

Need and Use of Aggregated Data in Quality Improvement

Case: Finland

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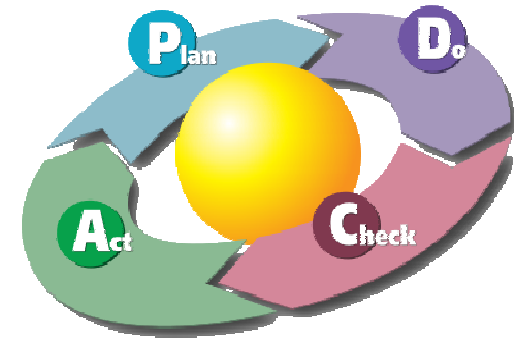
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- Need for aggregated data
- Methods we use to collect data in Finland
- Use of aggregated data in QI

Definition

- **Aggregate data** describes data combined from several measurements. Groups of observations are replaced with [summary statistics](#) based on those observations.

Need for aggregated data

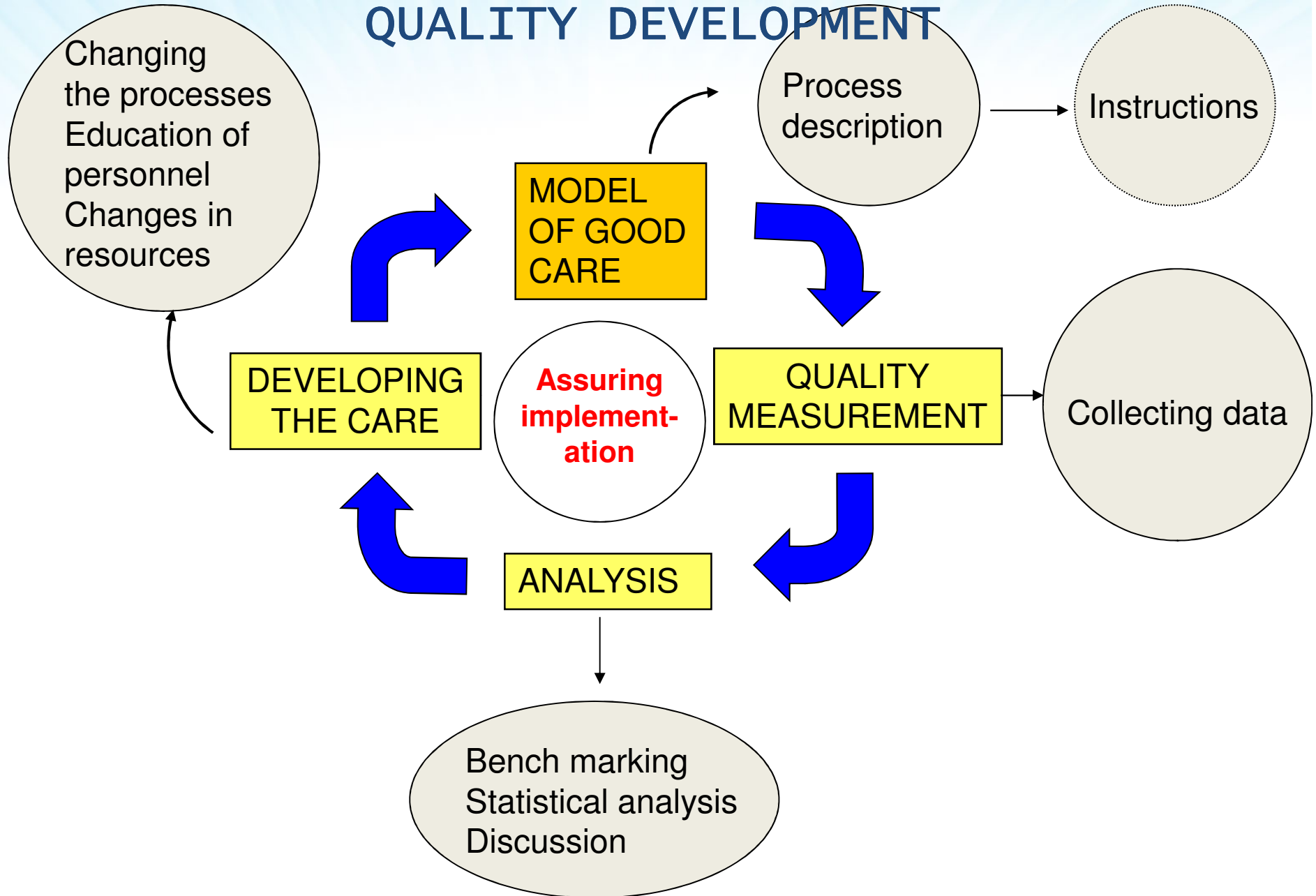


- CQI
- You know for sure only, if you measure

The most effective strategies (>10% absolute increase in appropriate care or equivalent measure)

- clinician-directed audit and feedback cycles
- clinical decision support systems
- specialty outreach programmes
- chronic disease management programmes
- continuing professional education based on interactive small-group case discussions
- patient-mediated clinician reminders.

