



CONSUMER HEALTH INFORMATICS

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CONSUMER HEALTH INFORMATICS

Consumer Health Informatics is the field devoted to informatics from multiple consumer or patient views. These include patient-focused informatics, health literacy and consumer education. The focus is on information structures and processes that empower consumers to manage their own health--for example health information literacy, consumer-friendly language, personal health records, and Internet-based strategies and resources. The shift in this view of informatics analyzes consumers' needs for information; studies and implements methods for making information accessible to consumers; and models and integrates consumers' preferences into health information systems. Consumer informatics stands at the crossroads of other disciplines, such as nursing informatics, public health, health promotion, health education, library science, and communication science.

<https://www.amia.org/applications-informatics/consumer-health-informatics>

BACKGROUND- DIABETES SELF MANAGEMENT

healthy eating

being active

Monitoring

taking medication

problem solving

reducing risks

healthy coping

CONSUMER INFORMATICS TOOLS AND DIABETES

Sensors/Monitors-

Behavior

Activity/ sleep

Diet

Medications

Physiology

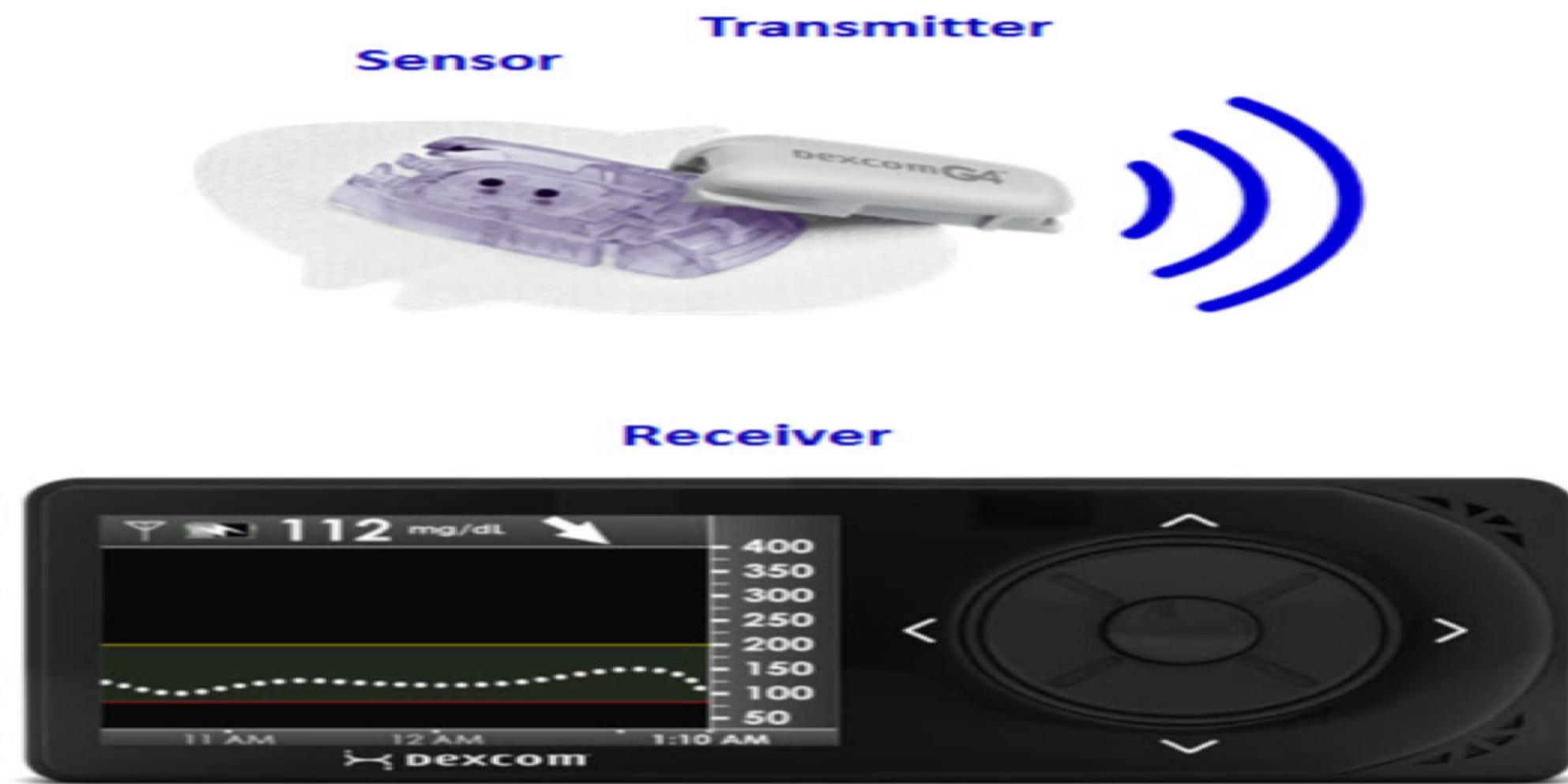
Glucose (glucometer), Heart Rate, BP, weight, etc

