

Trauma systems & education: is there a European perspective?

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The Royal London Hospital



$$\Delta t' = t'_2 - t'_1 = t_2 - t_1$$

$$= \Delta t$$

$$\Delta l' = x'_2 - x'_1 = (x_2 - vt_2) - (x_1 - vt_1)$$

$$= (x_2 - x_1) - v(t_2 - t_1) = (x_2 - x_1) - v(t'_2 - t'_1)$$

$$= \Delta l$$

$$\frac{d\vec{u}}{dt} = 0 \quad \text{if } \vec{F} = 0. \quad \left(u_x = \frac{dx}{dt}, u_y = \frac{dy}{dt}, u_z = \frac{dz}{dt} \right)$$

$$u'_x = \frac{dx'}{dt'} = \frac{d(x - vt)}{dt} = u_x - v \quad (v = \text{const})$$

$$u'_y = \frac{dy'}{dt'} = \frac{dy}{dt} = u_y$$

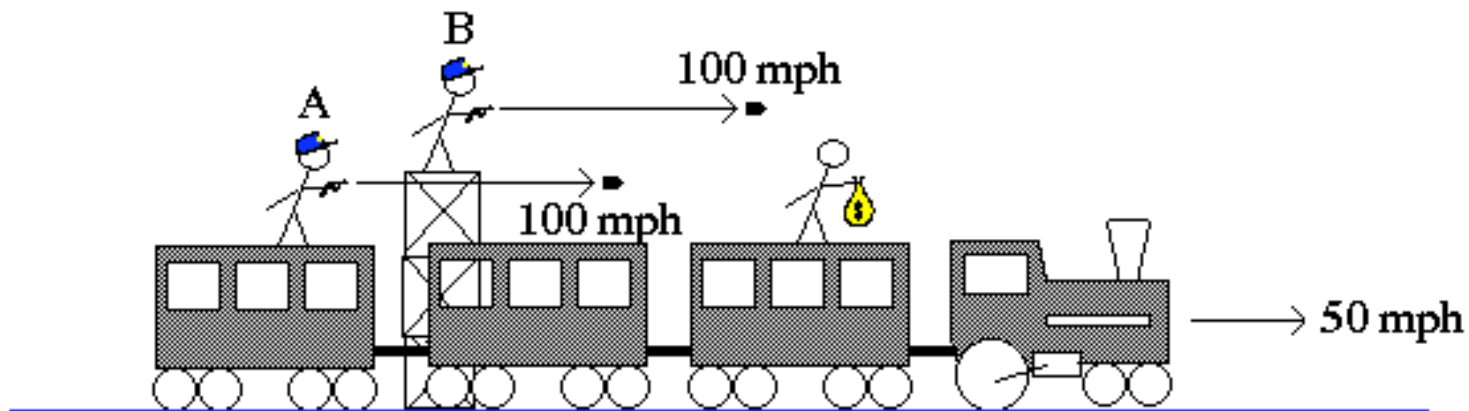
$$u'_z = \frac{dz'}{dt'} = \frac{dz}{dt} = u_z$$

$$\frac{du'_x}{dt'} = \frac{d(u_x - v)}{dt} = \frac{du_x}{dt}$$

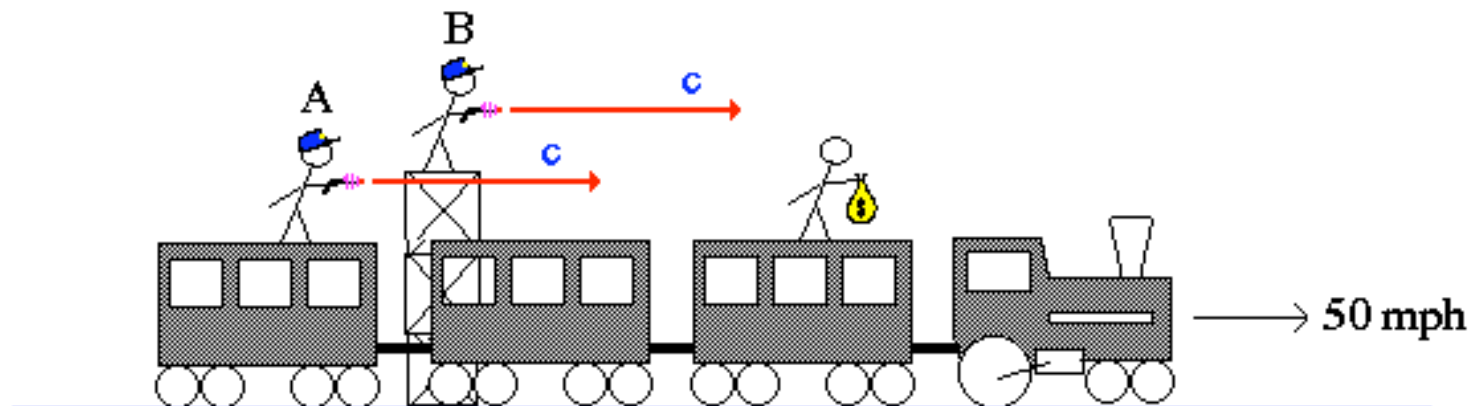
$$\frac{du'_y}{dt'} = \frac{du_y}{dt}$$

$$\frac{du'_z}{dt'} = \frac{du_z}{dt}$$

Relativistic Train Robbery



bullet from A strikes train robber at 100 mph (due to inertia), bullet from B strikes train robber at $100 - 50 = 50$ mph



relativity states that the speed of light is constant in all frames, thus the light rays from both A and B strike the train robber at the same time, and at the speed of light, c .

