

# Läkemedelsrelaterade inläggningar

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221019

1



0,16 – 41 %



2

**Syfte:**  
 "...to derive findings from different studies done on drug related hospital admissions and comprehensively expresses the incidence and preventability of drug related hospital admissions;..."

**Resultat:**  
 "The prevalence of drug related hospital admission varies from 1.3% to 41.3%..."  
 (16 studier, 2012-2017)

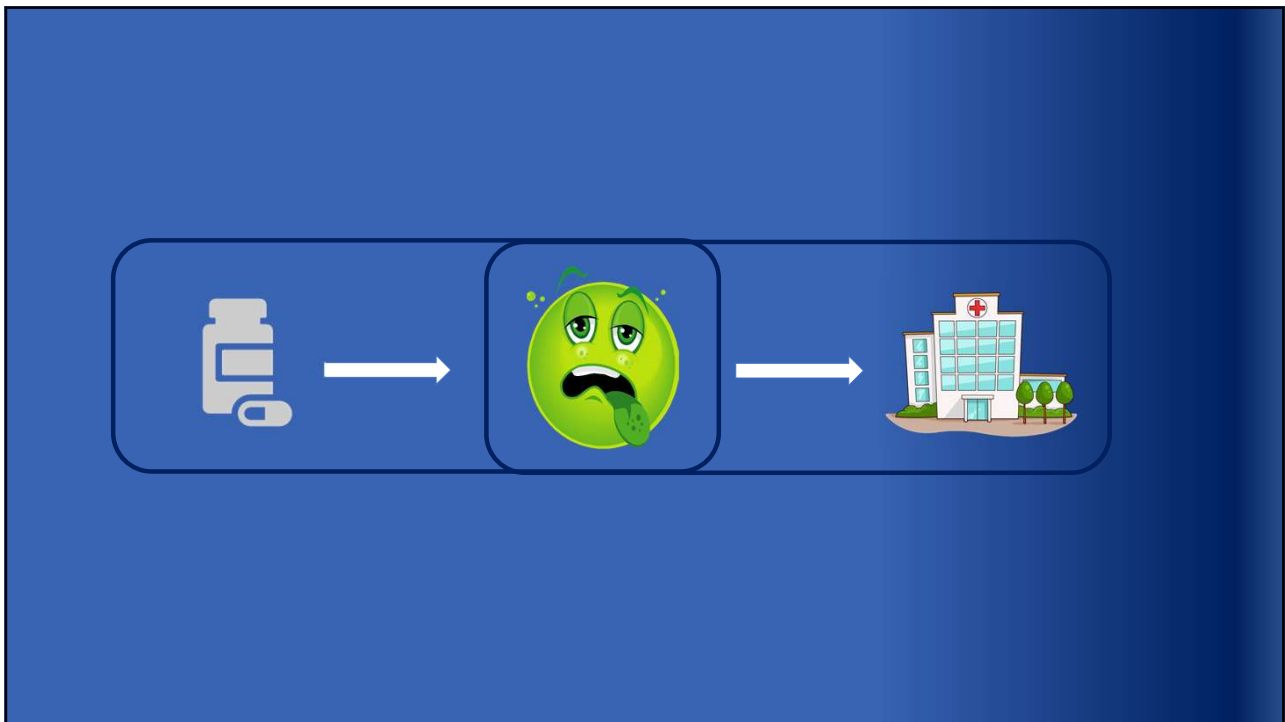
Ayalew et al. Bull Emerg Trauma 2019

3

Ahern 2014 8,8%	Al-Arifi 2014 18,7%	Alghamdy 2015 4,5%	Bénard-Larivière 2015 3,6%
Chan 2014 12,4%	Gustafsson 2016 41,3%	Jatau 2015 30,6%	Karuppanan 2013 39%
Marcum 2012 10%	Nickel 2013 12,2%	Pedros 2016 3,3%	Pedros 2014 4,2%
Repp 2012 40%	Ruiter 2012 1,3%	Schmiedl 2014 3,2%	Sköldunger 2015 13%