FRAMEWORK FOR CONTINUOUS QUALITY DEVELOPMENT



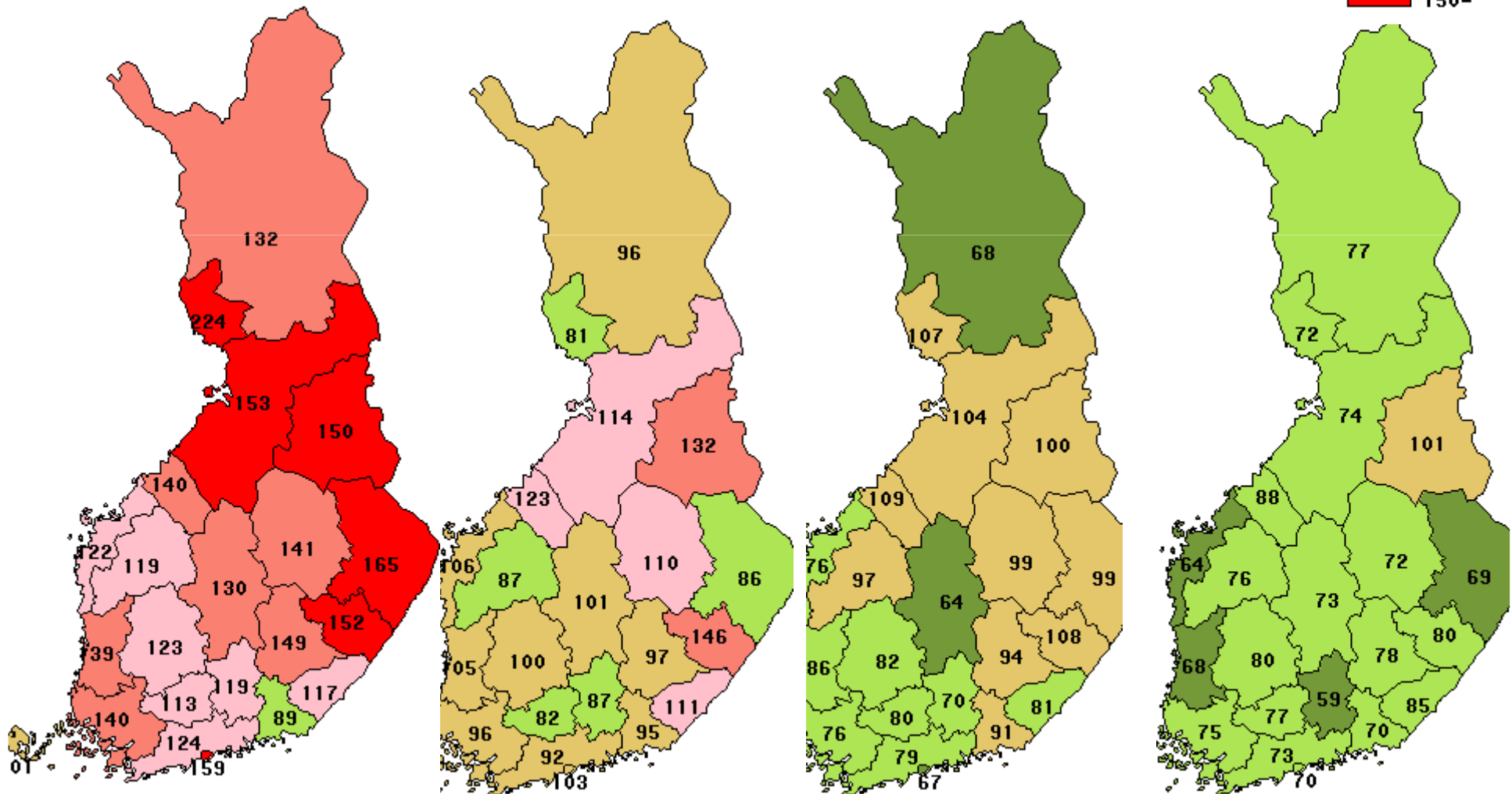
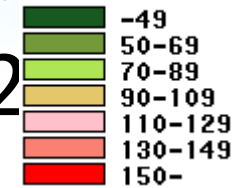
Measuring quality

- Structure
- Process
 - Intermediate outcome or surrogate outcome
- Outcome
 - Seldom possible in GP

Systematic collection of aggregated health care data in Finland

- THL – National Institute for Health and Welfare
 - Hospital Discharge Register
- Kela – National Institute of Social Security
 - Register on Reimbursed Medicines
- Census Finland
 - Causes of death
- FQN – Finnish Quality Networks
 - Major health problems – diabetes, BP, CHD, risky use of alcohol, smoking, fracture prevention, dementia

First coronary infarctions of persons with diabetes in Finland in 1990, 1994 (=100), 1998, 2002



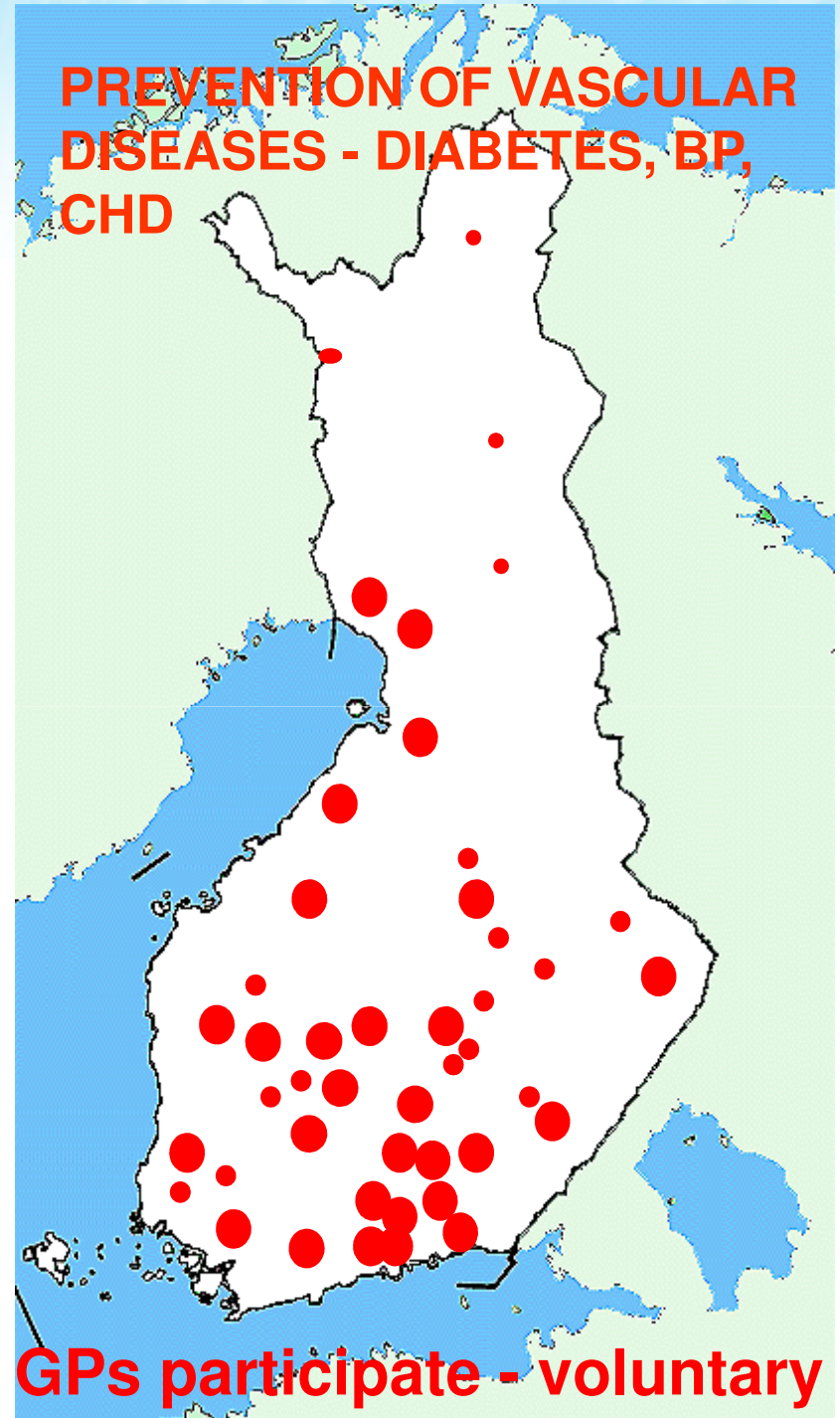
Emerging possibilities

- THL
 - Reasons (diagnoses) and contents of health centre visits
- Duodecim
 - DSS (decision support system) collects also aggregated data for QI

