

# RN4CAST: Evidence for Improving Nurse Retention and Patient Outcomes

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On behalf of Walter Sermeus and RN4CAST  
Consortium [www.rn4cast.eu](http://www.rn4cast.eu)



## NORWAY

The hospitals will be organised as five regional enterprises  
**Hospital nurses on strike**

Spanish Nurses Suffering from  
**BURNOUT**

Healthcare reform in Germany  
**Strike in perspective**

**Nurses STRIKE**

The government says it wants to ease NHS staff shortages with 2,000 nurses from abroad over the next four years.

Nurses seriously injured as patient attacks

Hospital restructuring in Sweden

Enfermeiros lutam por uma revalorização da carreira profissional

**Pledge on NHS overseas recruits**

La CNI appelle à une grève générale du personnel infirmier le 4 décembre

**NURSING**

**BURNOUT**

Portugal : Public sector reforms contested

French Nurses Communicate Their Frustration

Depuis l'été 2001, quelque 250 infirmiers et infirmières espagnoles ont franchi les Pyrénées pour venir exercer dans des cliniques et hôpitaux français

# **Nurse Work Environments Are Linked to Patient Safety and Nurse Retention**

- **“Organizational behavior is as important as clinical practice” in keeping patients safe. World Alliance for Patient Safety, 2009**
- **“The typical work environment of nurses is characterized by many serious threats to patient safety.” Institute of Medicine, 2004**
- **“Improving hospital care environments by changing organizational behavior results in higher value investments through better quality, safety, and nurse retention.” RN4CAST, 2011**

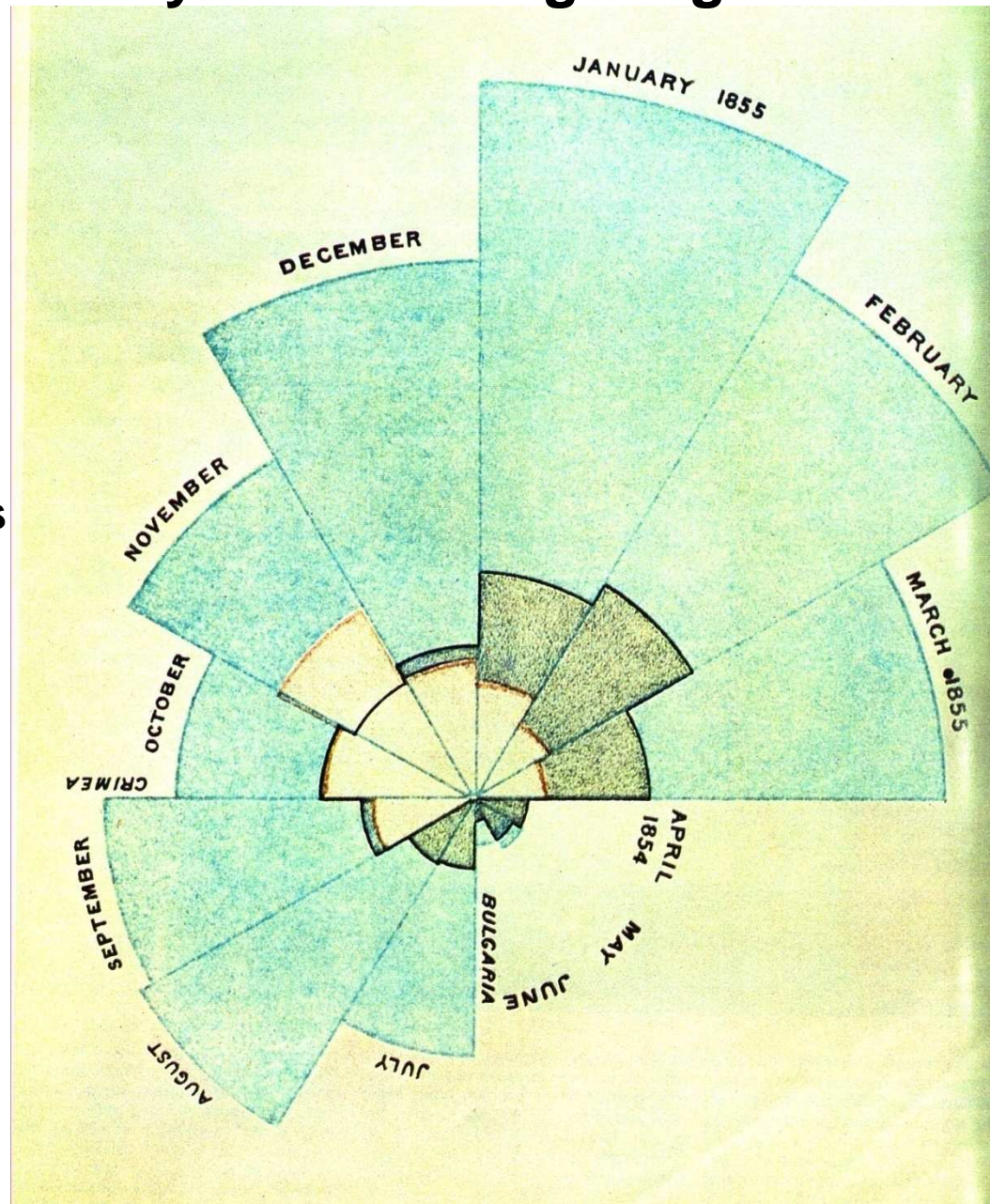
# Preventable Deaths in British Military Hospitals during Crimean War, 1855 by Florence Nightingale

## Key

Blue – Preventable Deaths

Pink – Deaths from Wounds

Gray – Deaths, all other causes



Source: Notes on Matters Affecting the Health, Efficiency and Hospital Administration of the British Army, 1858.



