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## Use of Online Personal Health Records in Monitoring and Management of Patients with Type II Diabetes

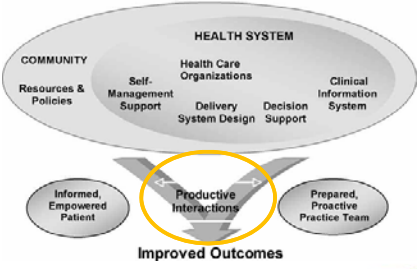
Peyman Azad Khaneghah, Pamela Bentley, Dave Ludwick ,  
Martin Ferguson-Pell

E-health 2014 Conference, Vancouver- BC.



### E-health and Chronic Disease Management

Wagner's chronic care model



Wagner, E. H. (1998). Chronic disease management: What will it take to improve care for chronic illness? *Effective Clinical Practice: ECP*, 1(1), 2-4.

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### Sherwood Park Diabetic Remote Patient Monitoring Pilot Project Phase 2 (February - June 2013)

FACULTY OF REHABILITATION MEDICINE UNIVERSITY OF ALBERTA

TELUS HEALTH Information for Life.

Collaboration

Access to Patients

Use of Technology

PrimaryCare Network SHERWOOD PARK STRATHCONA COUNTY


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### Objective

To evaluate the usability/practical viability of TELUS Health Space (THS), in monitoring and management of clients with Type II diabetes.

Clients

Clinicians



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## Study Design

### Mixed Methods Qualitative-Quantitative:

- Qualitative: Semi-structured interview
- Quantitative:
  - Demographics
  - Data entries
  - Messaging
  - Responses to surveys

### Sample: Purposive Sampling

- 29 Clients
- 8 Clinicians



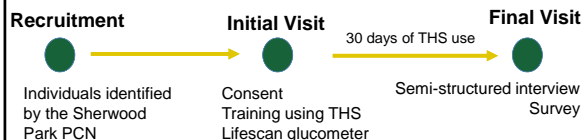
## Study Procedure

### Participants were requested to:

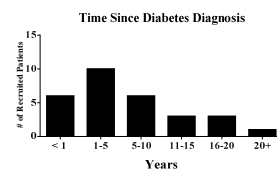
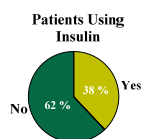
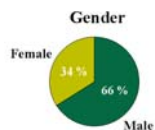
- Log in to the THS-PHR account
- Check their received messages
- Enter blood glucose readings
  - Manually or Automatic Upload
- Send a message to the care provider (if applicable)
- Log out of the system