1. Etelä-Karjala
2. Forssan seutu
3. Hamina
4. Hyvinkää
5. Härkätie
6. Imatra
7. Itä-Savo
8. Janakkala
9. JIK
10. Joensuu
11. Jyväskylä
12. Jämsä
13. Järvenpää
14. Järvi-Pohjanmaa
15. Kaarina
16. Kaksineuvoinen
17. Kemi
18. Keminmaa
19. Kittilä
20. Kokkola (Kruunupyy, Kälviä)
21. Kouvola
22. Kuusiokunnat
23. Lahti (keskusta)
24. Lapinlahti
25. Lapua
26. Liperi (Outokumpu ja Ylämylly)
27. Lohja

28. Loviisa
29. Mikkeli
30. Muonio-Enontekiö
31. Mäntsälä
32. Nurmijärvi
33. Oulu
34. Paimio-Sauvo
35. Parainen
36. Pieksämäki
37. Pori
38. Porvoo
39. Päijät-Häme (Orimattila)
40. Ranua
41. Rauma
42. Rääkkylä
43. Salo
44. Seinäjoki
45. Siiliset
46. Sipoo
47. Tervola
48. Tuusula
49. Uusikaupunki
50. Valkeakoski
51. Varkaus
52. Virolahti-Miehikkälä
53. Virrat
54. Ylä-Savo
55. Äänekoski

PREVENTION OF VASCULAR DISEASES - DIABETES, BP, CHD



1/3 GPs participate - voluntary

FQN

- Intermediate or surrogate outcome / process quality in **prevention of diabetic ACS**
- 2 week sample on every diabetic visit to the HC

