

*Why to do it  
How to do it  
What we learnt*

# Conducting Practice- Based Research Among Chiropractors

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# Why do it?

- Need more knowledge
- Lots of cheap data
- Participation and ownership
- Expertise among clinicians
- Future interest

# How to do it – key principles

- Ownership
- Military organisation
- Discipline and communication
- Fun



# Cookbook

Axén I., Leboeuf-Yde C.

Conducting practised based projects among chiropractors: a manual. *Chiropractic & Manual Therapies* 2013, 21:8

- 12 studies based on this (Norway, Sweden, Finland, Netherlands, International)
- 24 published reports (that I can recall...)

# Predictors for outcome for any type of LBP

- Iben Axén (Sweden) persistent and non-persistent LBP
- Arndt Grønstedt (Norge) persistent LBP
- Stefan Malmqvist (Finland) LBP

# Side-effects, "adverse events"

- o Senstad (Norway) all spine
- o Hennius (Sweden) all spine
- o Rubinstein (Netherlands) neck

# Non-musculoskeletal outcomes

- o Axén (Sweden)
- o WFC (International)



# Trajectories of LBP

- Iben Axén (Sweden) LBP

# Helped by

- Many, many data collecting chiropractors
- More than 10,000 patients
- In Norway, Sweden, Finland, Netherlands, and Internationally (S.Africa, USA, Canada, Australia, Hong Kong, Japan)
- All chiropractors were unpaid for their work
- Funding was needed mainly for Napoleon, meetings and postage

# What can these studies tell us?

- Who are our patients?
- What do chiropractors do to them?
- What happens after treatment?
- Can we predict treatment outcome?

# Some results



# Who are our patients?

## Sociodemographics

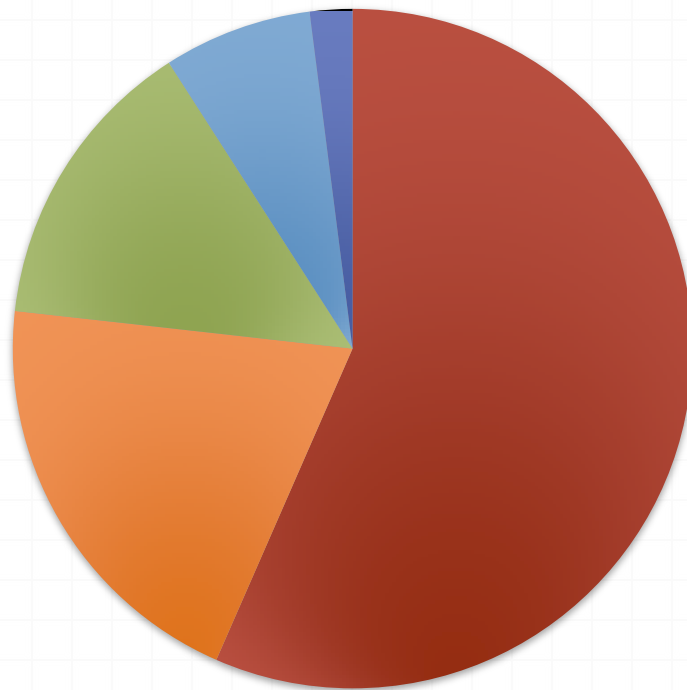
- Working age
- F=M

## Psychological profile

- Anxiety 10%
- Depression 5%

# Complaints

## Swedish study



- only 1 spine
- spine + other
- several areas
- only peripheral
- only non MSK

# Complaints

- LBP 65%
- Headache 25%
- Hip/buttock 15%
- Shoulder/arm 10%
- Mid back pain 10%
- Upper back pain 5%
- Other 1%
- ? 1%

