

# Measuring elderly patients' ( $\geq 65$ years) experiences: Validation of the Discharge Care Experiences Survey (DICARES)

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Why?



*(Foto: Erik M. Sundt)*



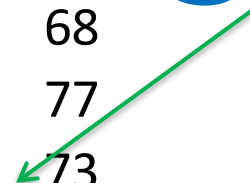
*(Foto: Per Corneliusen)*

# Patient experiences, Norwegian hospitals (2015)

Scale 0-100 where 100 points is the best score

| Indicator     | Responses | Mean |
|---------------|-----------|------|
| Nursing staff | 12083     | 77   |
| Doctors       | 12091     | 76   |
| Information   | 12048     | 73   |
| Organizing    | 12578     | 68   |
| Relatives     | 8727      | 77   |
| Standard      | 12641     | 73   |
| Discharge     | 10299     | 58   |
| Intercation   | 7536      | 64   |
| Latency       | 5289      | 65   |

58



# Quality in health care



*(National Health Services ,2008)*

*Doyle, C., et al. 2013: A systematic review of the evidence on the links between Patient experience and clinical safety and effectiveness.*

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RESEARCH



SYSTEMATIC  
REVIEWS

Open Access



CrossMark

# Instruments to measure patient experience of healthcare quality in hospitals: a systematic review

Michelle Beattie<sup>1\*</sup>, Douglas J. Murphy<sup>2</sup>, Iain Atherton<sup>3</sup> and William Lauder<sup>4</sup>

# Aims of the study

To validate the newly developed Discharge Care Experiences Survey (DICARES), by applying confirmatory factor analysis, for the purpose of measuring and improving quality in discharge of elderly patients.

# Development and validation of the DICARES

## Development

- Systematic literature review: 16 items derived from three published surveys
- Expert panel and user opinions

## Primary validation

- Face validity, reproducibility and confounders
- Factor analysis
- Consistency and psychometric properties

## Extended validation

- Confirmatory factor analysis
- Psychometric properties
- Comparing with other quality instruments

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|  | Not at all               | To a small extent        | To some extent           | To a great extent        | To a very great extent   | Not relevant             |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>Experience of the period discharged from hospital:</b>  |                          |                          |                          |                          |                          |                          |
| 1. In the period following my discharge from hospital, I had an opportunity to influence when I was to be discharged from hospital | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. I have experienced problems in understanding the instructions I received when I was discharged from hospital                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Upon discharge from the hospital, I did not understand the purpose of taking the different medicines I had been prescribed      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| 5. It was important for me to be able to influence when I was to be discharged from hospital                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. I felt I was discharged too early   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Experience of the period following the hospital stay:</b>   |                          |                          |                          |                          |                          |                          |
| 7. I have experienced problems in understanding the instructions I received when I was discharged from hospital                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. I have experienced problems following the instructions I received when I was discharged from hospital                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. I have experienced problems receiving help from my GP   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. I have experienced problems taking my medicines  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. I have experienced problems getting hold of medicines  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. I have experienced problems in receiving sufficient  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