Indicators of good care 2011 in type 2 diabetes mellitus

% with CHD

% having a written care plan

% HbA1c not measured within 15 months

% HbA1c < 7.0%

% HbA1c ≥ 8.6%

% LDL chol never measured or > 24 mo ago

% LDL chol ≤ 2,6 mmol/l

% using statins

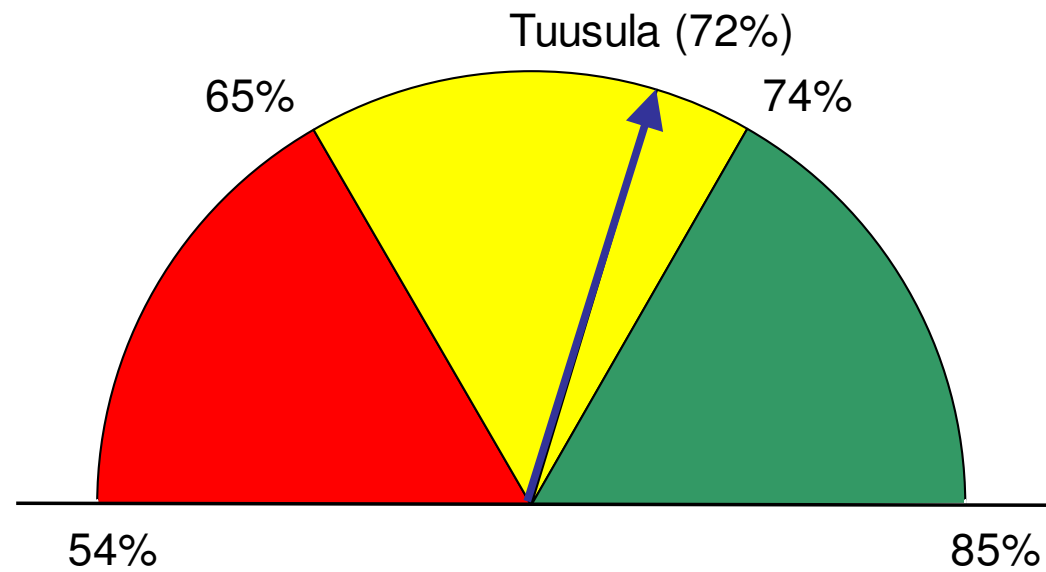
% cU-Alb measured within 12 months

% with albuminuria

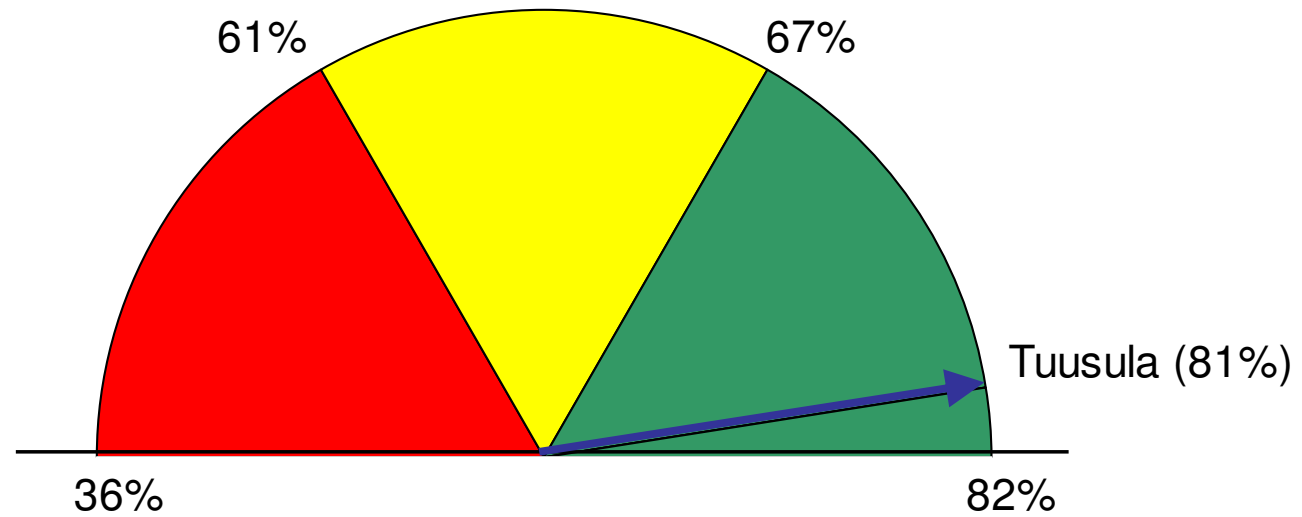
% daily smokers

% sBP < 140 mmHg at office or < 133 mmHg at home

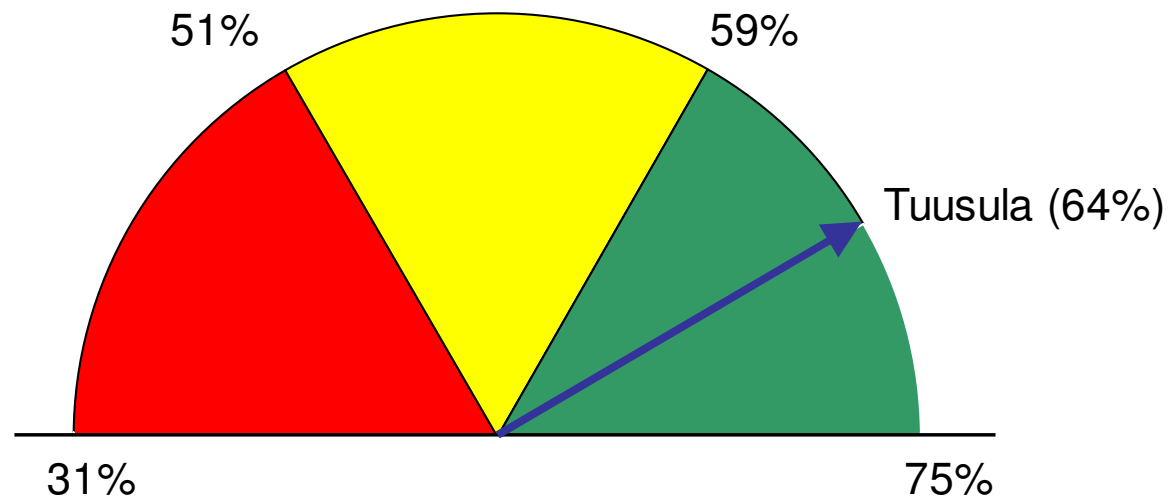
Tyypin 2 diabeetikkojen viimeisin HbA1c-arvo < 7 %



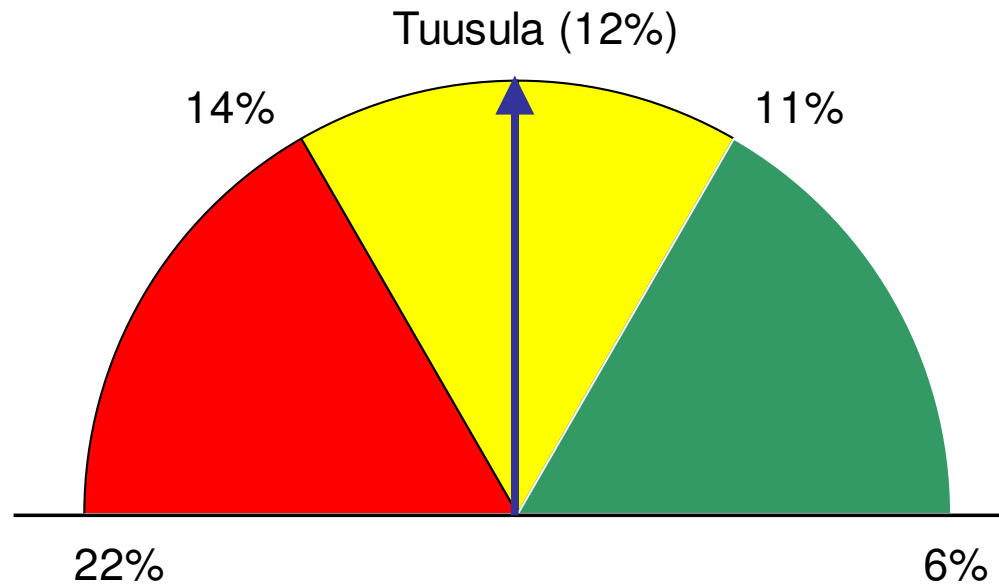
Tyypin 2 diabeetikkojen viimeisin LDL-kol-arvo $\leq 2,6$ mmol/l



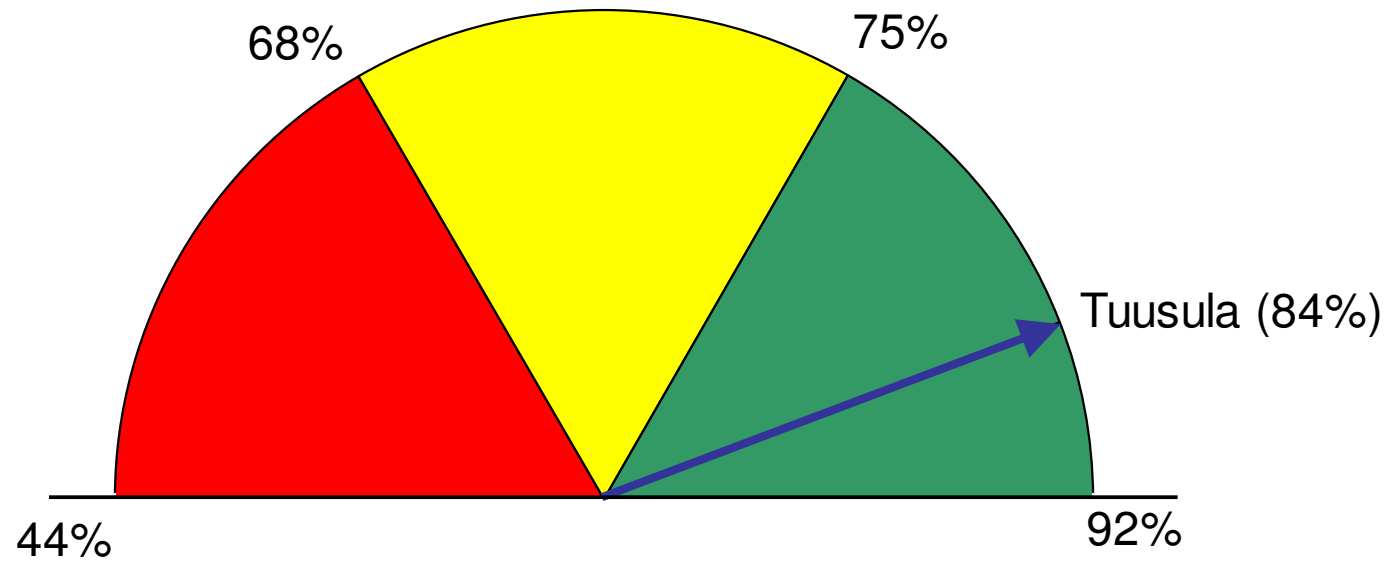
Tyypin 2 diabeetikoilla vastaanotolla mitattu sRR alle 140 mmHg tai itsemittausten sRR keskiarvo alle 133 mmHg