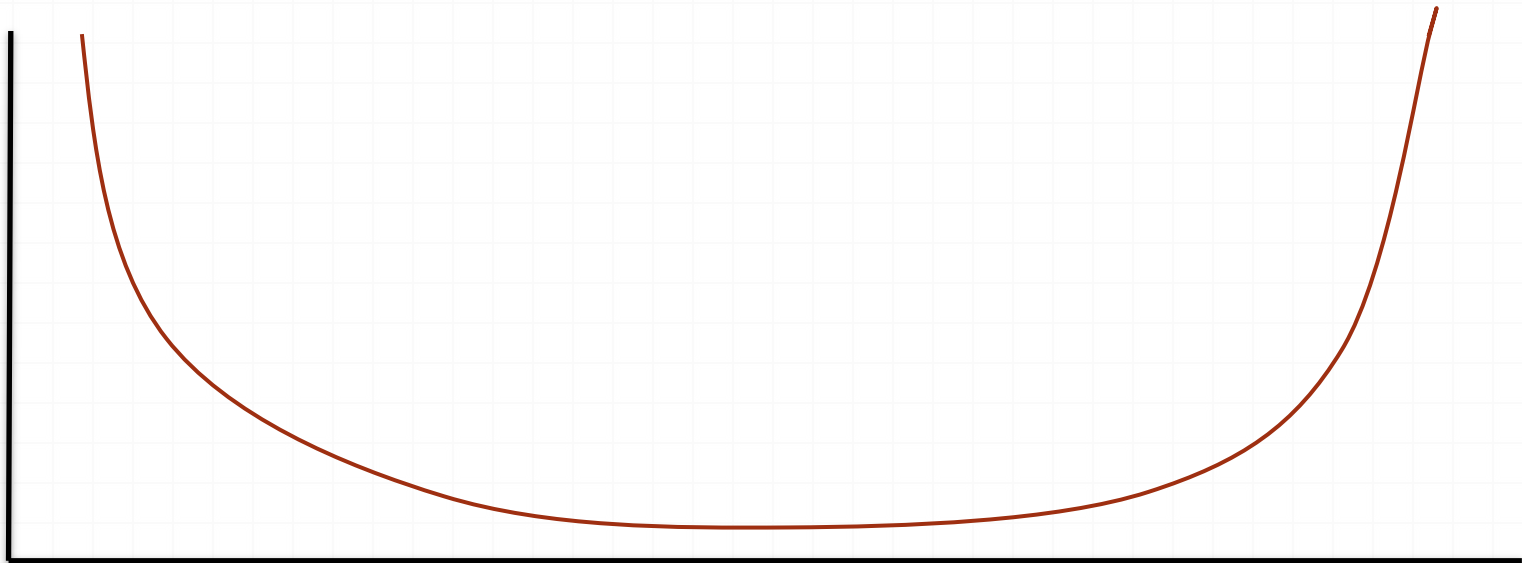
(several possible answers)

# LBP patients cannot do

	<b>Persistent LBP</b>	<b>Non-persistent LBP</b>
Get up from sitting	75%	85%
Shoes/socks	70%	80%
Turn in bed	60%	70%
Go for walks	45%	50%
Sleep	40%	35%



# At consultation



**Benign**

**Short duration past yr**

**Short duration base line**

**Intermittent pain**

**Severe**

**Long duration past yr**

**Long duration base line**

**Constant pain**

# What do chiropractors do to them?

SMT 97%

Other advice including exercise

STT

Equally common:

Only SMT

SMT+STT

# What do chiropractors do to them?

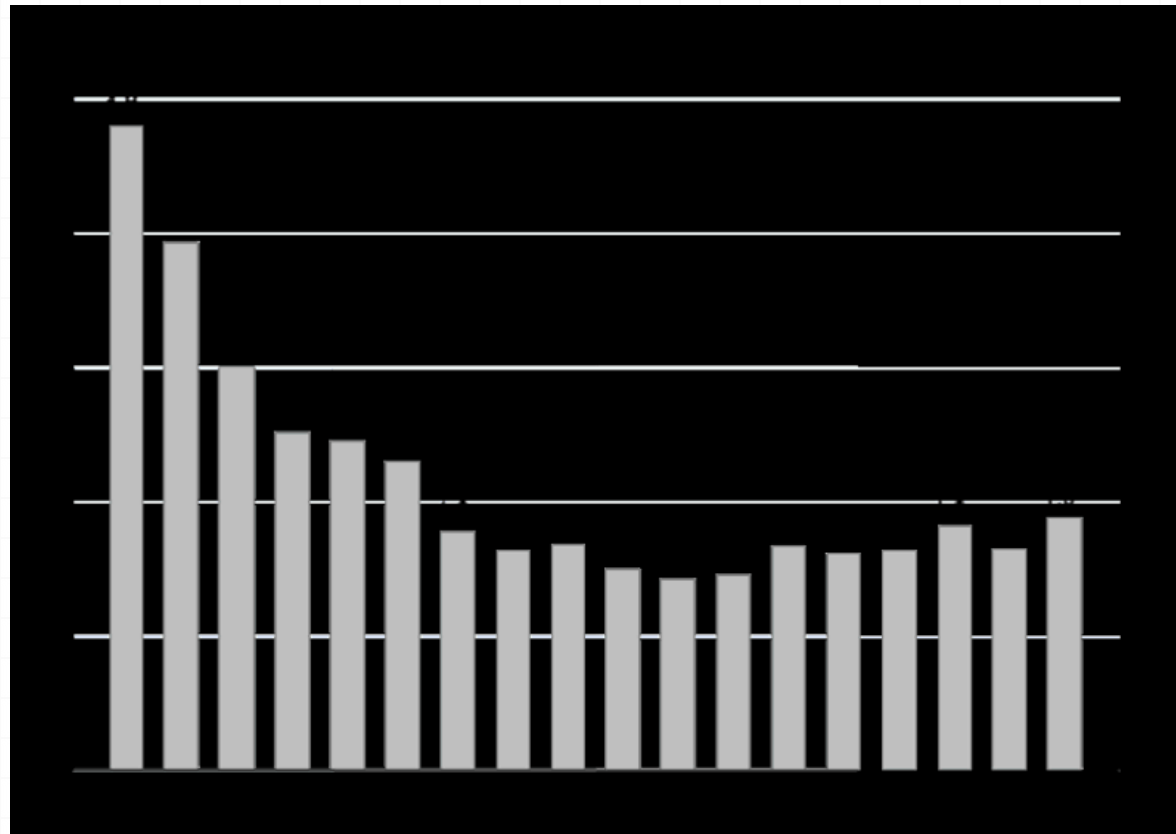
	%
Occiput - C3	40
C4-T1/1 <sup>st</sup> rib	40
T2 - L1/ribs	50
L2 - S1/Sacrum/coccyx	7
Other	5

# No. of areas treated at one visit

<b>1 area</b>	<b>60%</b>
2 areas	30%
3 areas	10%

# What happens after treatment?

No. of days with LBP per week



# Normal reactions

Common and clearly benign

- Mild or moderate local pain for <24hrs
- Mild fatigue

# Not normal reactions

i.e. less common and less benign

- Strong pain
- Radiating pain
- Long-lasting pain
- Reactions later than first few times

# Predictors of reactions

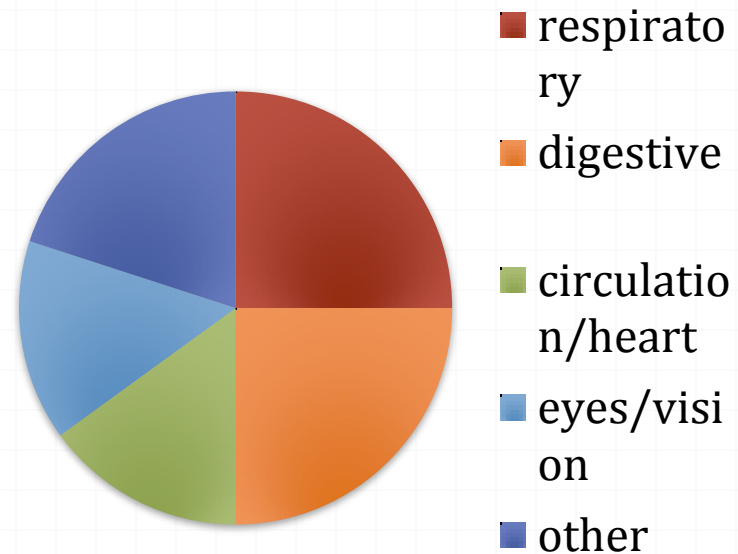
- First treatment reaction
- Longer duration problem
- Several adjustments