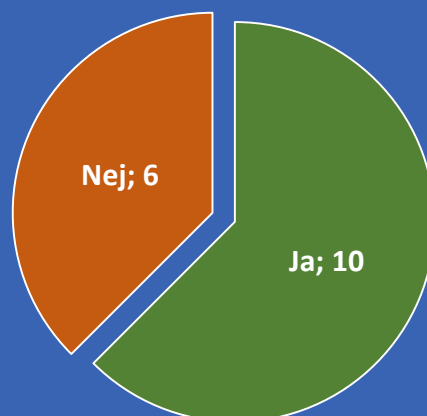
% = andel läkemedelsrelaterade inläggningar

4



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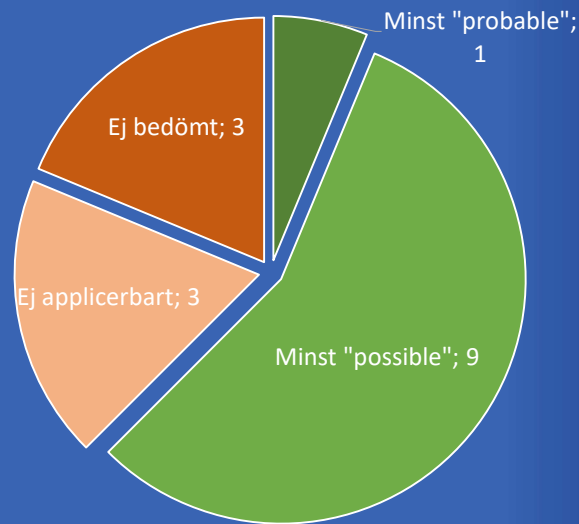
## Bedömning av orsakssamband



"Improbable" "Possible" "Probable" "Definite/certain"

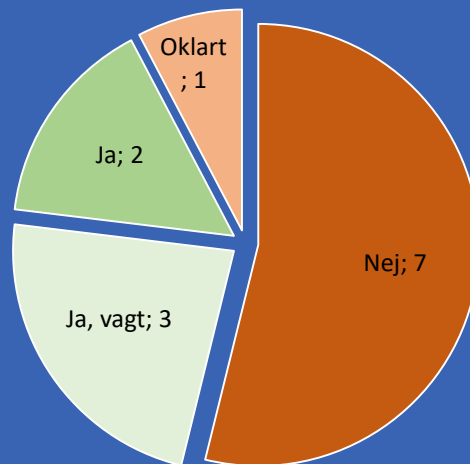
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## Grad av orsakssamband som krävs



7

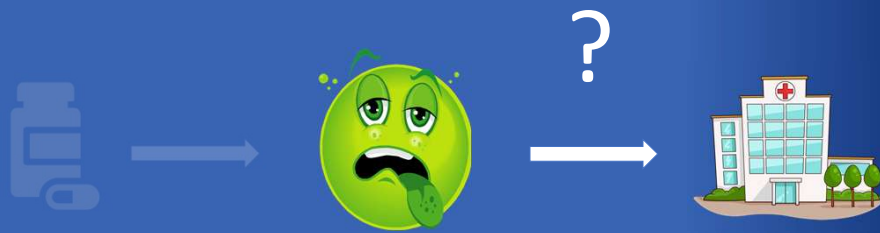
## Separat bedömning av koppling till inläggning?



8

Bidragande orsak?

Huvudorsak?



9

## Hur uttrycker man sig i studierna?

- ADR-related
- caused by a drug
- as a result of a DRP
- because of an ADR
- associated with DRPs
- caused or contributed
- related to ADEs
- suspected to be the main reason
- drug-related
- attributed to drugs
- hospitalized with ADR