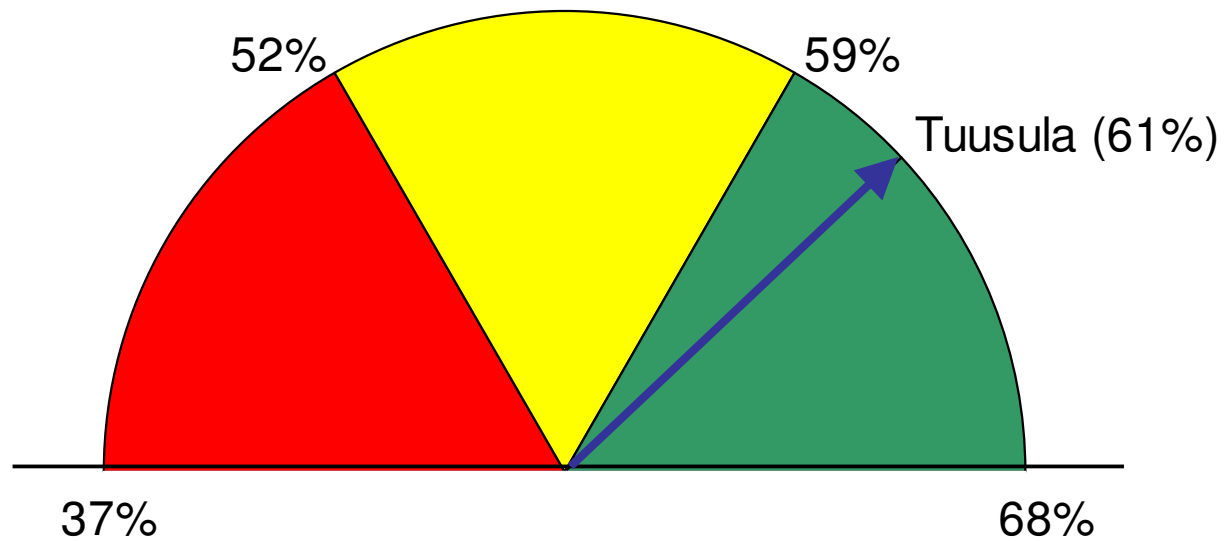
Tyypin 2 diabeetikot tupakoivat päivittäin



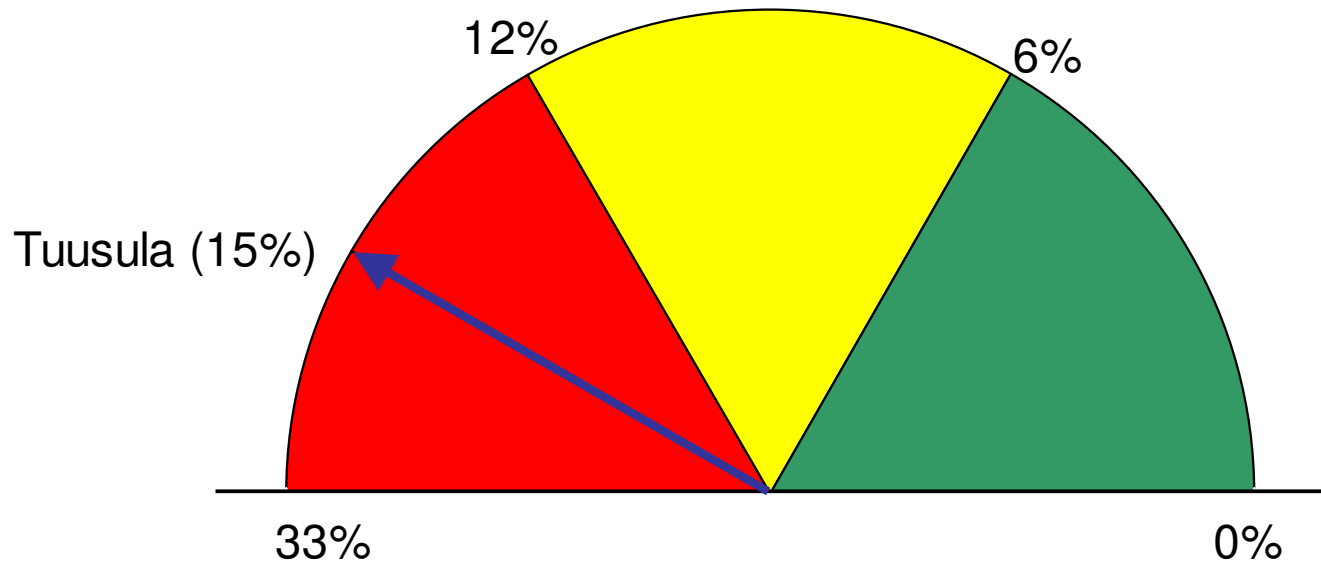
CHD-potilaiden viimeisin LDL-kol-arvo $\leq 2,6$ mmol/l



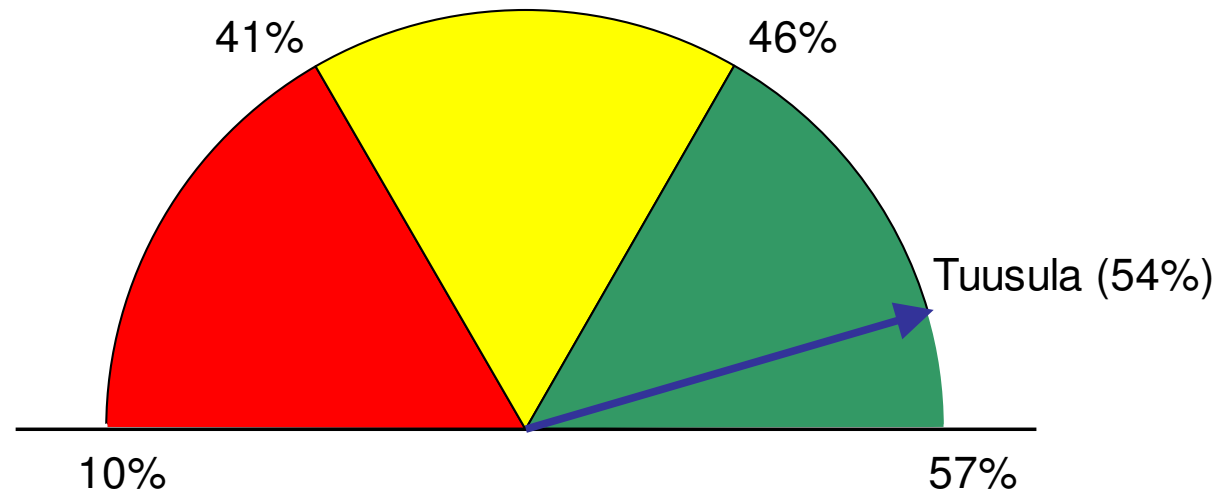
**CHD-potilailla vastaanotolla mitattu sRR alle 140 mmHg tai
itsemittausten sRR keskiarvo alle 133 mmHg**