DICARES

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## **Comparators**

- \* Nordic Patient Experiences Questionnaire (NORPEQ)
- \* Readmission rate



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## **Confounder**

Charlson Comorbidity Index

# Statistical analyses

Confirmatory factor analysis

Reliability analysis

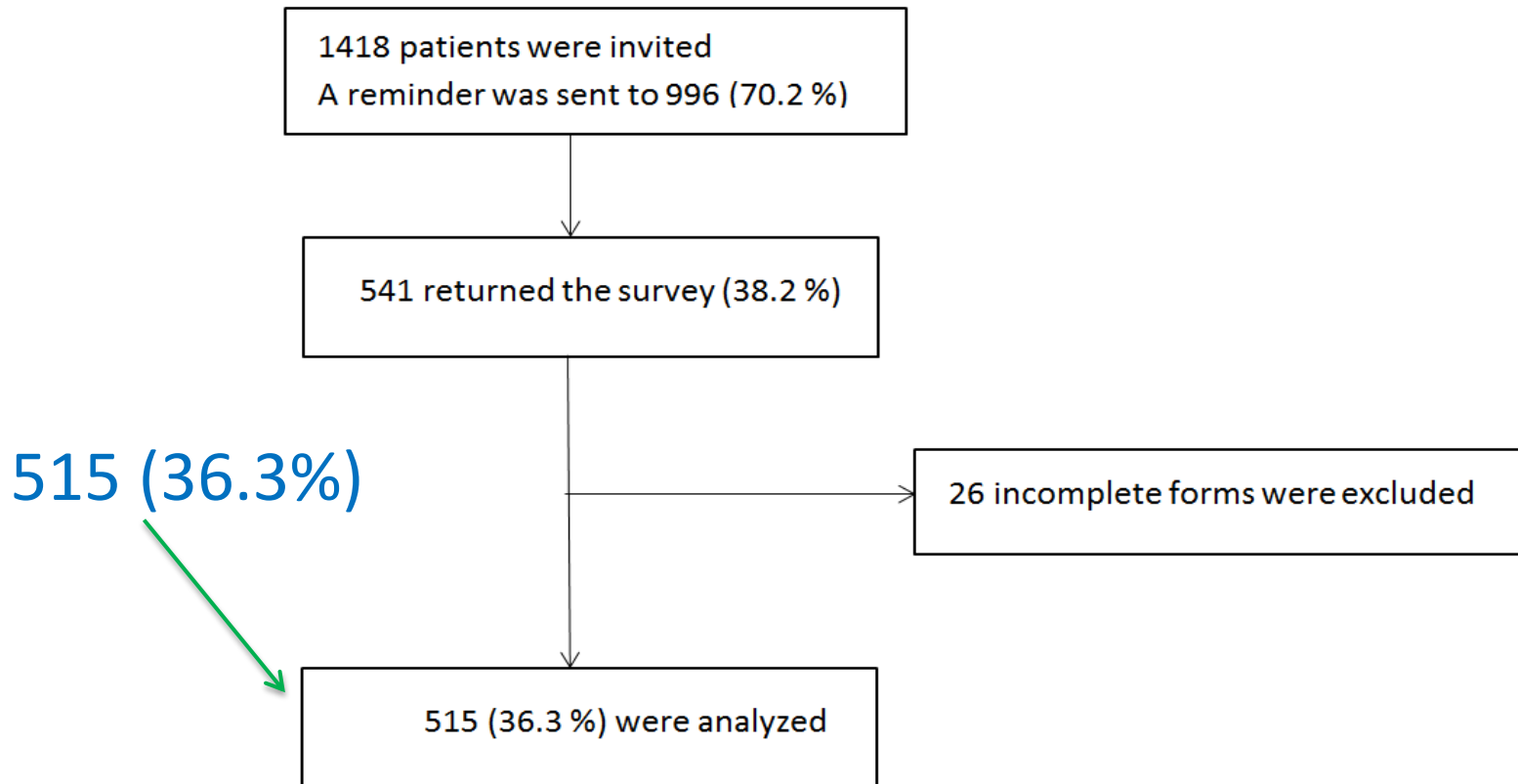
Spearman's correlations

T-tests

Logistic regression

# Results

# Flowchart of inclusion of patients



# Characteristics of the patients (n=515)

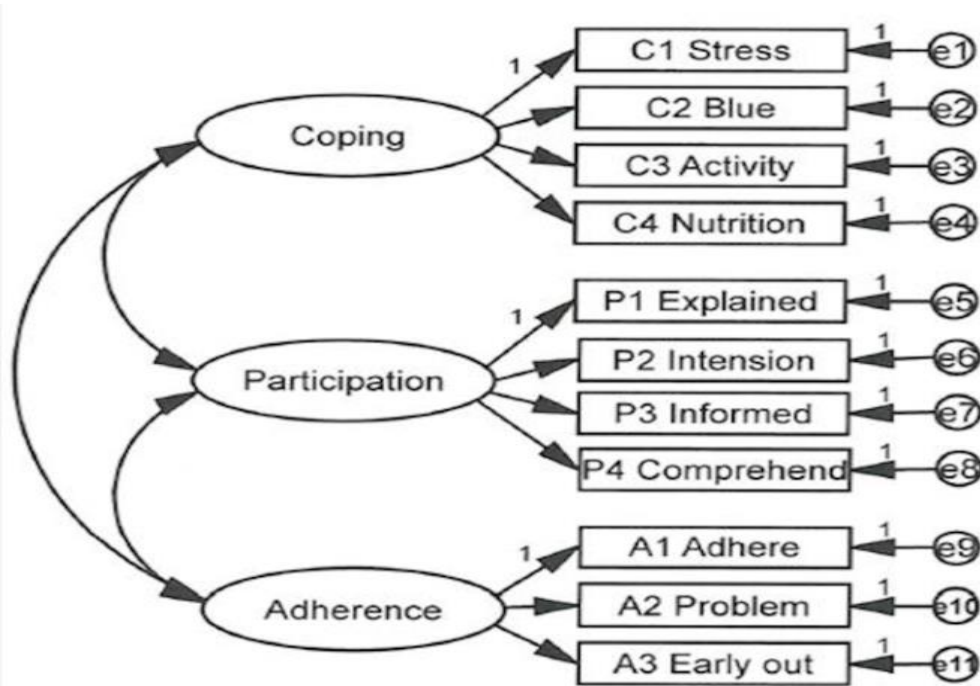
Mean age: 79 years

Women: 53 %

Average hospital stay: 3.6 days

Charlson Comorbidity Index: 0.9

# Confirmatory factor analysis



Fit indices:

*CMIN/df 2.738, CFI 0.96, RMSEA 0.058 (90% CI, 0.045 to 0.071)*

# Psychometric properties of the DICARES

## Internal validation

Cronbach's  $\alpha$ : 0.82: *Factor Coping after discharge*

0.70: *Factor Adherence to treatment*

0.64: *Factor Participation in discharge planning*

A moderate relationship between the DICARES factors ( $p = 0.01$ )

The DICARES total score correlated moderately with the NORPEQ ( $p=0.01$ )

# Comparison of the DICARES and the NORPEQ -to 30 days readmission

|  | <u>Not readmitted</u> | <u>Readmitted</u> | p-value |
|--|-----------------------|-------------------|---------|
|  | n                     | n                 |         |
| <b>The DICARES</b>                         | 384                   | 126               | <0.001  |
| Factor Coping after discharge              | 378                   | 125               | <0.001  |
