

Does It Work?

Individualizing Medical Therapy
through Rigorous Symptom Monitoring

“Our drugs don’t work for most people.”

--Allan Roses
VP Genetics, GSK

Example: Antidepressants

- Typical response: 60% active drug, 30% placebo
- Absolute treatment effect 30%,
NNT ~ 3
 - 1 person better because of the drug
 - 1 person would have recovered anyway
 - 1 person destined to remain depressed regardless of treatment

The Modal Clinical Response

TRIAL AND ERROR

Dialog 1

- D: How is your hip pain?
- P: Better, I think.
- D: Are you taking the Naprosyn?
- P: Yes
- D: Any stomach problems?
- P: No
- D: How about if we continue the Naprosyn for now and see how you're doing in a month or two?
- P: OK

Dialog 2

- D: How is your hip pain?
- P: About the same.
- D: Are you taking the Naprosyn?
- P: Yes
- D: Well, let's try Feldene – I find it's more effective for some of my patients, and you only have to take it once a day.
- P: OK, sounds good. Any special precautions?
- D: Just like Naprosyn, take it with food.
- P: OK, good.

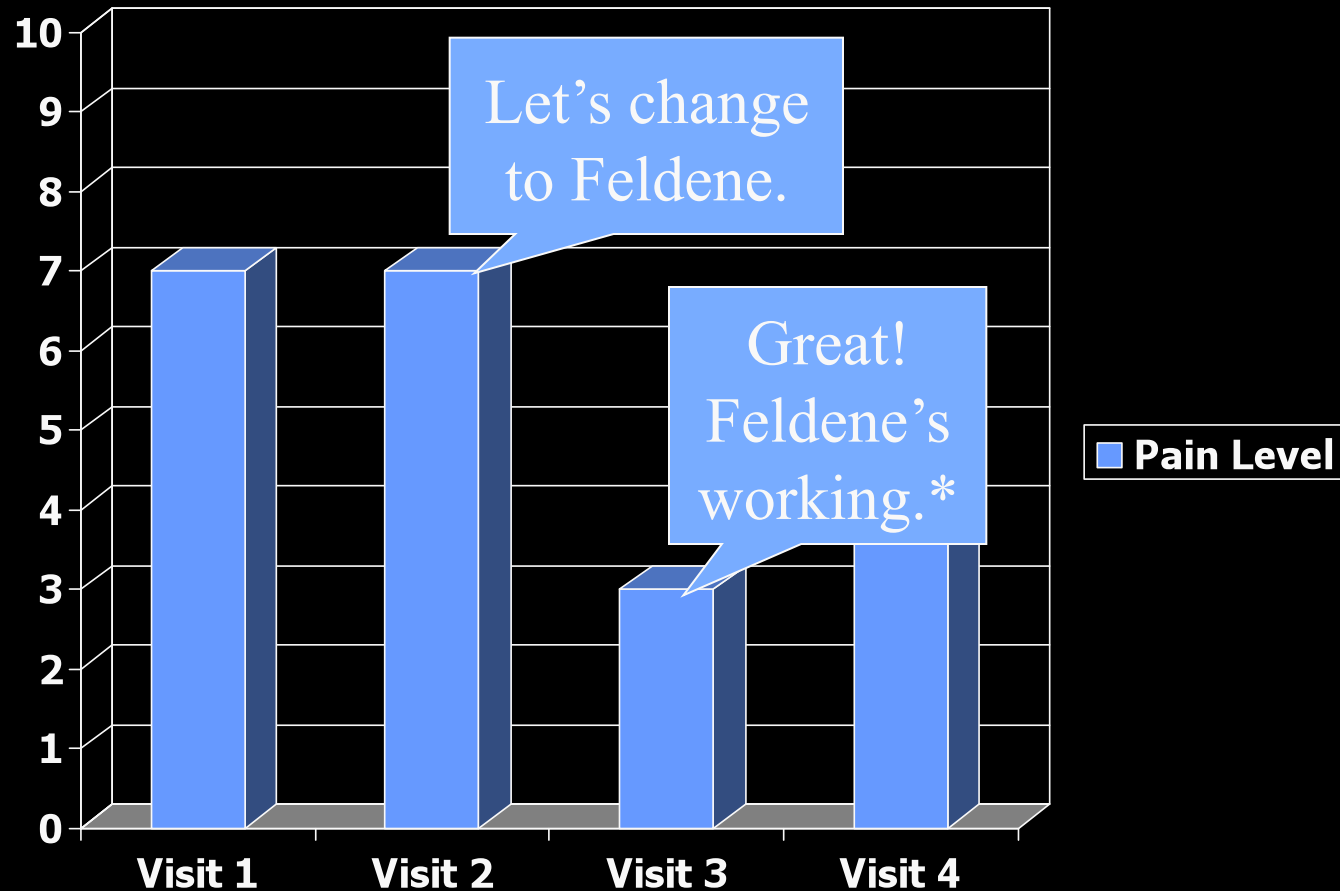
The two conversations look different

BUT

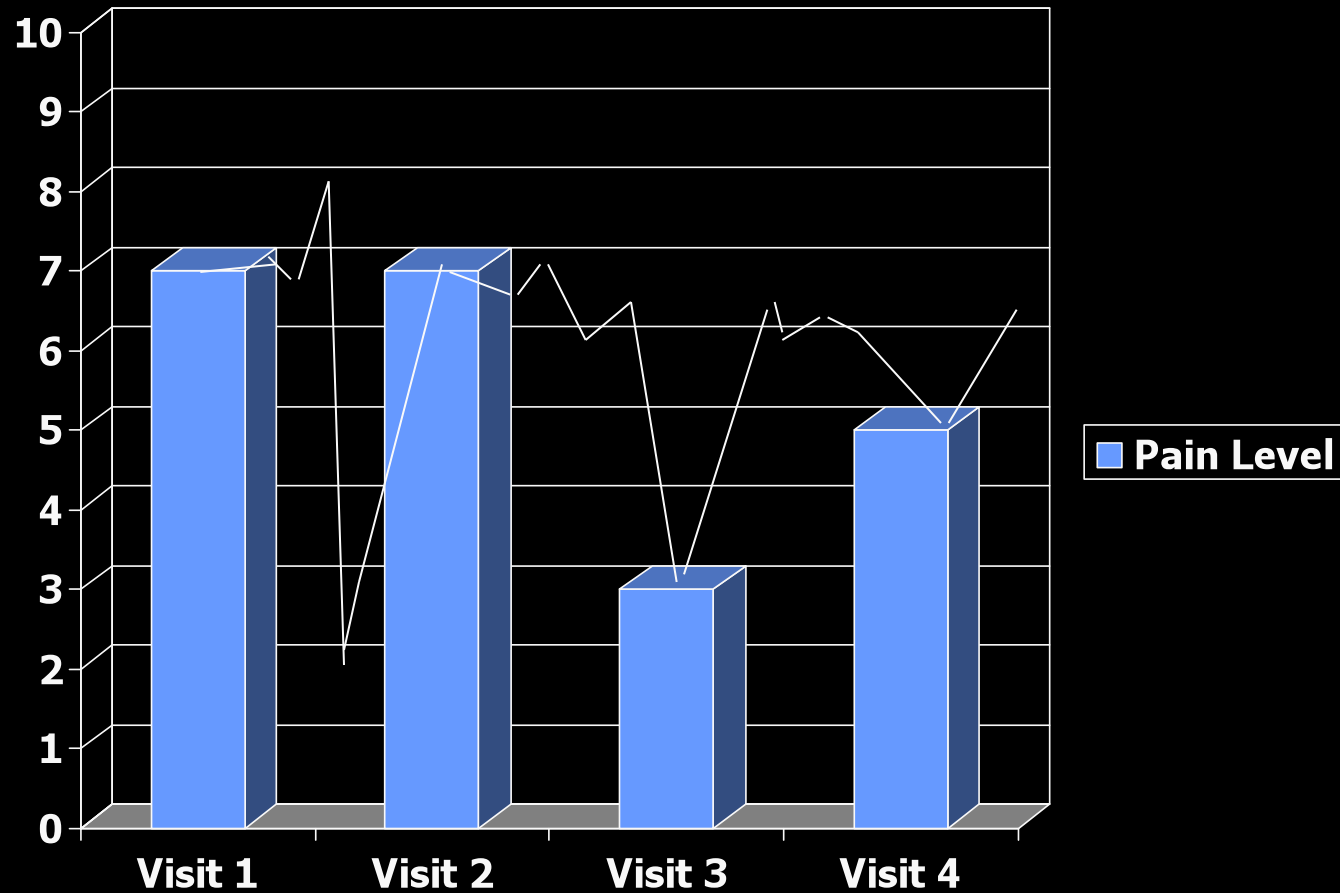
Both could have come from...