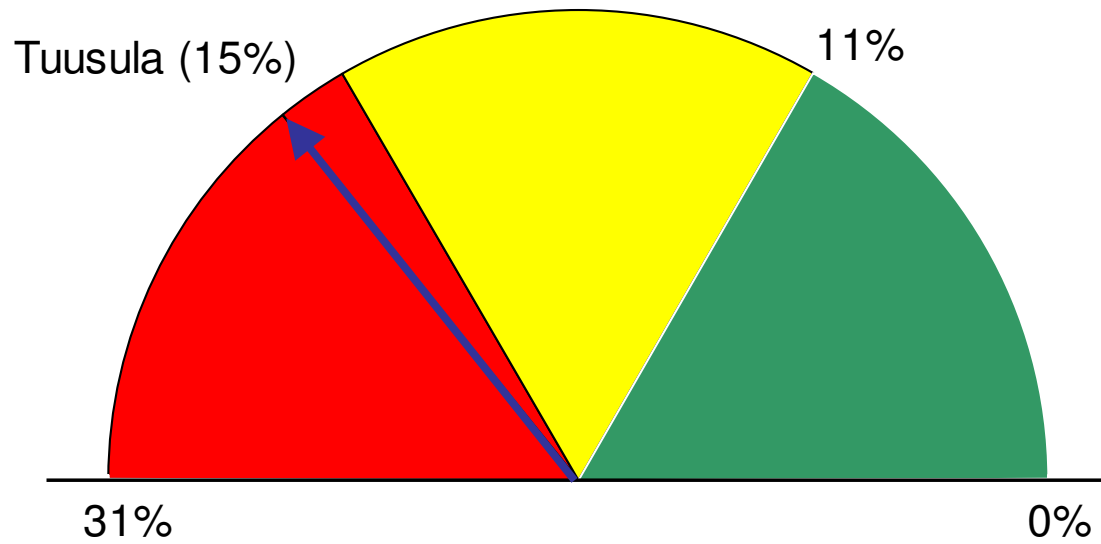
CHD-potilaat tupakoivat päivittäin



**Verenpainepotilailla vastaanotolla mitattu sRR alle 140 mmHg tai
itsemittausten sRR keskiarvo alle 133 mmHg**

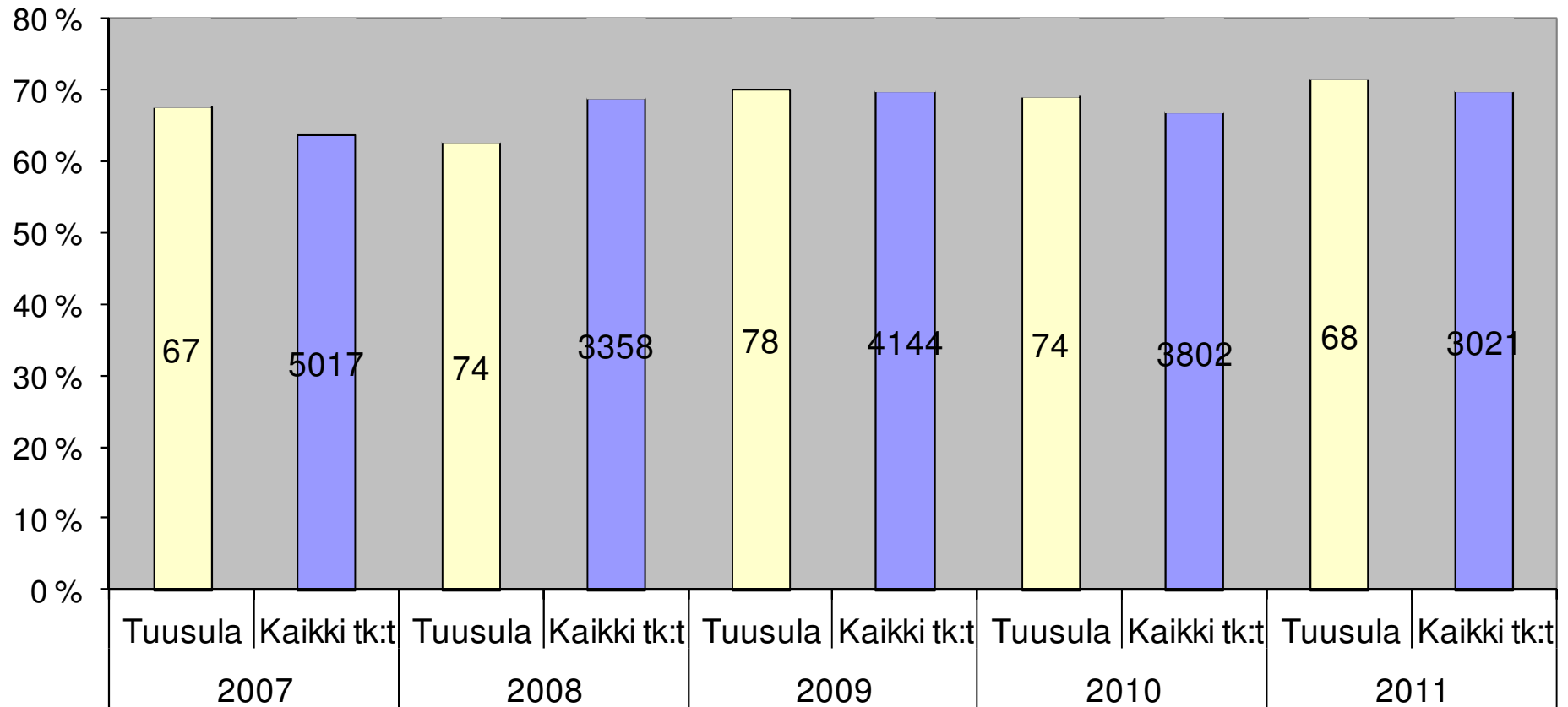


Verenpainepotilaat tupakoivat päivittäin



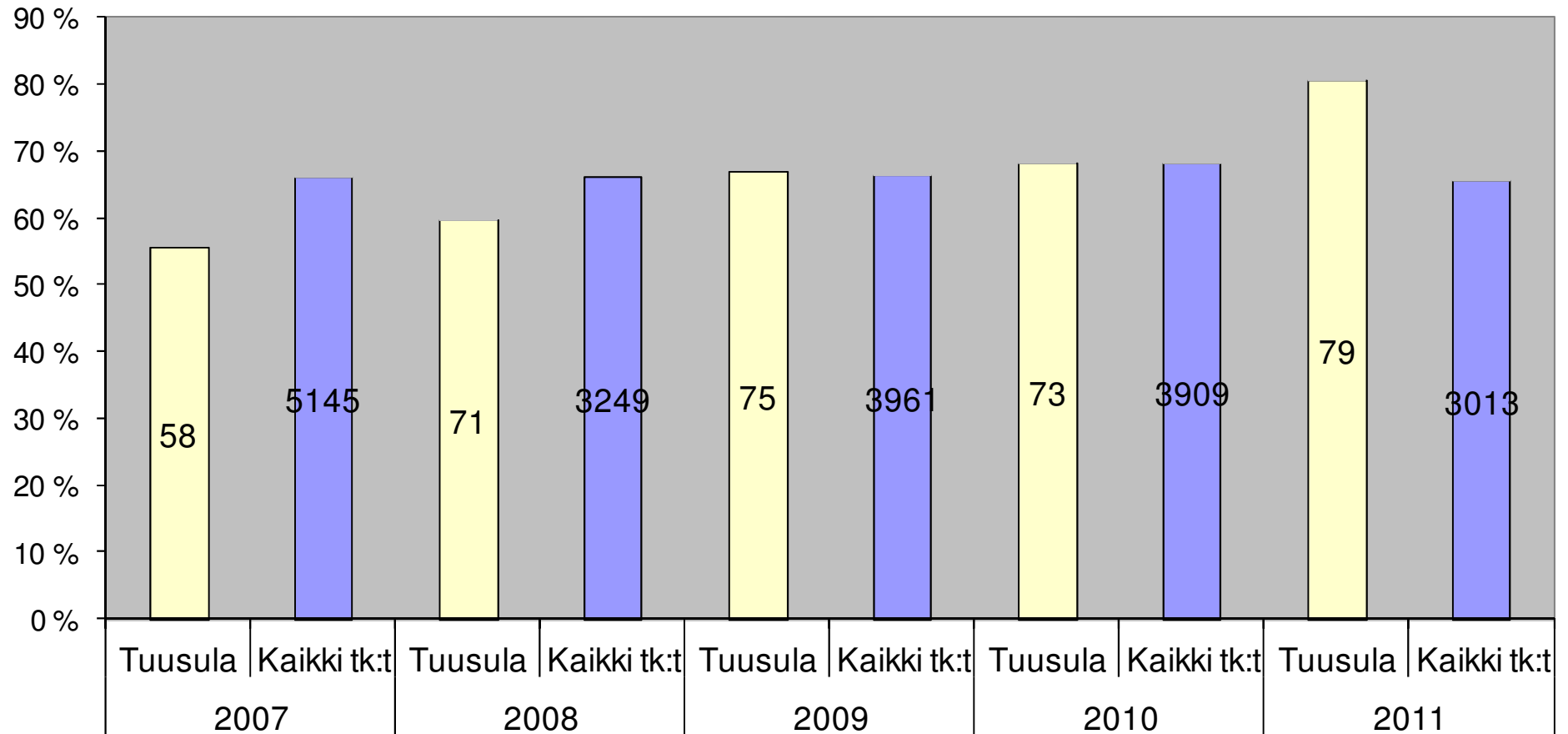
