


 Arthritis Research Campaign
 National Primary Care Centre
 



Measuring risk factors & outcomes – think “when” as well as “what”

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Report on Forum IX



“There were fewer traditional epidemiological studies of risk factors for back pain and back pain chronicity than in past Fora, perhaps reflecting that this ground already has been well covered” (*Spine 2009;34(3):304-307*)

Is this true?

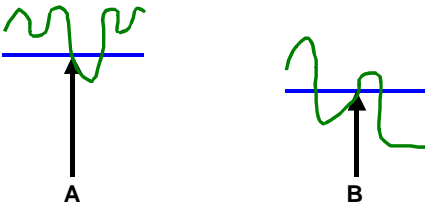

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Points on ‘timing’ for reflection

1. When we measure what we are already studying
2. Whether we can measure new things at other times


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What do we currently do?



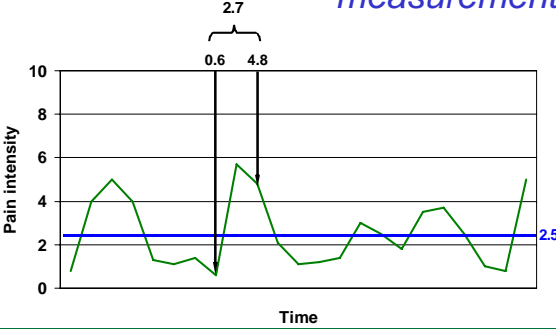

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Lessons from hypertension

- Multiple blood pressure measurements recommended due to recognised variation over time
- Back pain also varies over time
- Not recognising this variation could lead to inaccuracies & inconsistencies


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Solution 1: average two point measurements

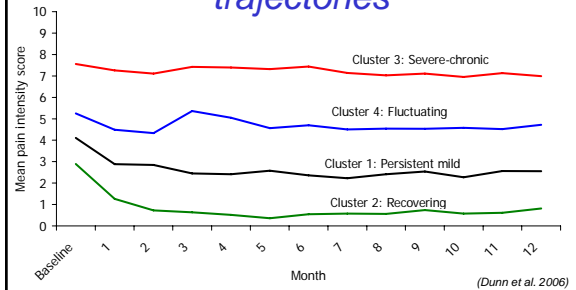



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Possible evidence?

- Combining point measurements of risk or prognostic factors better predicts LBP outcome (Dunn & Croft 2006)
- Information collected 1-2 weeks after a pain consultation may give better prognosis than information from the consultation (Mallen 2009)

Solution 2: classify by trajectories



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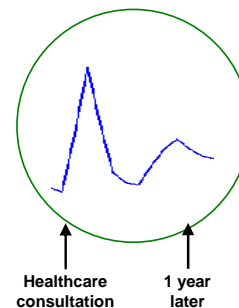
Lessons from cardiovascular disease

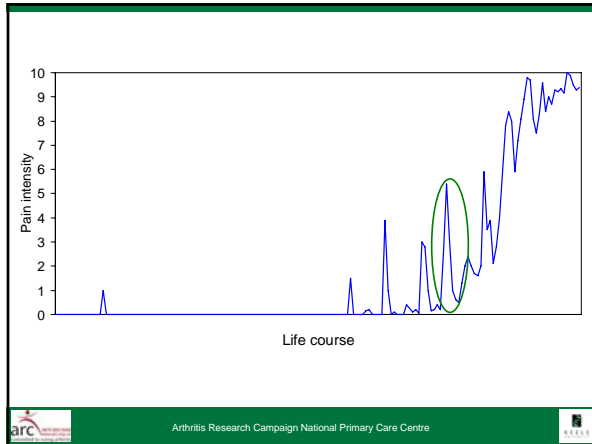
- Methods developed in 1990's
- Foetal origins hypothesis :
 - Undernutrition before birth related to development of structures & functions, & coronary heart disease in adults (Barker et al. 1993)

Life course epidemiology

“the study of long term effects on later health or disease risk of physical or social exposures during gestation, childhood, adolescence, young adulthood & later adult life”

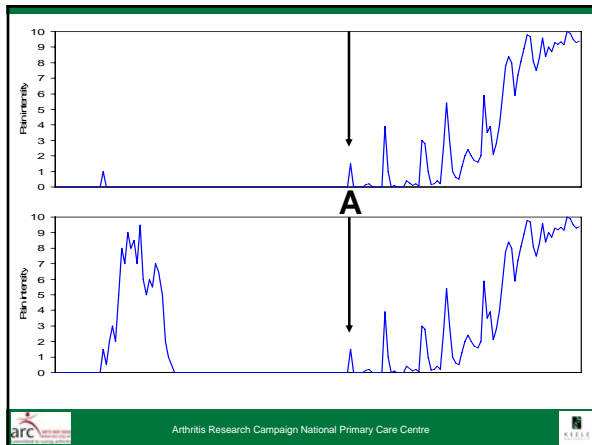
(Kuh & Ben-Shlomo 1997)



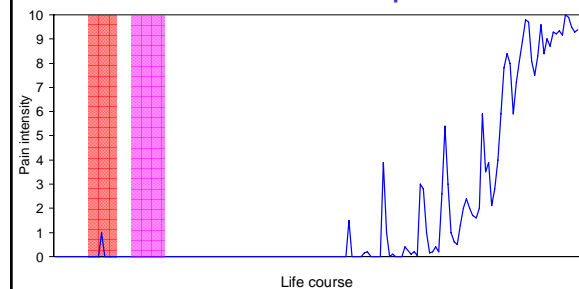


Natural history of LBP

- Collecting better information on LBP history across a person's lifetime would improve our understanding of its natural history
- Supported by studies showing that previous history & duration of pain are important

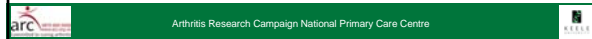


Critical / sensitive periods



Evidence for life course effects

- Muscle strength
 - Linked with birth weight *(Kuh et al. 2006)*
 - But role in development / persistence of LBP is inconclusive *(Smeets et al. 2006)*
- Parental pain experience
 - Mothers of adolescents with fibromyalgia have more pain than mothers of comparison peers *(Kashikar-Zuck et al. 2008)*
 - But risk of child pain *not* strongly associated with parental pain *(Jones et al. 2004)*



Conclusions

- Improve our measurement timing & methods
- Move beyond adult & episode-related factors to find new predictive and prognostic factors
- Better describe LBP natural history over life course
- Learn from developments in epidemiology of other conditions e.g. hypertension, respiratory & cardiovascular disease



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Perhaps it has not!