# Non-musculoskeletal reactions

- 25%
- The more areas treated, the more likely to get a reaction

**Of these:**



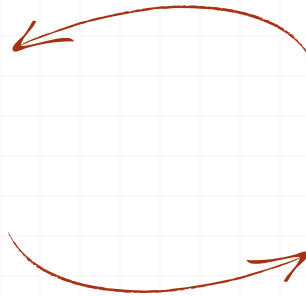
# Reactions

## Examples

- Easier to breathe
- Improved digestion
- Changed heart rhythm, decreased blood pressure, better circulation
- Clearer vision
- Less ringing in ears/better hearing

## Funny list

- Eyes more open
- Increased libido
- Better prostatic function
- Not so sensitive to sun
- Softer face
- Look younger
- Back of thigh dryer
- Stronger nails
- Stronger hair
- Hiccups gone



# Large international study

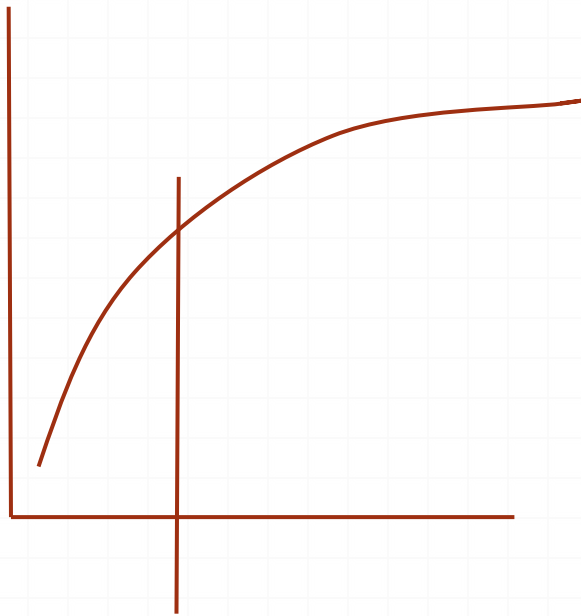
- Results confirmed
- However, fewer reactions when considering patients who had that type of a complaint to start with – i.e. those with that problem to start with did not necessarily improve.
- Normal fluctuations!

# Predictors of non-musculoskeletal reactions

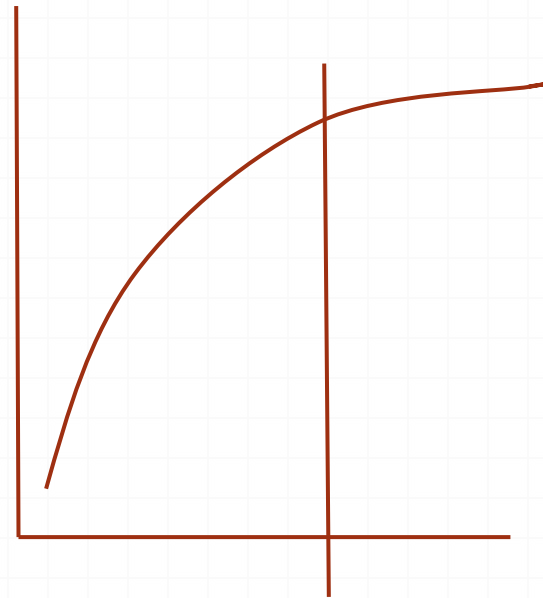
- Told it might work OR 1.5
  - Upper C treatment OR 1.4
  - Lower Th treatment OR 1.3
  - Female patient OR 1.3
- 
- ... but these factors explained only 3% of results

# LBP improvement can be seen

## Persistent LBP



4<sup>th</sup> visit when first improved



2 wks when first improved

# However, with a different definition...

- At 4<sup>th</sup> visit: only 15% “cured”
- After 3 mths: 30% “cured”
- After 1 yr: 30% “cured”, but not the same ones.
  
- After 1 yr 80% had had a new episode, although their DCs thought they were cured!