Personal health records

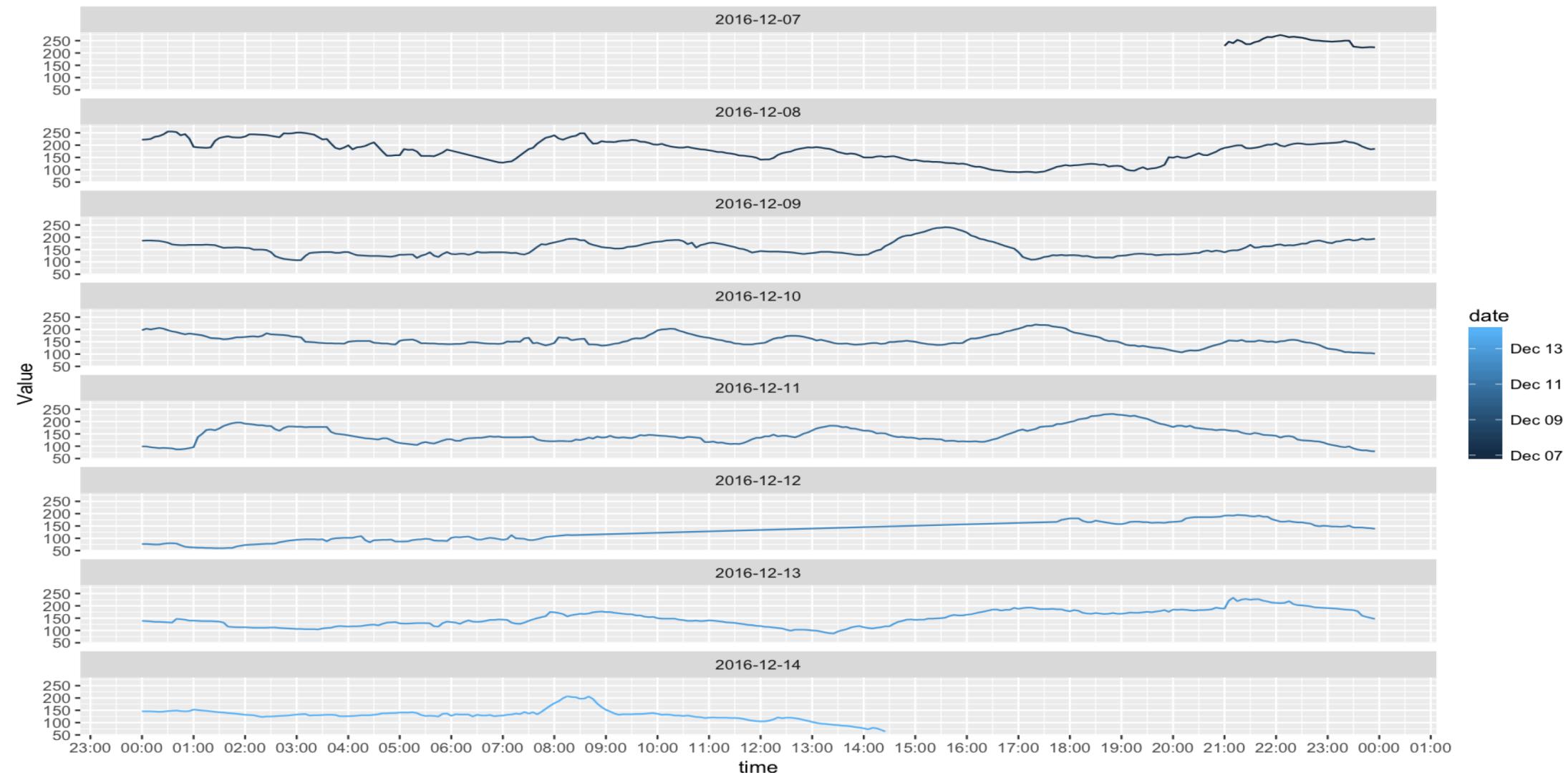
Websites/Apps

Social media

CGM DATA



CGM DATA



FITBIT



QUESTIONS

Monitoring/Storage – how do we collect? what do we store, where? do we integrate data collected by the patient monitoring into her clinicians' records? How?

Analytics – what kind of analysis is appropriate for consumer health informatics?

Interpretation – How do we take the output of the analytics for a consumer to change behavior? What do we interpret with respect to health ?

FITBIT DATA- STEPS

5	3/8/17 9:12	0
5	3/8/17 9:13	26
5	3/8/17 9:14	37
5	3/8/17 9:15	0
5	3/8/17 9:16	0
5	3/8/17 9:17	0
5	3/8/17 9:18	6
5	3/8/17 9:19	0
5	3/8/17 9:20	0
5	3/8/17 9:21	0
5	3/8/17 9:22	12
5	3/8/17 9:23	0
5	3/8/17 9:24	0
5	3/8/17 9:25	100
5	3/8/17 9:26	43
5	3/8/17 9:27	25
5	3/8/17 9:28	52
5	3/8/17 9:29	75
5	3/8/17 9:30	32
5	3/8/17 9:31	58
5	3/8/17 9:32	18
5	3/8/17 9:33	

FITBIT DATA- HR

1	12/7/16 12:36	94
1	12/7/16 12:37	79
1	12/7/16 12:38	78
1	12/7/16 12:39	78
1	12/7/16 12:40	106
1	12/7/16 12:41	130