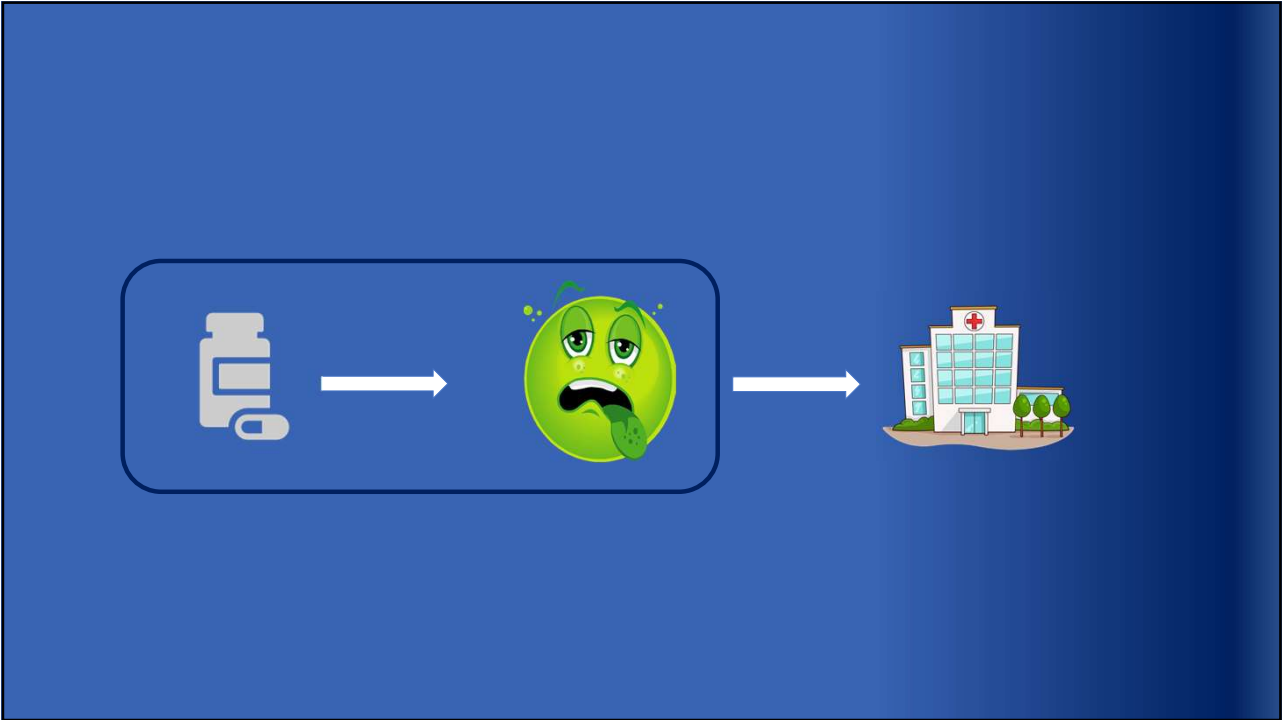
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11

Ahern 2014	Al-Arifi 2014	Alghamdy 2015	Bénard-Larivière 2015
Chan 2014	Gustafsson 2016	Jatau 2015	Karuppannan 2013
Marcum 2012	Nickel 2013	Pedros 2016	Pedros 2014
Repp 2012	Ruiter 2012	Schmiedl 2014	Sköldunger 2015

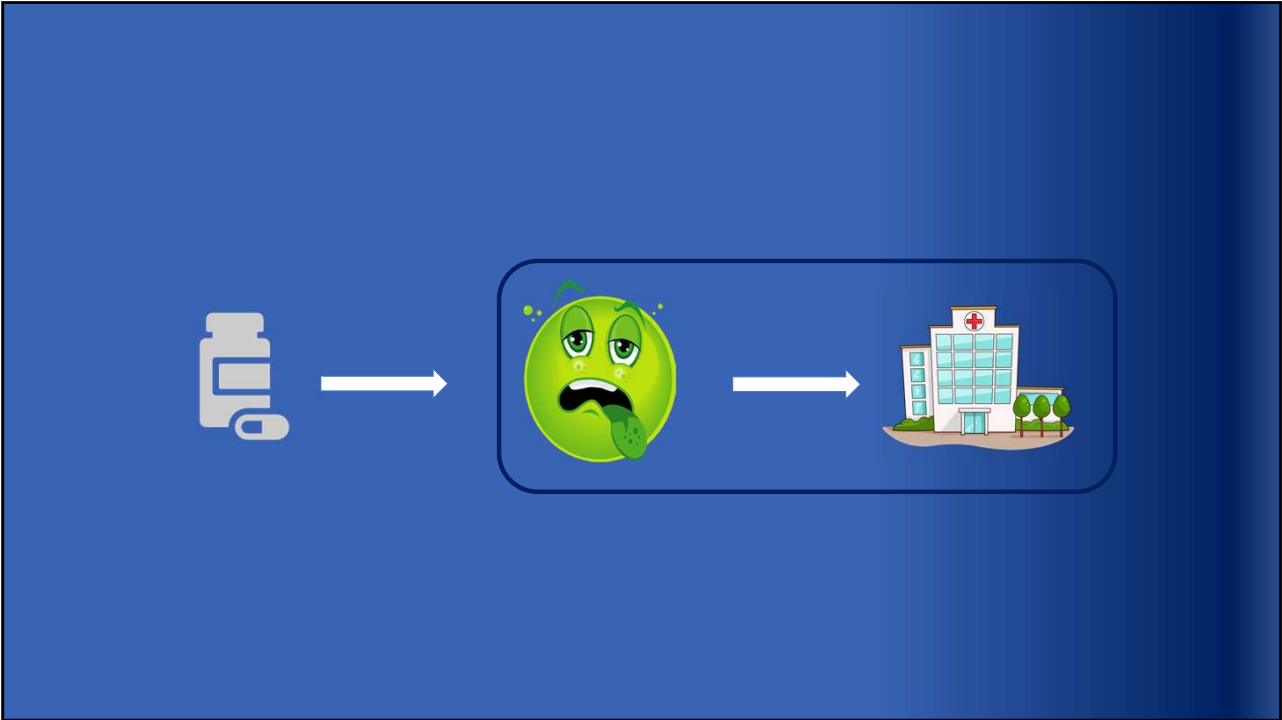
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13