<b>Belgium</b>	<b>Catholic University Leuven</b>
<b>United States</b>	<b>University of Pennsylvania</b>
<b>England</b>	<b>King's College London</b>
<b>Finland</b>	<b>Kuopio University</b>
<b>Germany</b>	<b>Technical University Berlin</b>
<b>Greece</b>	<b>University of Athens</b>
<b>Ireland</b>	<b>Dublin City University</b>
<b>Netherlands</b>	<b>UMC St Radboud</b>
<b>Norway</b>	<b>Norwegian Nurses Asso</b>
<b>Poland</b>	<b>Jagiellonian University</b>
<b>Spain</b>	<b>Institute of Health</b>
<b>Sweden</b>	<b>Karolinska Institute</b>
<b>Switzerland</b>	<b>Basel University</b>
<b>Botswana</b>	<b>University of Botswana</b>
<b>China</b>	<b>Sun Yat-sen University</b>
<b>South Africa</b>	<b>North-West University</b>

# RN4CAST: EU-Funded Study of Hospital Nurse Workforce

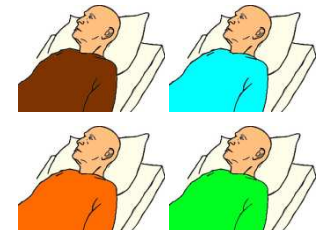
12 Europe countries

617 hospitals

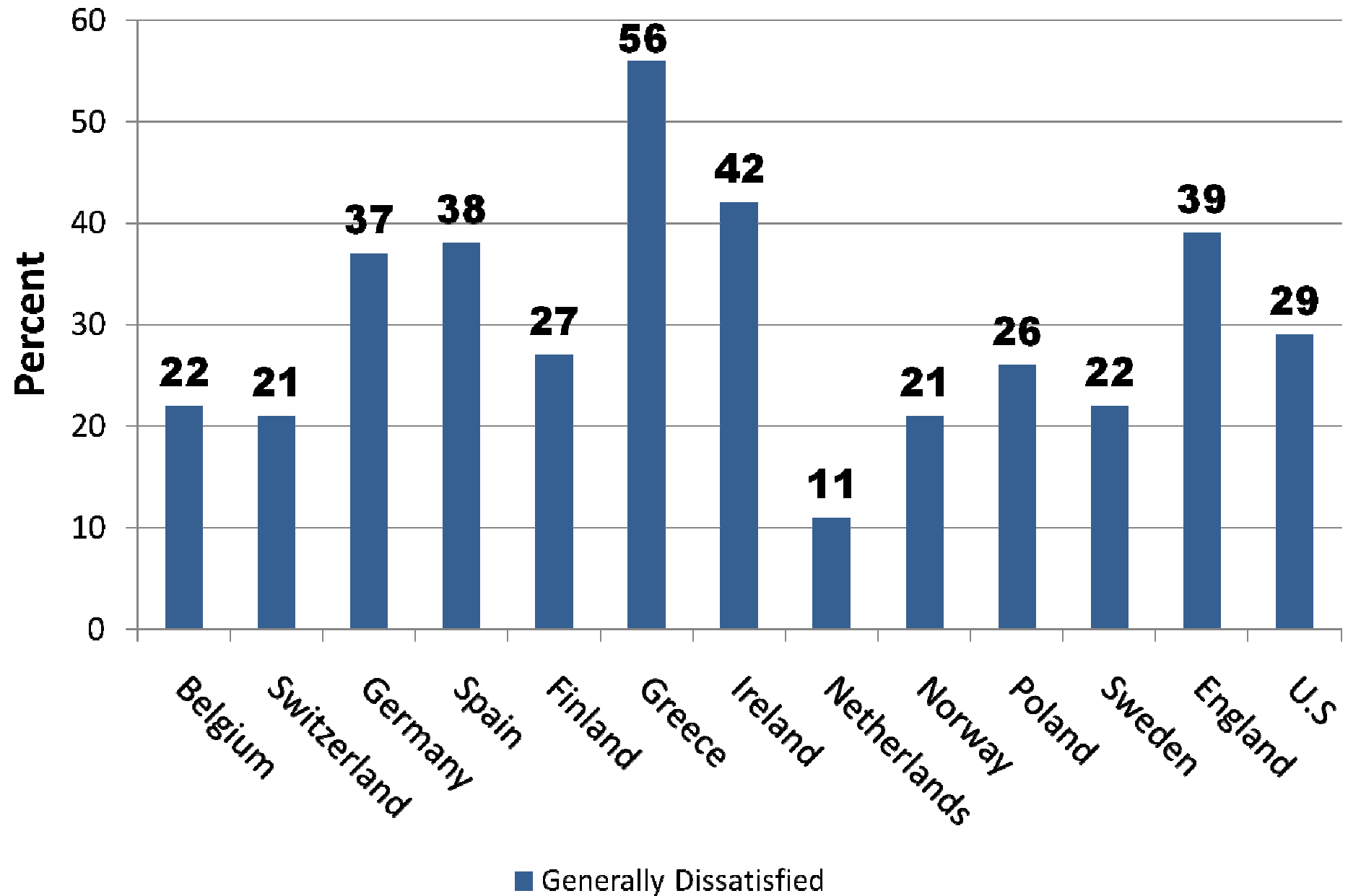
2,087 nursing units

34,000 nurses  
11,318 patients surveyed

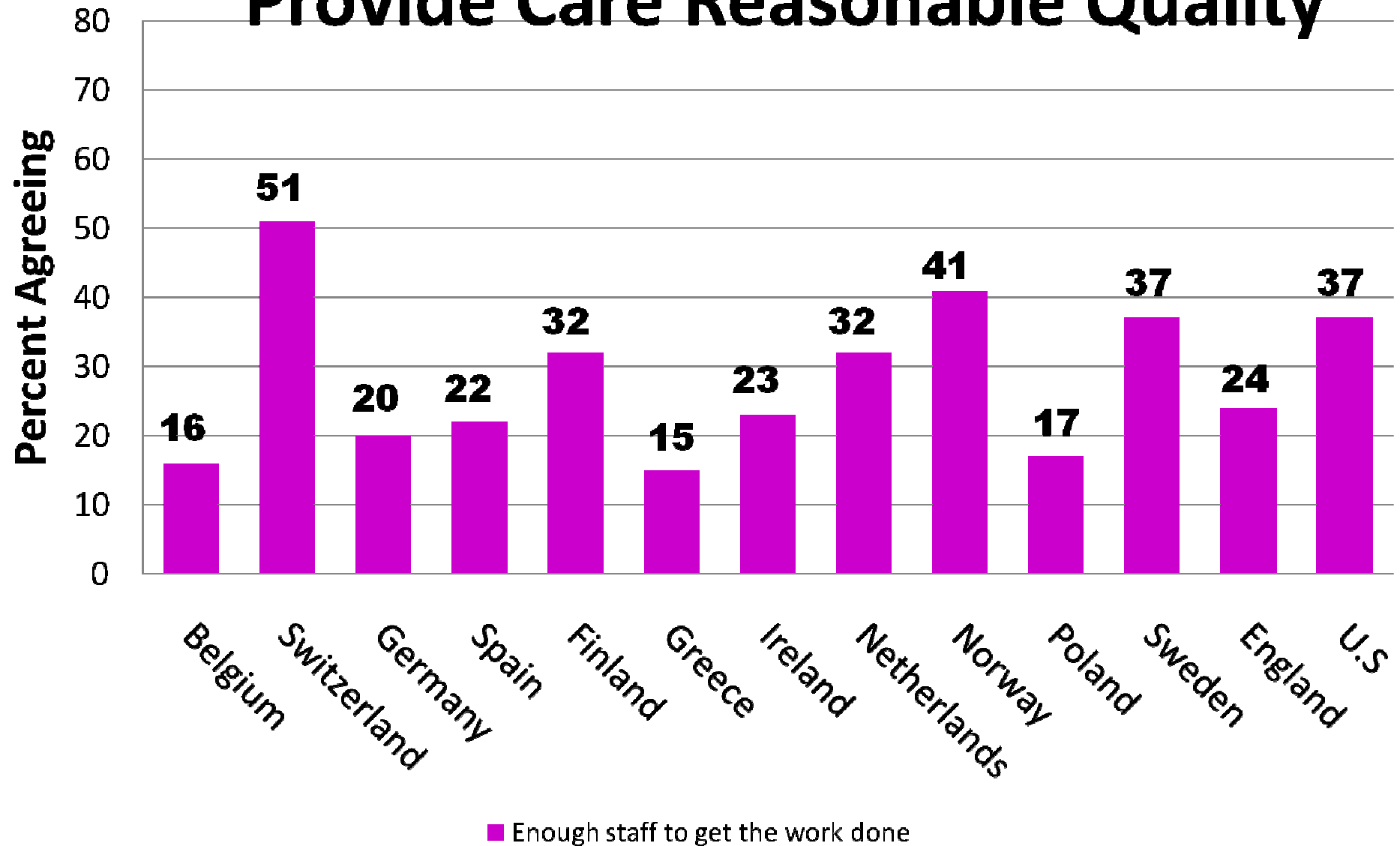
Patient outcomes from hundreds of thousands