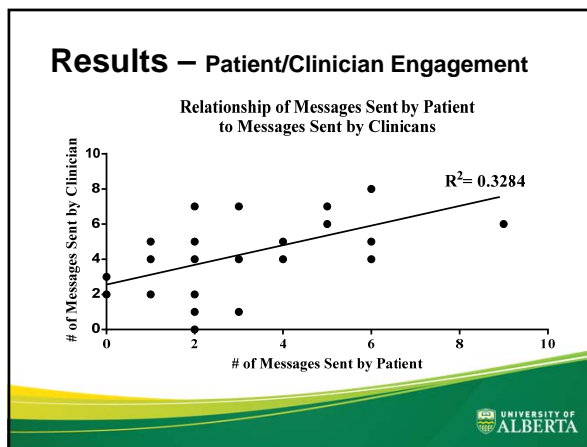
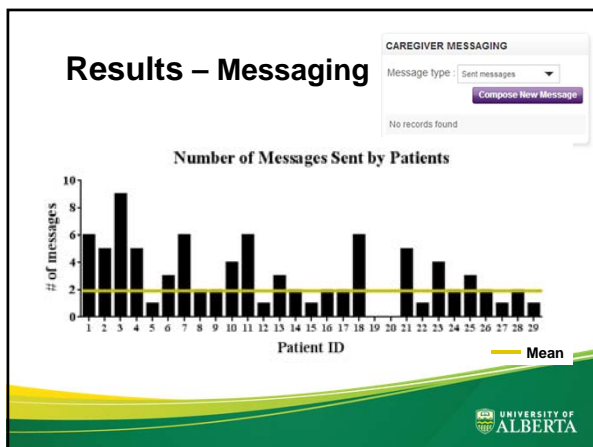
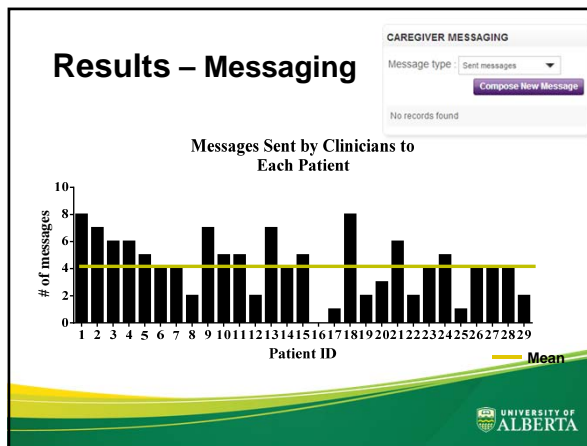
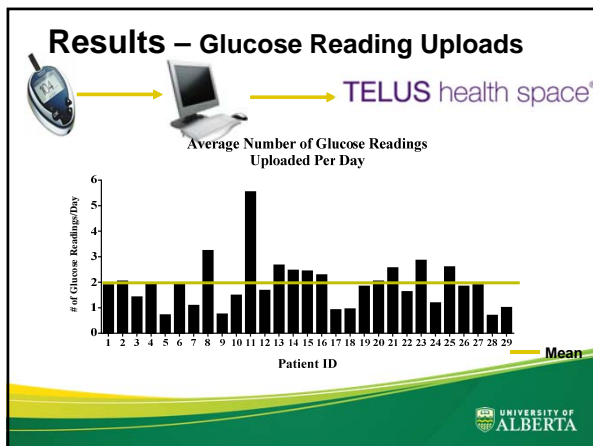


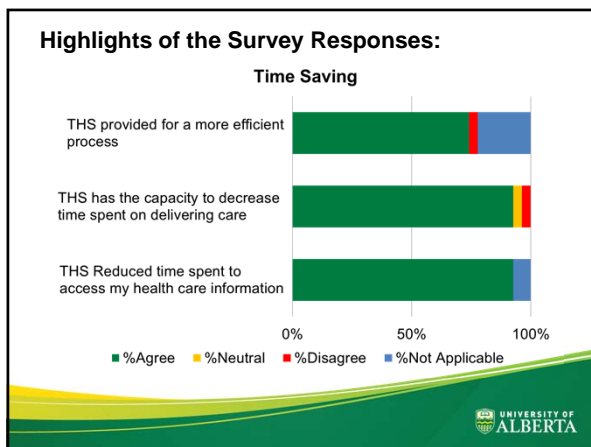
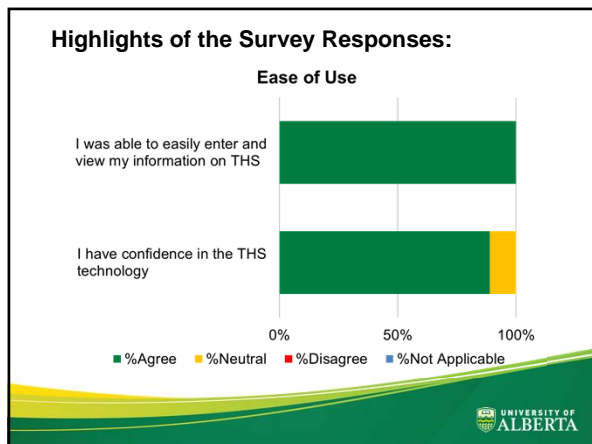
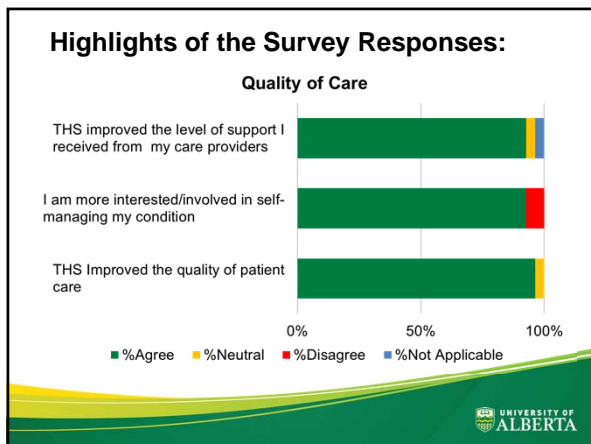
## Study Procedure