# Using SMS-track trajectory

Text messages

Frequent data collection

Continuous data over shorter or longer periods

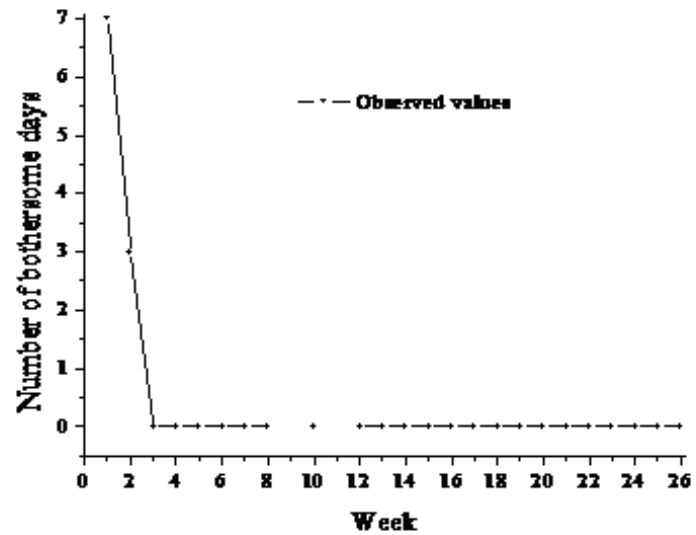
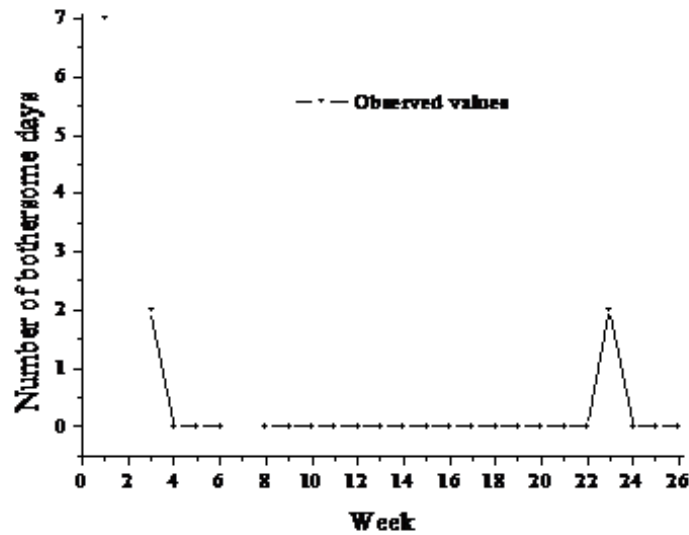
You can see what happens over time!

Here follow some examples of LBP trajectories over 6 months for individual patients

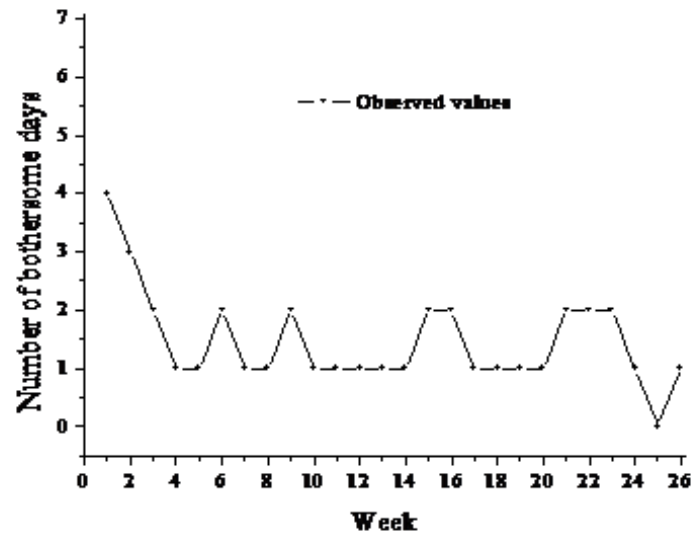
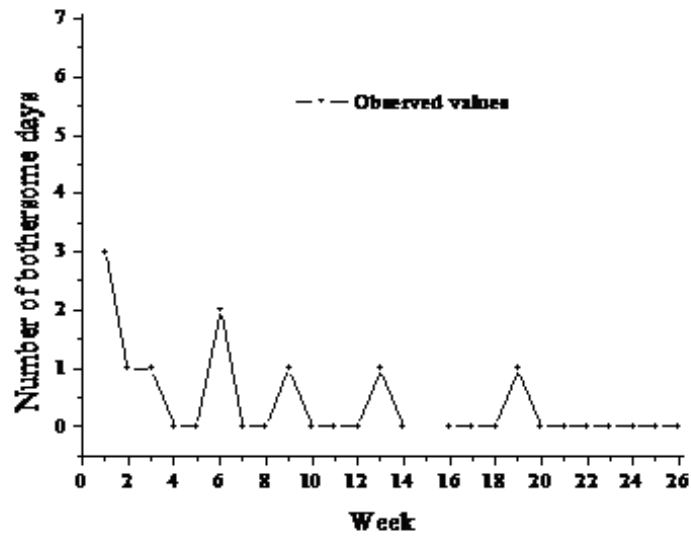