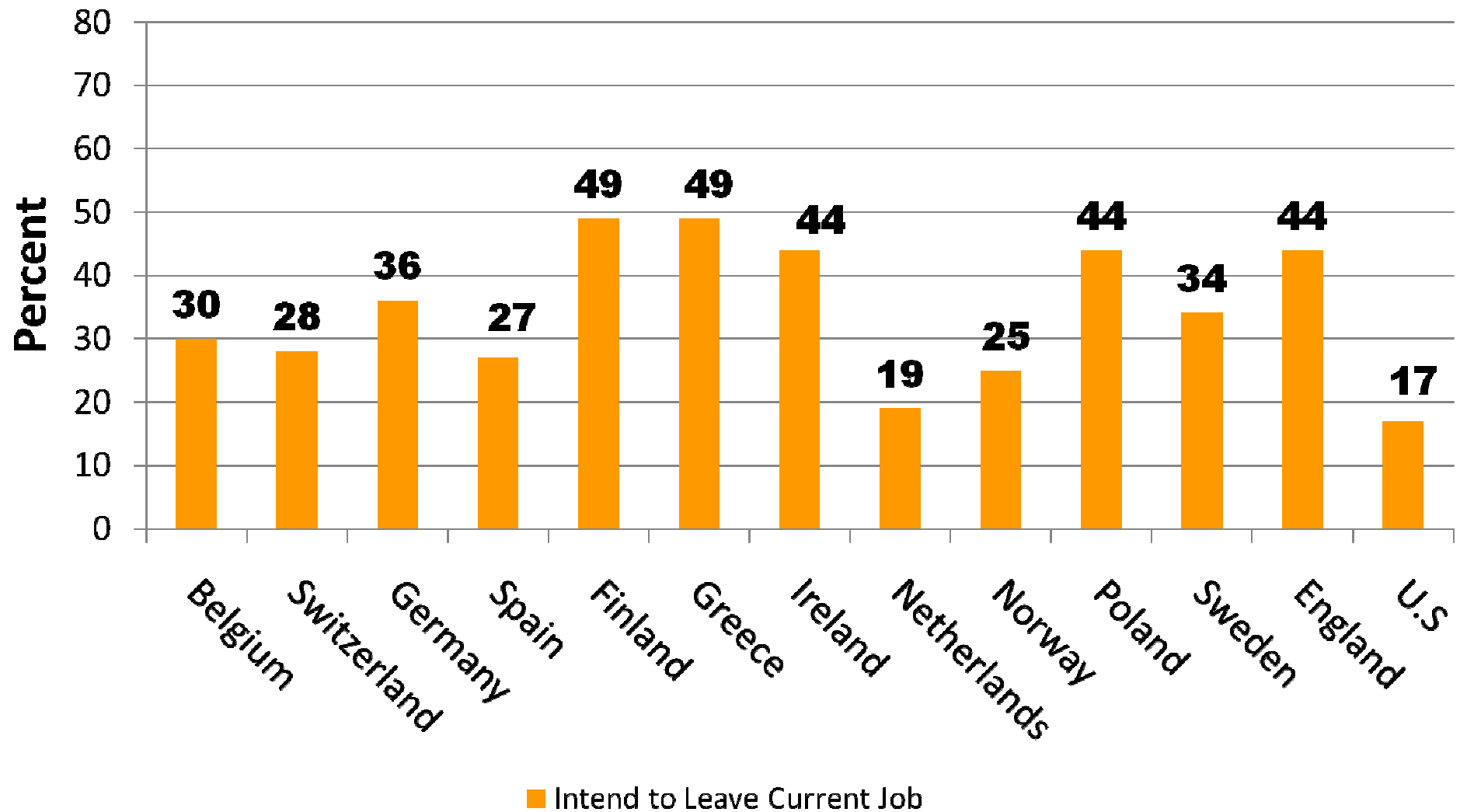
# Nurse Job Dissatisfaction



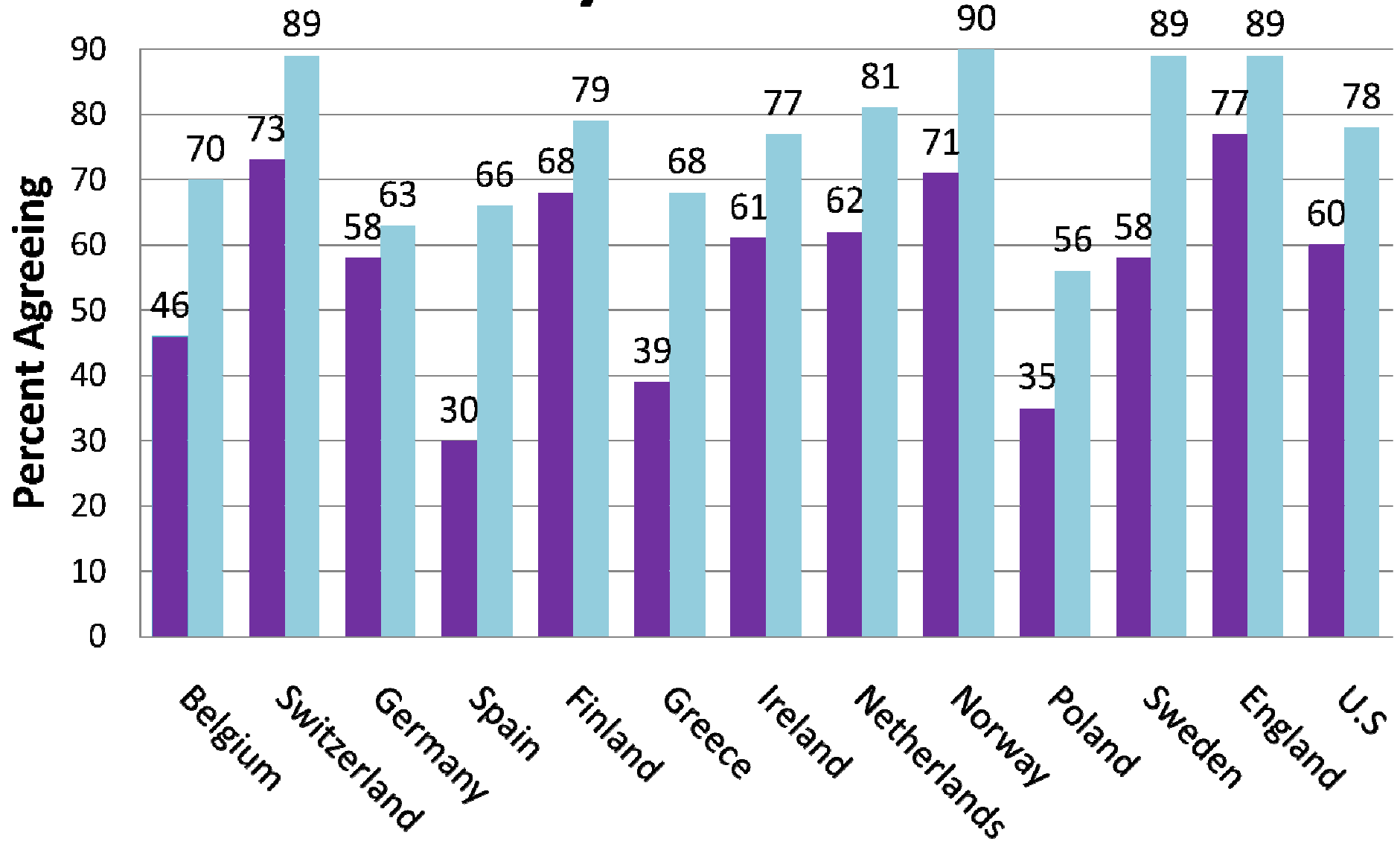
# RNs Agree Enough Staff to Provide Care Reasonable Quality