Ahern 2014	Al-Arifi 2014	Alghamdy 2015	Bénard-Larivière 2015
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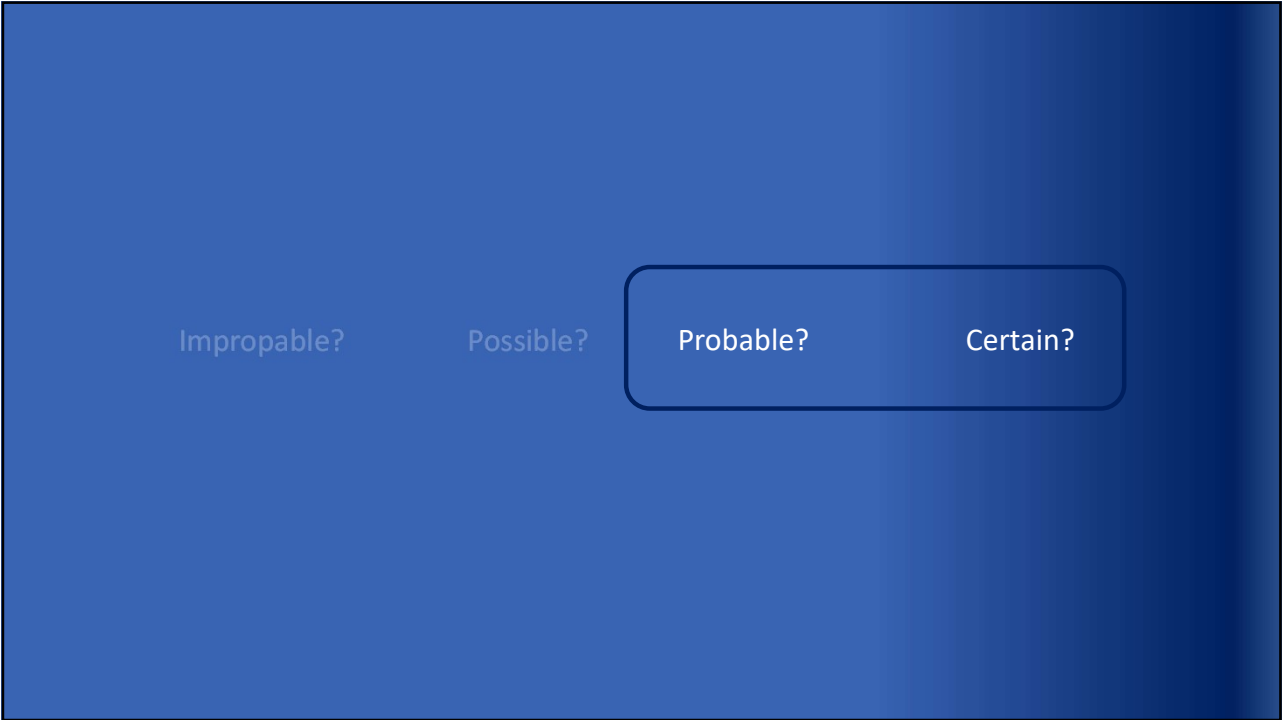
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15