## Results – Demographics







### Qualitative Analysis of Clients' Interviews

Themes	Patients' responses	Clinicians' responses
Ease of use	+	+
Impact on Self-Management	+	+
Need for training to use the website	Yes	Not really
Quality of care	+	+
Messaging system	Some confusion	Some frustration
User retention	+	+

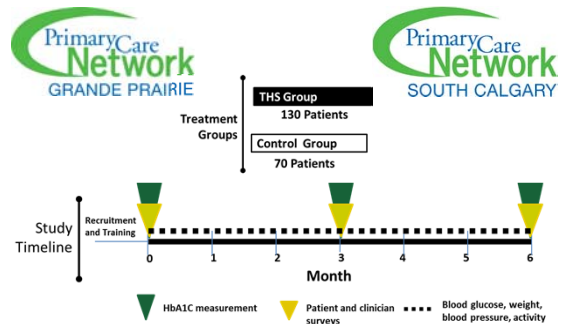
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### Lessons Learned

1. THS-PHR has the potential to be used in chronic disease management programs
2. THS-PHR may improve patients' health outcomes through increasing their awareness about their chronic condition
3. Clinicians Can Use the System Easily
4. Some users may need training and ongoing support to use the system effectively



### Phase II Expansion – In Progress



Unified Theory of Acceptance and Usability of Technology (UTAUT)

### Resulting Developments

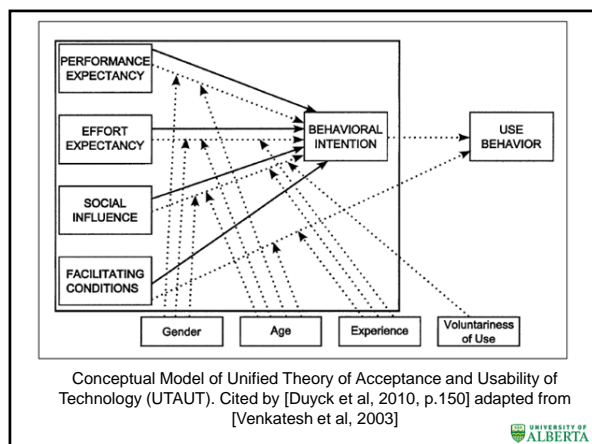
Phase II Expansion

1. Adding a message notification system (new message, message delivered, message seen, etc.)
2. Improve the accessibility and ease of use for novice computer users
3. Adding a data sorting/analysing application to the system
4. Increase the compatibility so that devices from multiple manufacturers can be connected to the system
5. Integrating the THS-PHR with other EMR systems



~ Thank you ~





### Appendix 2. Patients' exclusion criteria

- Individuals with visual impairment
- Inability to provide an informed consent
- Individuals under the age of 40
- Non-English speaker

### Appendix 1. Patients' Inclusion criteria

- Diagnosis of type 2 diabetes
- At least 40 years of age
- Live at home or supportive living level 1
- Access to and familiarity with computers and online applications
- English speaker

### Appendix 3. Analysis

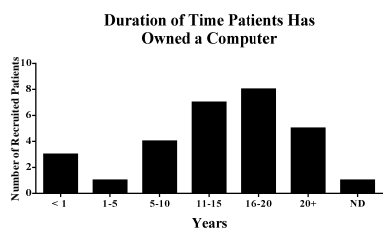
#### Quantitative

Descriptive statistics (Frequency, Percentage, Mean, SD, Median, Mode and Range of the responses to the survey)

#### Qualitative

The interviews were recorded, transcribed and analysed to identify common themes about participants' experience using THS-PHR.

## Results – Technology Usage



## Time Since Diabetes Diagnosed