# Percent Nurses Intend to Leave Jobs Within Year



# Nurse-Physician Relations



■ A lot of team work between nurses and physicians   ■ Physicians and nurses have good working relationships.

# Patients' Assessments of Hospitals: Lots of Room for Improvement

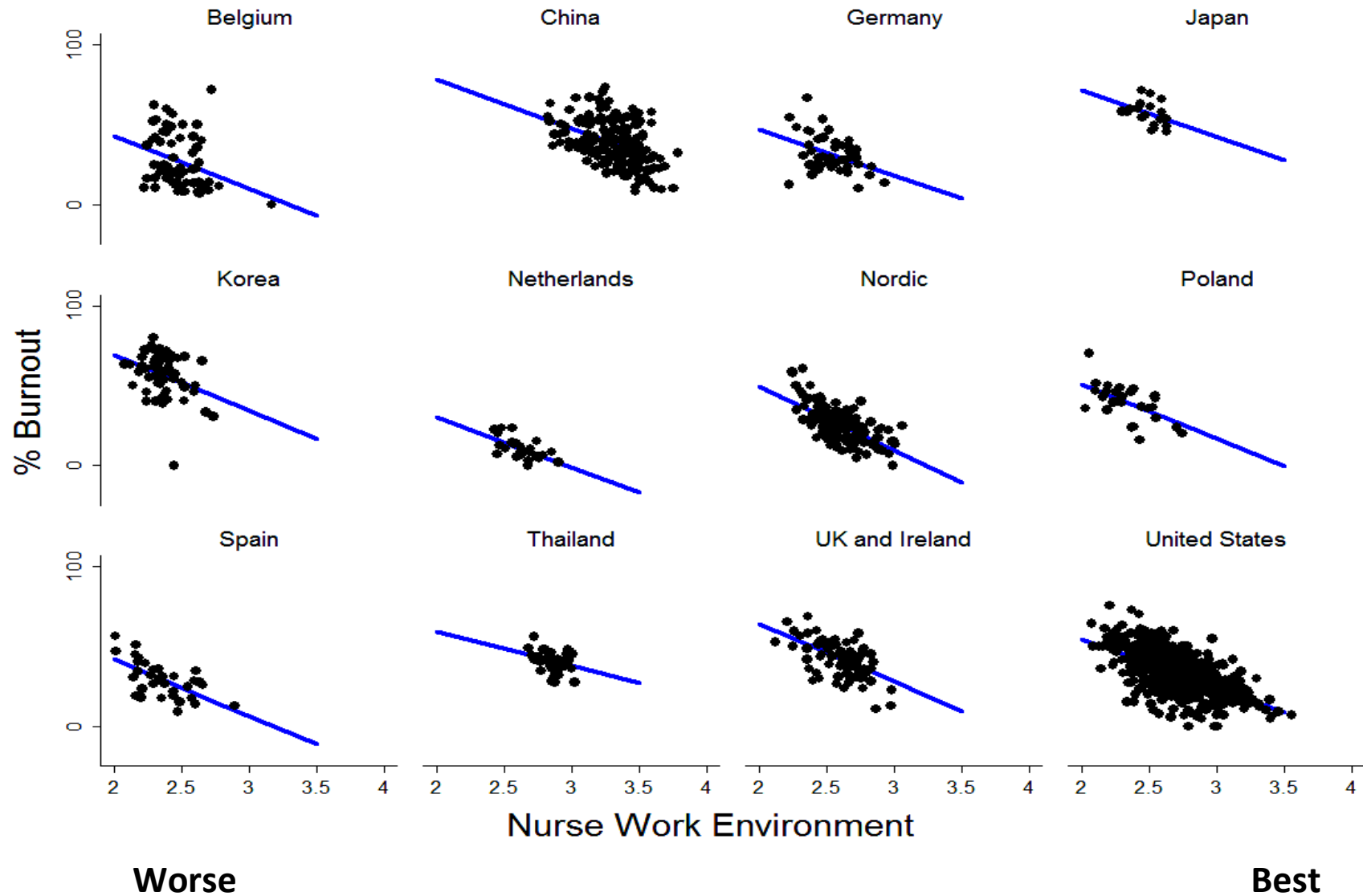
	In percent Rate hospital 9 or 10	Recommend Hospital
<b>Belgium</b>	<b>47</b>	<b>60</b>
<b>Switzerland</b>	<b>60</b>	<b>78</b>
<b>Germany</b>	<b>48</b>	<b>66</b>
<b>Spain</b>	<b>35</b>	<b>56</b>
<b>Finland</b>	<b>61</b>	<b>67</b>
<b>Greece</b>	<b>42</b>	<b>53</b>
<b>Ireland</b>	<b>61</b>	<b>74</b>
<b>Poland</b>	<b>55</b>	<b>57</b>
<b>United States</b>	<b>59</b>	<b>64</b>