Ahern 2014	Al-Arifi 2014	Alghamdy 2015	<b>Bénard-Larivière 2015</b>
Chan 2014	<b>Gustafsson 2016</b>	Jatau 2015	Karuppannan 2013
Marcum 2012	Nickel 2013	<b>Pedros 2016</b>	<b>Pedros 2014</b>
<b>Repp 2012</b>	Ruiter 2012	Schmiedl 2014	Sköldunger 2015

16



17

Ahern 2014	Al-Arifi 2014	Alghamdy 2015	<b>Bénard-Larivière 2015</b>
Ch...			h 2013
Mar			014
Repp 2012	Ruiter 2012	Schmiedl 2014	Sköldunger 2015

13,1% (3,6 – 22,5%)

18

## Var 30:e eller var 5:e inläggning pga. läkemedel??

### Bénard-Larivière (3,6%)

Randomiserat urval av sjukhus och avdelningar (ej kir/ort)  
 Alla inläggningar under 14 dagar (n=2692)

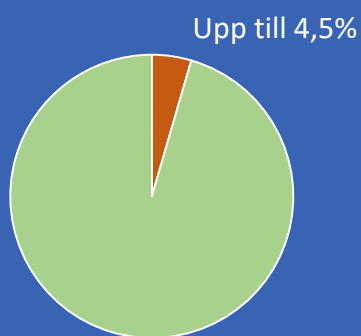
#### **Med medicinsk bedömning**

### Gustafsson (22,5%)

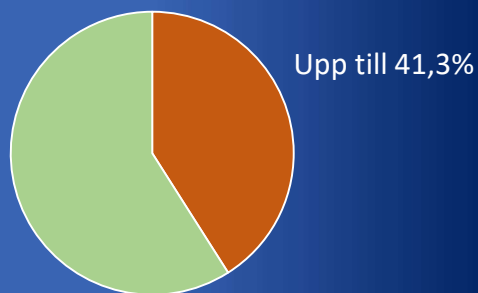
Medicin och ortopedi, 2 sjukhus  
 65 år eller äldre, demens el kognitiv nedsättning (n=458)