http://www.conmedic.fi/group/tupakastaveroitus/tupakastaveroitus?p_p_id=measurementportlet_WAR_measurementportlet01&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&measurementportlet_WAR_measurementportlet01_myaction=addSmokingStudyResultForm

HbA1c < 7 % among type 2 diabetics



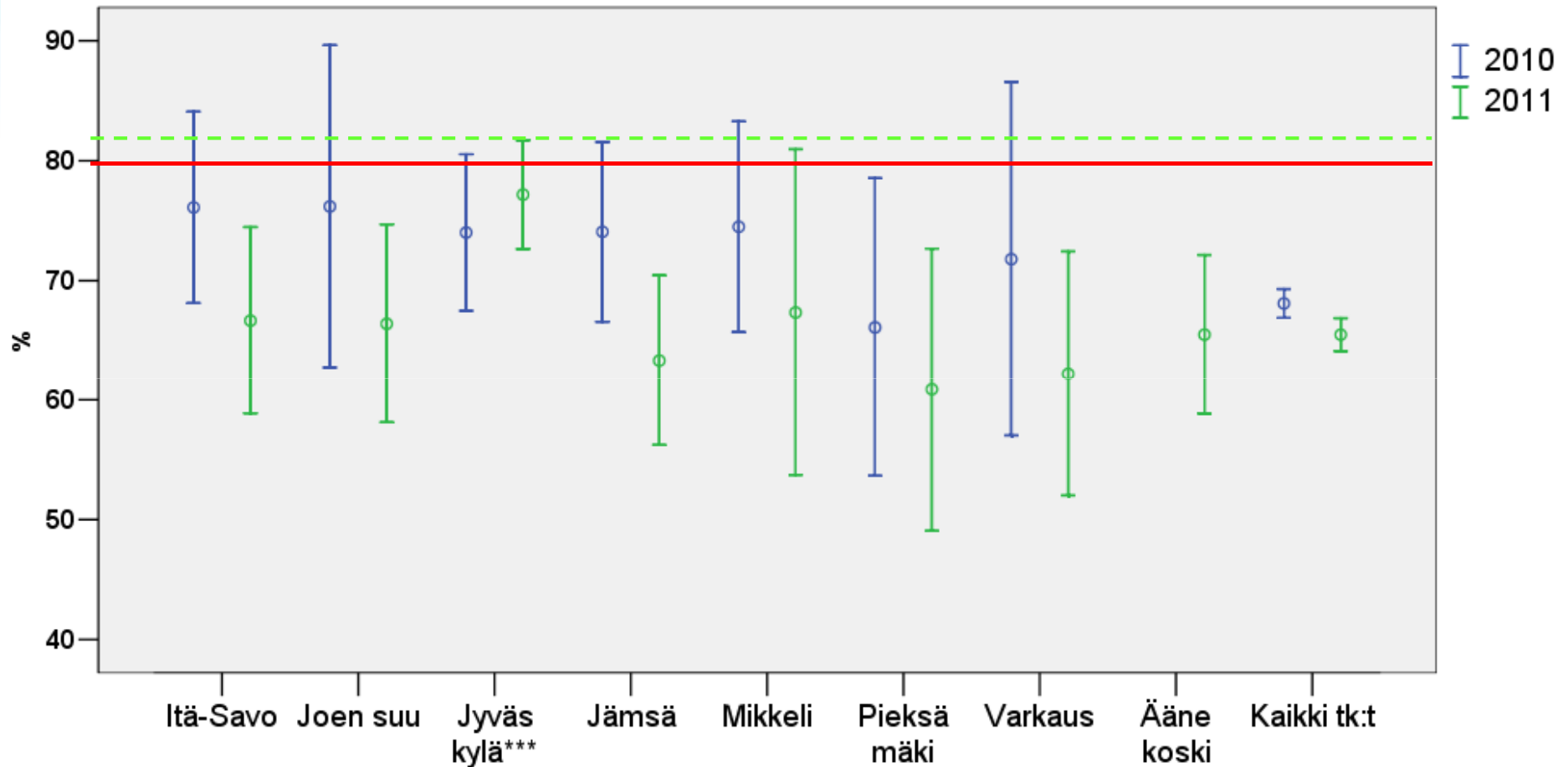
Lukumäärät merkitty pylväisiin.

