient Experience (Better Care)
- Health of Populations (Better Health)
- Reducing per capita cost (Better Value)
Percentage of patients with HbA1c < 7%

% of patients with HbA1c < 7
Run Chart
Percentage of patients with BP on target

% pacientes com PA < 130/90 MmHg
(Run Chart)

Median

73%
The Triple Aim

- Patient Experience (Better Care)
- Health of Populations (Better Health)
- Reducing per capita cost (Better Value)
ER per capita costs: decreased 57%
The Triple Aim

- Patient Experience (Better Care)
- Health of Populations (Better Health)
- Reducing per capita cost (Better Value)
Percentage of patients with Perfect Care improved from 0% to 64%

P Chart Perfect Care Unimed Guarulhos

Tests performed with unequal sample sizes

Pilot Phase

Implementation Phase

Dissemination Phase

UCL = 0.4350
P = 0.3371
LCL = 0.2393
Patients shown in this video authorize the disclosure of images.
“Hi, my name is Alex. I am 37 years old. My father and my mother have diabetes. I found out that I have diabetes about a year ago. And my biggest challenge was how to deal with the disease. Because when you know it, you get really scared. I came to see the doctor and do tests and everything and the doctor said...

“Alex, you have diabetes and we have a program here that is called Perfect Care”
And it has helped me a lot. Because I'm very lazy. You know, to follow and keep a diet...
But they are always calling. We're always repeating tests. So, participating in this program has been wonderful for to me. It’s like a mother to me...always reminding me to keep me in line and never step out. It’s a top-notch program for me.”
“Hi, my name is Rosilda. I’m 41 years old. I found out that I have diabetes when I was expecting my second child. Because I was very ill. I even passed out in the market. Then I went to the hospital and they did all the tests there. And the doctor told me I had diabetes. I was terrified. I cried a lot. I couldn’t accept it. And my mother...she has diabetes too. She’s lost her sight. I feel a lot of pain in my legs, and I’m worried about this pain... But there is the Perfect Care that helps me a lot in my diet. And they are always calling my house to remind me to do my exams, and I do them. And I’ve enjoyed it a lot...It’s an excellent program. And I’ve accepted the disease and I’m taking care of myself. I can’t stop eating candies. I still do, but just a little bit. I go walking, sweat a lot and when I do it, I feel much lighter.”
Care coordination, compassion, whole health team engaged giving support for patients and an effective methodology are absolutely essential to reach the Perfect Care.
Community Health Agent Program - SUS

- Large bridge between people and health team
- Information
- Orientation
- Collective Actions
Community Orientation - Unimed

- Formalism
- Empathy
- Trust
Community Orientation - Unimed

- Behavioral skills training
- Regular Teamwork
- Patient empowerment project
Photos of home visits by educational agent
Patient A.M.X.G.; 42 years old

- Sister + 5 children (2-8 years old)
- Nephropathy
- Retinopathy
- Diabetic neuropathy

*She was always alone at the consultations and never provided the relatives’ phone number*
Photos of home visits by educational agent
Patient A.M.X.G.; 42 years old

She can not read even with a magnifying glass
Small drawers at prescription
Confuse organizer

NO POWER AT ALL!
Solutions to improve self-care

- Patient’s sister is engaged in the process
- Patient and team built an organizer for everyday/periods.
- The Educational Agent opened the doors to healthcare team actions:
  - Social assistance
  - Physiotherapy at home
  - Improve the connection patient - team
AFTER THE BOND BETWEEN EDUCATIONAL AGENT AND PATIENT, ANA SET A GOAL FOR HERSELF, ON OCT 2015:

“THIS YEAR, I DON´T WANT TO BE HOSPITALIZED ANY MORE”

ANA IS OVER 6 MONTHS FREE FROM HOSPITAL
Patient shown in this video authorize the disclosure of images.

Patient testimony
Home visits: Patient’s testimony

“In my case the home visits helped me a lot because I could clarify many doubts not only about my own treatment, but also about my current condition. I believe that the home visits for me and for many other people only bring benefits. The person becomes better aware of their health and, consequently, it boosts their treatment. The family also becomes more interested in the patient’s care and is able to see that the patient’s health is improving.”

A.M.X.G.
Conclusion

• Changes, even though complex, are possible
• Patient’s interest first
• Determination and empathy
• Methodology
• Love
Conclusion

- Patient at the CORE, not doctors or health team
- All patients are entitled to receive the perfect care
- Best scientific evidence
- Improvement Science
Redesign: Patient as the Protagonist

Patient Valcira A. Melo
Member of the Improvement Team
Unimed Guarulhos
THANK YOU