1	12/7/16 12:42	115
1	12/7/16 12:43	92
1	12/7/16 12:44	89
1	12/7/16 12:45	90
1	12/7/16 12:46	88

FITBIT DATA- INTENSITY

1	12/7/16 0:00	0
1	12/7/16 0:01	0
1	12/7/16 0:02	0
1	12/7/16 0:03	0
1	12/7/16 0:04	0
1	12/7/16 0:05	0
1	12/7/16 0:06	0
1	12/7/16 0:07	0
1	12/7/16 0:08	0
1	12/7/16 0:09	0
1	12/7/16 0:10	0
1	12/7/16 0:11	0
1	12/7/16 0:12	0
1	12/7/16 0:13	0

ANALYSIS- EXAMPLE

What problems with my blood sugar am I having each day?

When are those problems occurring ?

WALK THROUGH NOTEBOOK

ANALYSIS

How are behaviors associated with glucose?

- i. sleep?*
- ii. diet?*
- iii. activity?*

INTERPRETATION I

<https://gluvue.stanfordchildrens.org/>

INTERPRETATION I1

http://diabetes.bmi.utah.edu/a1c_groupa_fixedQuestions.php

http://diabetes.bmi.utah.edu/a1c_drawing_task_groupb.php

FDA REGULATIONS RE: PATIENT DEVICES

<https://www.fda.gov/MedicalDevices/DigitalHealth/MobileMedicalApplications/default.htm>

<https://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/UCM263366.pdf>

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