| Factor Adherence to treatment              | 376                   | 121               | <0.001  |
| Factor Participation in discharge planning | 382                   | 125               | 0.310   |
| <b>The NORPEQ</b>                          | 385                   | 125               | 0.190   |



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| <b>The NORPEQ</b>                          | 385                   | 125               | 0.190   |

## Multiple logistic regression of the three DICARES - factors and patient characteristics associated with readmission (n=457)

---

| Variables                     | n   | OR   | p-value |
|-------------------------------|-----|------|---------|
| Factor Coping after discharge | 503 | 0.61 | <0.001  |
| Factor Adherence to treatment | 497 | 0.75 | 0.033   |
| Charlson Comorbidity Index    | 515 | 1.21 | 0.017   |
| Age                           | 515 | 0.97 | 0.053   |
| Educational level             | 478 | 1.32 | 0.062   |

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DICARES

# Conclusions

- \* The DICARES appears to be a valid questionnaire to measure discharge quality
- \* The confirmatory factor analysis verified the three-factor model supporting the feasibility of the DICARES
- \* The DICARES seems to be inversely correlated to risk of readmission

## Clinical implications

The DICARES may be a useful tool to monitor quality in the discharge of elderly patients on routinely basis, in addition to existing measurements like NORPEQ and readmission

# Supervisors and co-authors

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Thank you for your attention!