# Measuring Quality of Nurse Practice Environment

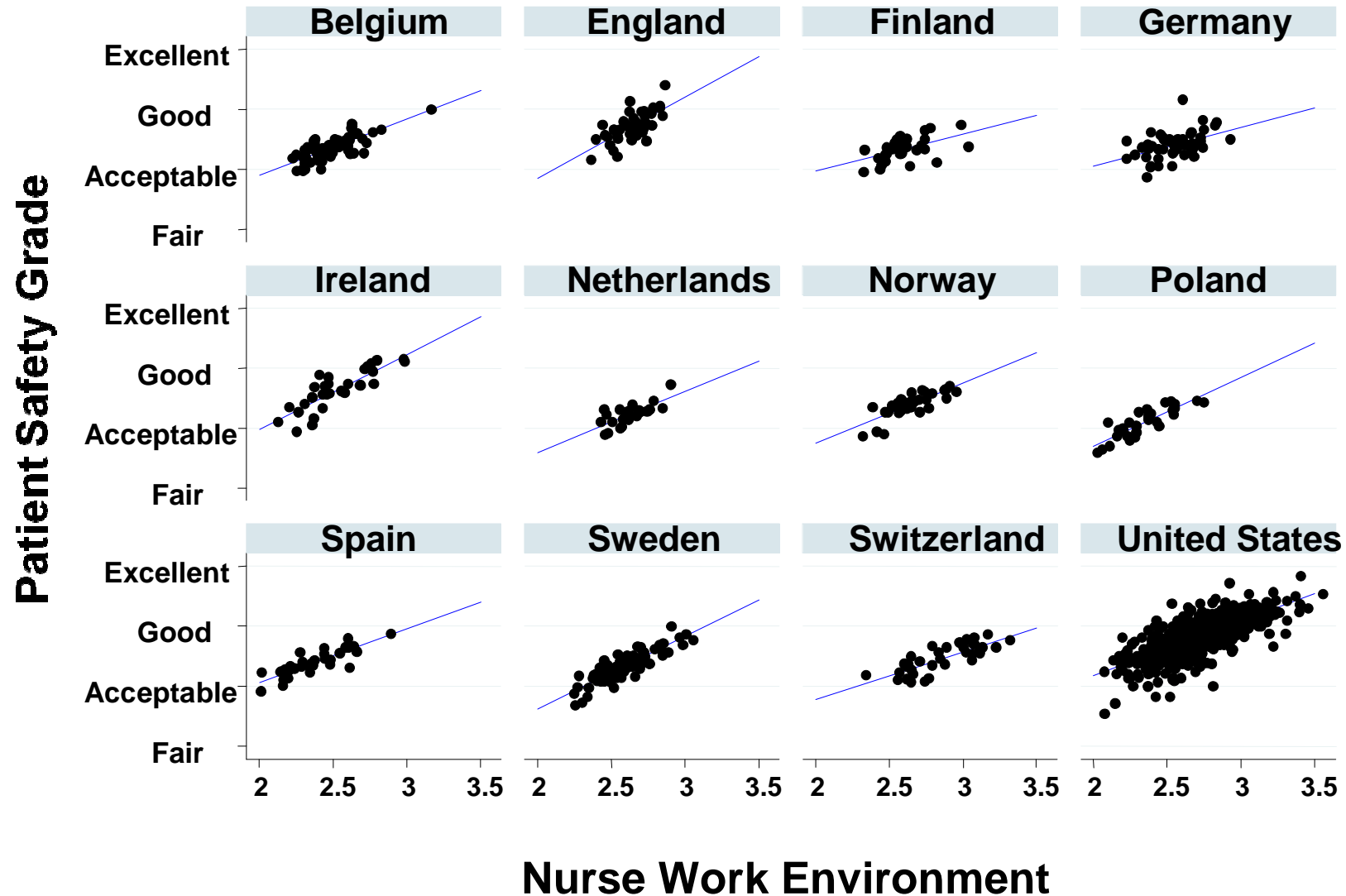
- **Practice Environment Scale/Nursing Work Index**
  - Staffing adequacy
  - Nursing foundations for quality
  - Nurse manager ability & leadership
  - Nurse-physician relations
  - Nurse involvement in hospital affairs
- **Summary measure divides hospitals into quartiles by PES scores in Europe and US separately**