The Same Patient

Episodic Symptom Monitoring



Daily Symptom Monitoring



20th Century Symptom Diaries

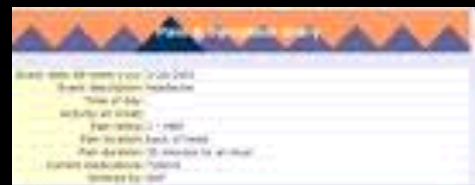


Food and symptom diary

This diary is a grid for recording food intake and symptoms over a period of 14 days. The columns represent days (1-14) and the rows represent meals (Breakfast, Lunch, Dinner, Snacks) and symptoms (Headache, Stomach pain, etc.).



A grid for recording symptoms over a period of 14 days. The columns represent days (1-14) and the rows represent symptoms (Headache, Stomach pain, etc.).



DAILY PAIN CHART

Connect the points

10

9

A form for a daily pain chart. It includes a header with a mountain range illustration and a list of symptoms to be recorded: Headache, Stomach pain, etc. Below the list is a grid for recording pain levels. The grid has two rows labeled 9 and 10, and several columns. A red line is drawn across the grid, connecting points at (1, 9), (2, 10), (3, 10), (4, 10), (5, 10), (6, 10), (7, 10), (8, 10), (9, 10), (10, 10).



DAILY PAIN CHART

Connect the points

Name *Jane Doe*

Day *Thursday*

Date *December 9, 2007*

10

9

A handwritten version of the daily pain chart. The name is 'Jane Doe', the day is 'Thursday', and the date is 'December 9, 2007'. The grid shows a red line connecting points at (1, 9), (2, 10), (3, 10), (4, 10), (5, 10), (6, 10), (7, 10), (8, 10), (9, 10), (10, 10).

21st Century Symptom Diaries



iChemoDiary by Merck & Co [App Store](#)

The iChemoDiary is a personal oncology diary to record your chemotherapy schedule, treatments, medication and symptoms such as nausea and vomiting. With both quick-entry and expandable options, no details are lost, and multiple reporting options make it easy to share the information with your doctor or nurse. With this portable chemo diary, keeping track of the symptoms you experience from your cancer chemotherapy is relatively easy.



What's Still Lacking

- Validated Measures
- Patient Centered Measures
- Patient Appeal – Make Monitoring Easy and Fun
- Doctor Appeal – Manage and Analyze Data for Easy, Fast, and Improved Clinical Decision Making

Symptom tracking will also improve clinical research.

- Large databases of symptom scores in relation to treatment will augment comparative effectiveness research.
- Bayesian methods can combine global and local evidence to enhance care of the individual patient by making more accurate predictions of treatment response.

In Summary

- Current approaches to symptom monitoring are haphazard.
- Systematic monitoring of symptoms using Smartphones will improve therapeutic decisions.
- Tools need to be simple, relevant to the lives of patients and physicians, and fun to use.