#### **Utan medicinsk bedömning**

19



Medicinsk bedömning  
5 studier

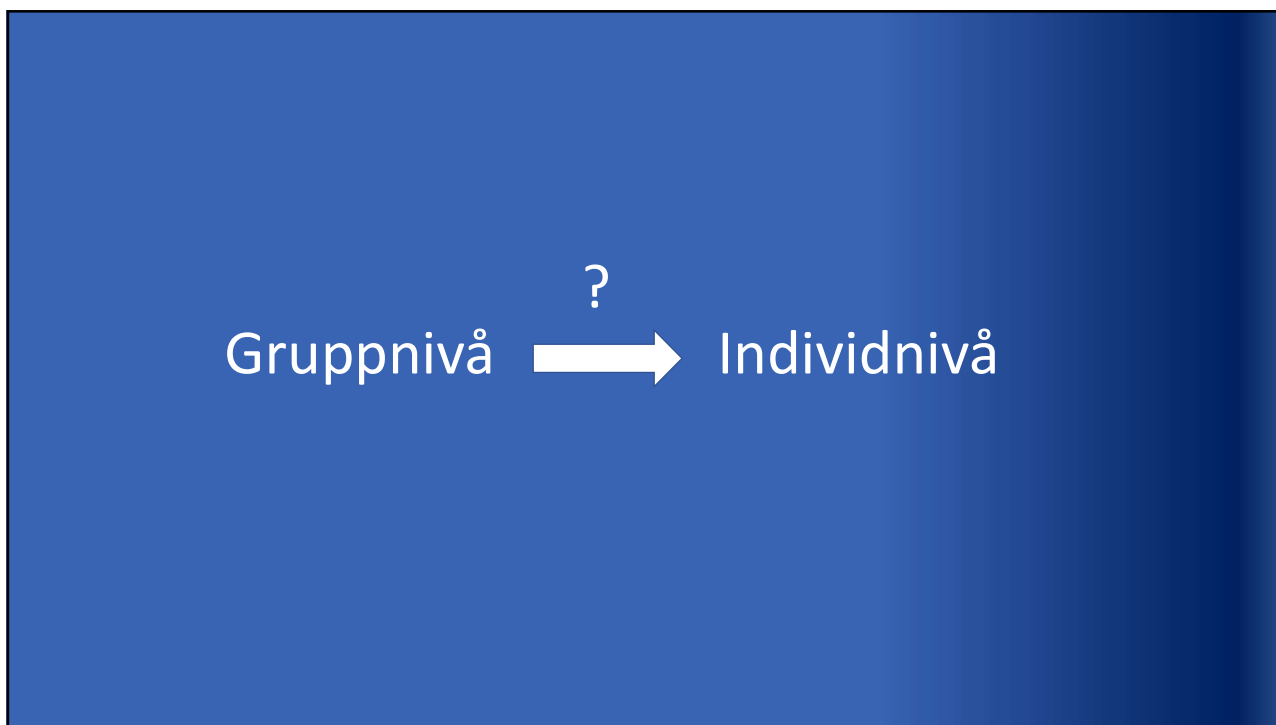


Utan medicinsk bedömning  
7 studier

20



21



22

**BJCP** British Journal of Clinical Pharmacology

ORIGINAL ARTICLE | [Open Access](#) |

**Revisiting the inter-rater reliability of drug treatment assessments according to the STOPP/START criteria**

Naldy Parodi López, Björn Belfrage, Anders Koldestam, Johan Lönnbro, Staffan A. Svensson, Susanna M. Wallerstedt

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**Clinical relevance of potentially inappropriate medications and potential prescribing omissions according to explicit criteria—a validation study**

Naldy Parodi López, Staffan A. Svensson & Susanna M. Wallerstedt

*European Journal of Clinical Pharmacology* 78, 1331–1339 (2022) | [Cite this article](#)

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780 | Performance of three sets of criteria for potentially inappropriate prescribing as diagnostic tools to identify inadequate drug treatment

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Susanna M. Wallerstedt<sup>1</sup>; Johan Lönnbro<sup>2</sup>; Staffan A. Svensson<sup>3</sup>; Fredrik Hieronymus<sup>4</sup>; Johan Fastbom<sup>5</sup>; Mikael Hoffmann<sup>6</sup>; Naldy Parodi Lopez<sup>7</sup>

STOPP/START  
502 patienter  
1737 utfall  
2x2 läkemedel

Fallförordning

1/3 identifieras  
i de Ca-läkarna

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STOPP/START  
259 patienter  
1010 utfall

Giltigt

1/7  
Klinisk  
relevanta

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STOPP/START  
EU(7)-PIM  
SoS Indikatorer  
302 patienter

≈ Antal läkemedel

23

**Optimizing Therapy to Prevent Avoidable Hospital Admissions in Multimorbid Older Adults (OPERAM): cluster randomised controlled trial**

Manuel R Blum,<sup>1,2</sup> Bastiaan T G M Sallevelt,<sup>3</sup> Anne Spinewine,<sup>4,5</sup> Denis O'Mahony,<sup>6</sup> Elisavet Moutzouri,<sup>1,2</sup> Martin Feller,<sup>1,2</sup> Christine Baumgartner,<sup>1</sup> Marie Roumet,<sup>7</sup> Katharina Tabea Jungo,<sup>2</sup> Nathalie Schwab,<sup>1,2</sup> Lisa Bretagne,<sup>1</sup> Shanthi Beglinger,<sup>1,2</sup> Carole E Aubert,<sup>1,2,8,9</sup> Ingeborg Wilting,<sup>3</sup> Stefanie Thevelin,<sup>4</sup> Kevin Murphy,<sup>10</sup> Corina J A Huibers,<sup>11</sup> A Clara Drenth-van Maanen,<sup>11</sup> Benoit Boland,<sup>12,13</sup> Erin Crowley,<sup>10</sup> Anne Eichenberger,<sup>14</sup> Michiel Meulendijk,<sup>15</sup> Emma Jennings,<sup>6</sup> Luise Adam,<sup>1,16</sup> Marvin J Roos,<sup>11</sup> Laura Gleeson,<sup>10</sup> Zhengru Shen,<sup>15</sup> Sophie Marien,<sup>12,13</sup> Arend-Jan Meinders,<sup>17</sup> Oliver Baretella,<sup>1,2</sup> Seraina Netzer,<sup>1,2</sup> Maria de Montmolin,<sup>1,2</sup> Anne Fournier,<sup>4</sup> Ariane Mouzon,<sup>3</sup> Cian O'Mahony,<sup>10</sup> Drahomir Aujesky,<sup>1</sup> Dimitris Mavridis,<sup>18</sup> Stephen Byrne,<sup>10</sup> Paul A F Jansen,<sup>3</sup> Matthias Schwenkglenks,<sup>19</sup> Marco Spruit,<sup>15,20</sup> Olivia Dalleur,<sup>4,21</sup> Wilma Knol,<sup>11</sup> Sven Trelle,<sup>7</sup> Nicolas Rodondi<sup>1,2</sup>