# Quick recovery

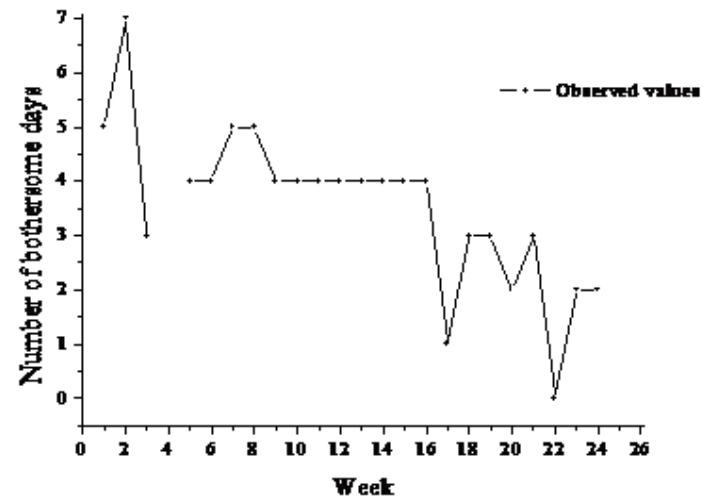
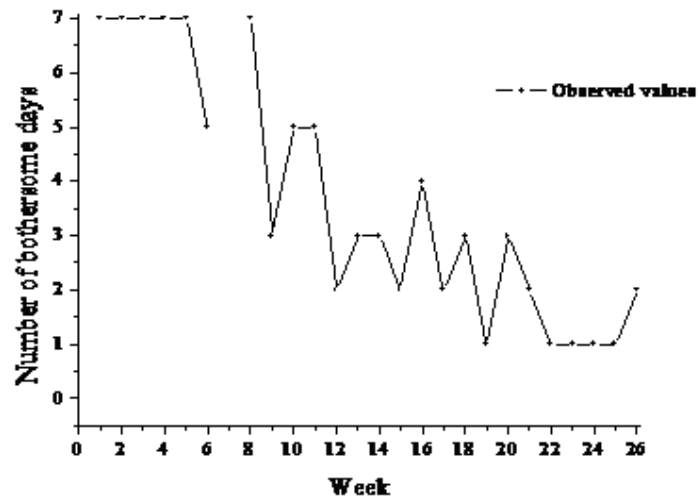
## The ideal patient



# Up and down



# A bit slow



Can we predict treatment  
outcome?

**Not really, actually**

# Clinical course- regression towards the mean

- Those who are **bad get better**
- Those who are **good get worse**
  
- So if you treat patients in a lot of pain – good results
- Patients with only little pain – not so easy
- Patients without pain – might get worse

# Look for early improvement as prediction for outcome later

- Reactions immediately upon treatment
  - Results at 2<sup>nd</sup> visit
  - 4<sup>th</sup> visit
  - 3 months
- 
- Also “normal” reaction is a predictor of good outcome

# Other potential predictors

- 65 of them

Demographic

History

Examination findings

Attitudes

# But only these could predict outcome

	4 <sup>th</sup> visit	3m	1yr
Social welfare	x	x	
Women	x	x	
Long lasting pain	x	x	x
Long lasting disability	x	x	x
Also neck pain	x	x	



# Psychology?

- Depression/anxiety
- No/no

# Conclusions

- Increased our knowledge on many practice-relevant topics
- Steering group members have published
- Help in academic career
- Our profession taken seriously
- Steering group members understand research process
- Steering group members have developed sense of “belonging”
- Data collecting chiropractors are happy to have helped

# Reference list on request

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Thank you!