LDL-kol-arvo $\leq 2,6$ mmol/l among type 2 diabetics

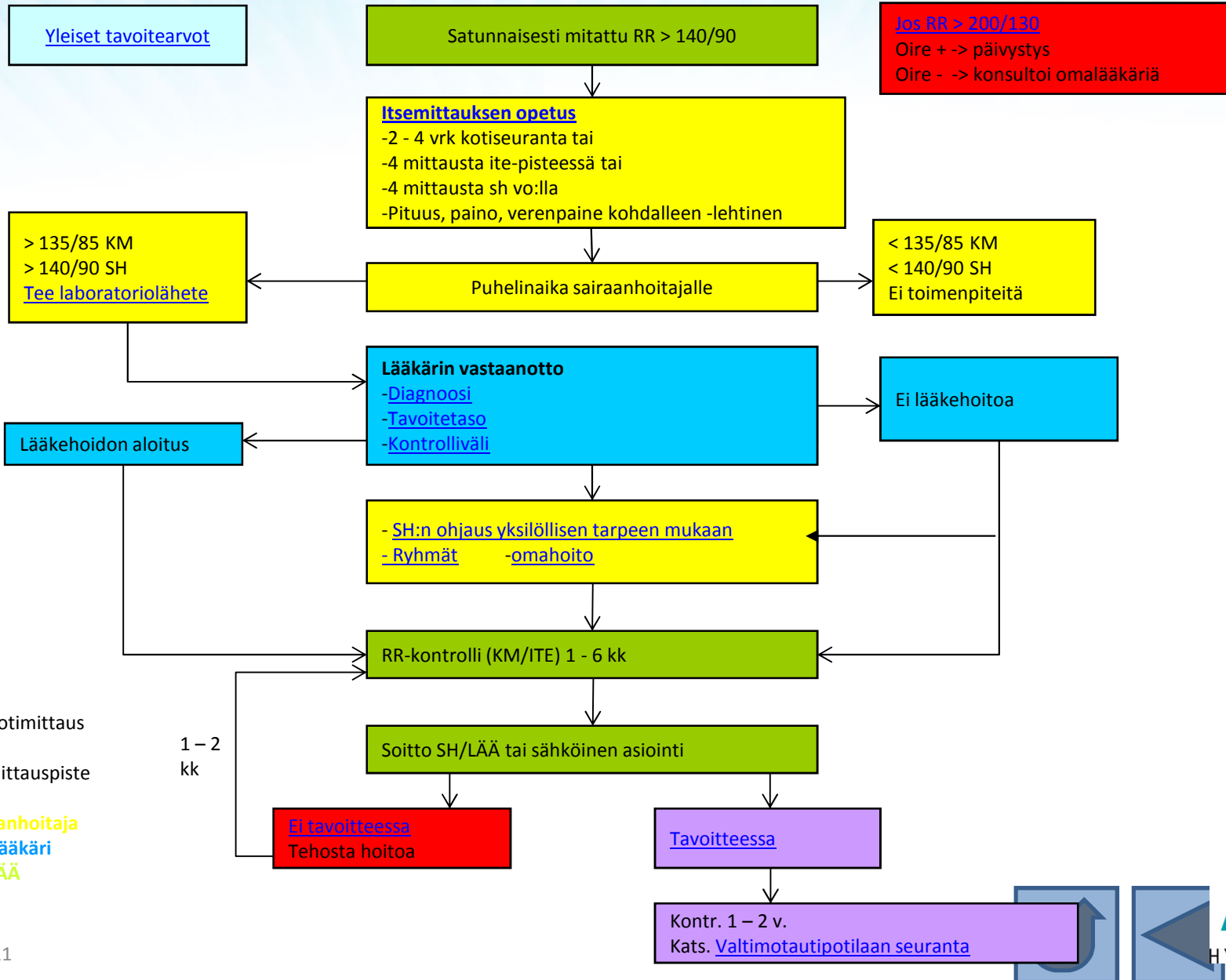


Lukumäärät merkitty pylväisiin.

Tyypin 2 diabeetikkojen viimeisin LDL-kol-arvo korkeintaan 2,6 mmol/l



Standarditaso merkitty yhtenäisellä viivalla, Suomen paras – katkoviivalla (82.4%, 95% CI: 73.6, 91.3). Terveyskeskuksen arvoa verrattu kaikkiin yhteensä 2011: * $p < 0.05$, ** $p < 0.01$ ja *** $p < 0.001$.



KM kotimittaus
ITE= itsemittauspiste
SH sairaanhoitaja
LÄÄ lääkäri
SH/LÄÄ



www.conmedic.fi

Conclusions

- Aggregated data collection is necessary in CQI
- Making collection "automatic" will help
- Web samples will continue for the not-structured data
- Pop-ups help in correcting the data
- Quality does not improve without an infrastructure for improvement