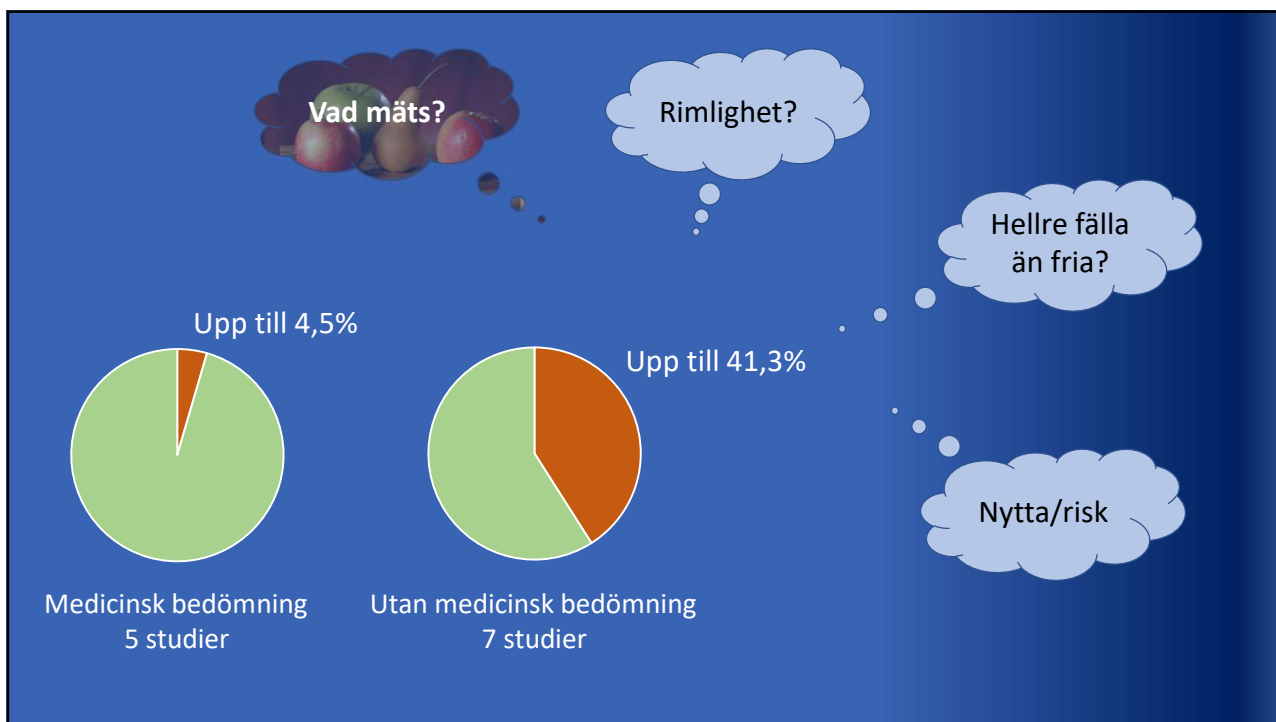
**WHAT THIS STUDY ADDS**

A structured pharmacotherapy optimisation intervention, performed jointly by a doctor and a pharmacist with the support of a clinical decision software system, reduced inappropriate prescribing

The intervention did not, however, significantly affect drug related hospital admissions

The intervention caused no detriment to patient outcomes

24



25

När enbart risksidan mäts, missas att all läkemedelsbehandling innebär en kalkylerad risk:  
Att mäta enbart risker ger skev bild

Mäts inte:

- Hjärtinfarkter som aldrig inträffade
- Stroke som aldrig inträffade
- Symtom som lindrades
- Osv

Mäts:

- Läkemedelsrelaterade inläggningar/problem

26