Aiken and Patrician, *Nursing Research*, 2000;  
Lake, *Research in Nursing & Health*, 2002

# Hospitals with Better Work Environments: Lower Nurse Burnout Every Country



# Hospital Safety Grade is Higher in Hospitals with Better Work Environments Every Country



# **Patient Satisfaction Is Highly Associated with Nurse Satisfaction**

- **How well nurses are faring in terms of job satisfaction, burnout, intent to leave is a barometer of patient satisfaction**
- **Same environment factors result in dissatisfaction of both nurses and patients**

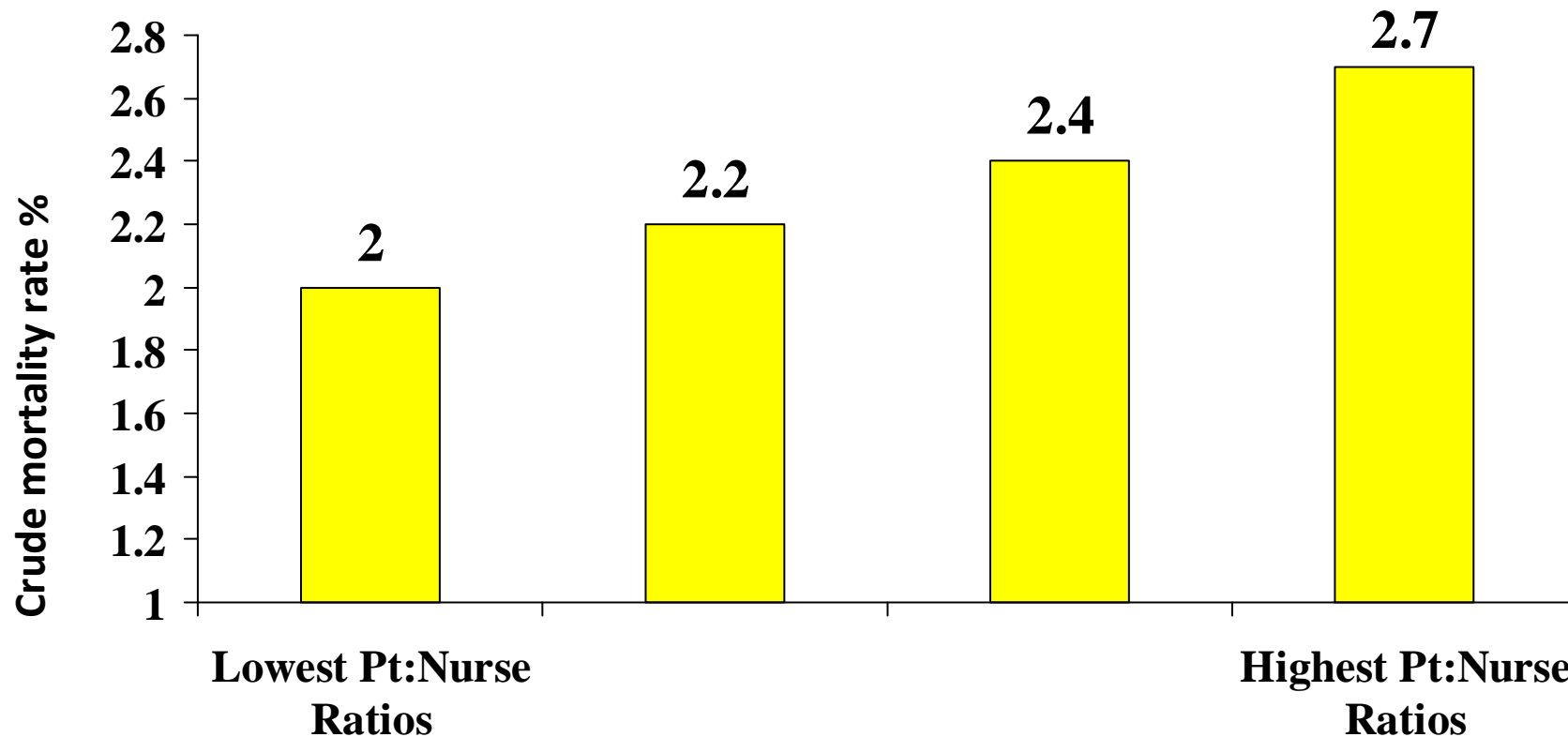


# Using Administrative Data to Study How Nursing Effects Mortality

- Next step in RN4CAST
- Underused resource in Europe



# England: Mortality Rates are Significantly Lower in English Hospitals In Which Nurses Care for Fewer Patients, 1999



Rafferty, Clarke, Aiken, et al., IJNS 2007

# Belgium Study of Nurse Staffing and Mortality Following Elective Cardiac Surgery

Van den Heede, Sermeus, Aiken et al., IJNS 2009

- Mortality in general post operative units was significantly lower when patients received more hours of nursing care





# Penn Multi-State Nursing and Patient Safety Study, 2006-08

- Uses same research protocol as RN4CAST
- Study 25% of all U.S. hospitals
- **Every patient added to a nurses' workload increases mortality by 7%**

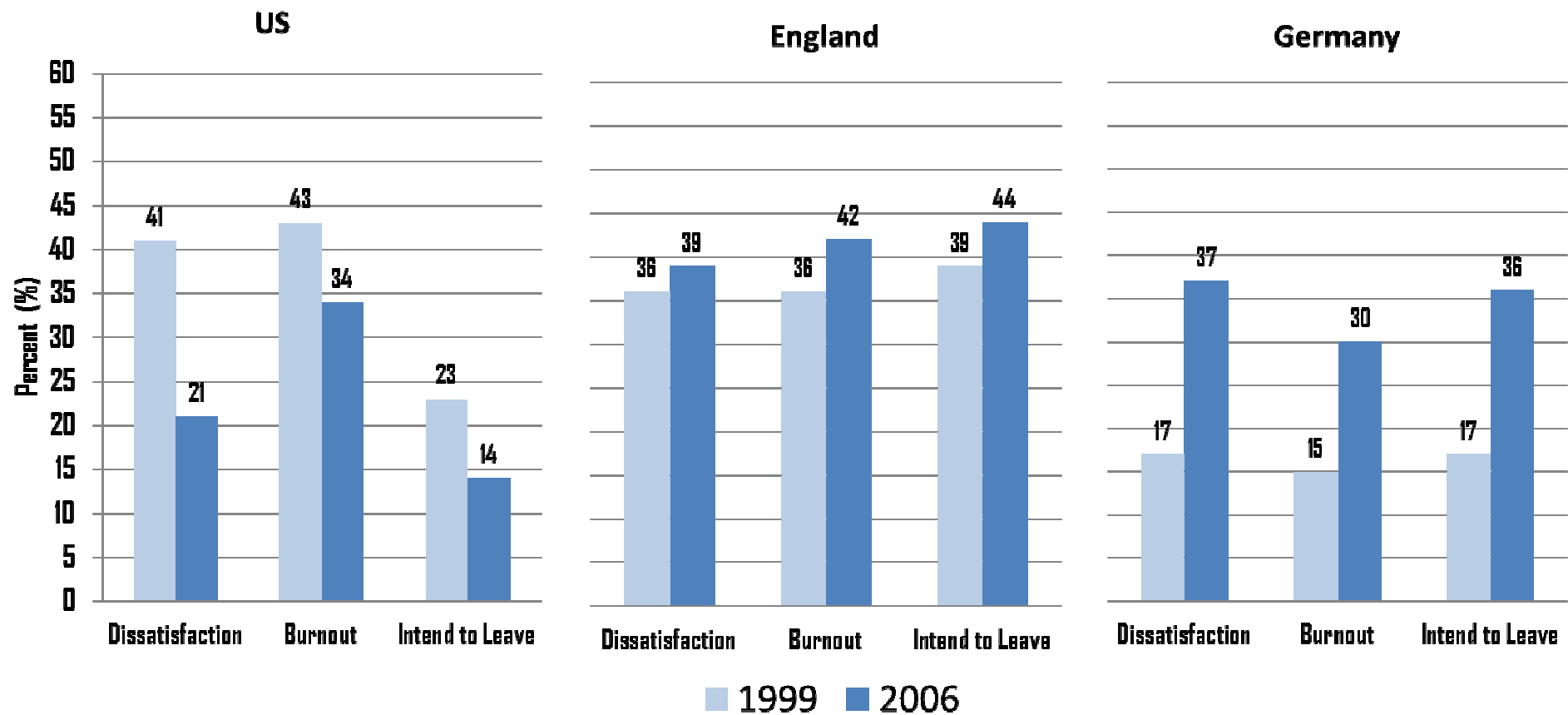


Funded by National Institute of Nursing Research, National Institutes of Health

# Impact of Better Staffing & Nurse Education on Mortality is Contingent upon Quality of Work Environment, US

- **Nurse Staffing: Decrease of 1 patient per nurse lowers mortality by**
  - 9% in best environment hospitals
  - 4% in mixed practice environments
  - No effect in hospitals with poor environments
- **Nurse Education: Hospitals with 20% more than average BSNs**
  - 12% lower mortality best environments
  - 3% lower mortality mixed environments
  - No effect poor environments

# US Experiences Positive Changes in Nurse Outcomes Compared to England & Germany 1999-2006



# Attractiveness of Nursing Increasing in U.S.

- **Staffing**: half states have safe staffing legislation
- **Environments**: Close to 7% hospitals Magnet
- Employers prefer **BSNs**
- **Wages** not major source dissatisfaction
- Nursing “hot” career choice



# Good Work Environment Is Essential

- **Feasibility**: Most countries have one or more hospitals with better work environments
- **Cost**: Most elements of better work environments are not costly
- **Value**: Better nurse staffing is costly and has no value added in hospitals with poor work environments
- **Value**: Better educated nurses are associated with better patient outcomes & potential for smaller nurse workforce
- **Quality/Safety**: Hospital work environment is single most important organizational factor explaining patient and nurse outcomes



- **For more findings and policy discussion by Consortium members and stakeholders**
- **Friday, May 6 10:30 am to 11:50 am**
- **Symposium in M A Grima Hall**
- **S\_210**

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