Trauma systems & education –
is there a European perspective?

Why Danes are smug: comparative study of life satisfaction in the European Union

Kaare Christensen, Anne Maria Herskind, James W Vaupel

Introduction

Danes are unrivalled in satisfaction with life. The University of Leicester recently published the World Map of Happiness (http://news.bbc.co.uk/2/shared/bsp/hi/pdfs/28_07_06_happiness_map.pdf) with Denmark as number one. For more than 30 years this country with five million inhabitants has ranked first in Eurobarometer surveys (europa.eu.int/comm/public_opinion/index_en.htm). More than two thirds of Danes are “very satisfied” with their lives according to these surveys. In no other Eurobarometer country has this proportion exceeded a half, and for most of the countries the proportion is less than a third

with life is, for good reason, as much as 38% higher in spring than autumn.

Native tongue—The Danish word “tilfreds” may have a subtly different meaning than the English “satisfied” or the Swedish “nöjd.” A millennium ago the three languages were close relatives, but today they differ considerably with English evolving from the rich merger of Germanic and Latin sources, Swedish developing into an effeminate sing song, and Danish faithfully preserving the guttural grunts of the Vikings. The root meaning of the Danish “tilfreds” is “at peace” and it can be translated as the English “contented” as well as “satisfied.” Having considered the issue at length, the bilingual authors of this article

Why Danes are smug: comparative study of life satisfaction in the European Union

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Hypotheses, methods, and results

We focused on accounting for why life satisfaction in Denmark substantially exceeds that in Sweden and Finland, the two Eurobarometer countries most similar to Denmark. We have ordered our hypotheses roughly from most to least implausible.

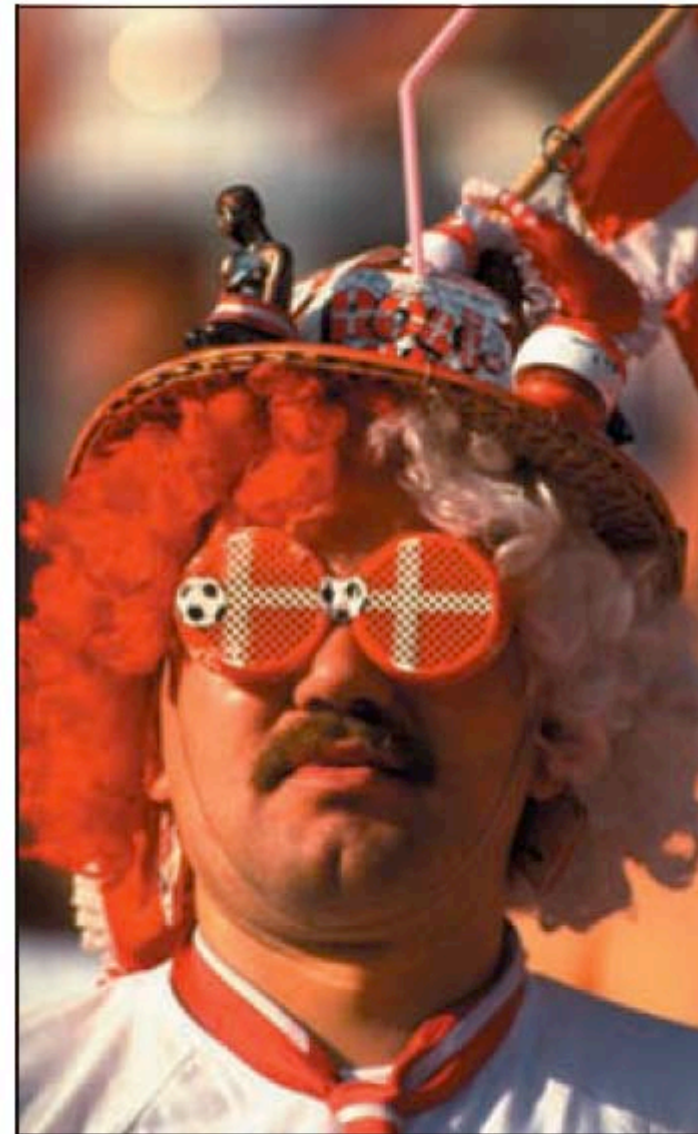
Hair colour—It may indeed be the case that “blondes have more fun.” This hypothesis was launched in the 1950s by a commercial slogan for a hair dye and was cemented in popular culture in 1978 by rock musician Rod Stewart’s album of the same title. Sweden, however, has a higher prevalence of blondes than Denmark.¹

with life is, for ge
spring than autu

Native tongue
have a subtly d
“satisfied” or tl
ago the three lan
they differ consi
the rich merge
Swedish develop
and Danish faith
the Vikings. The
is “at peace” an
“contented” as w
the issue at lengt
conclude that it i
satisfied and th
always very “til
Swiss populatio
level in Switzerl
France, Italy, a
border similarity
Switzerland.³

Alcohol and s
drinking are ass
are among thos
Europe. This is r
expectancy.⁴ A r
one reason that
were drunk wh
barometer surve

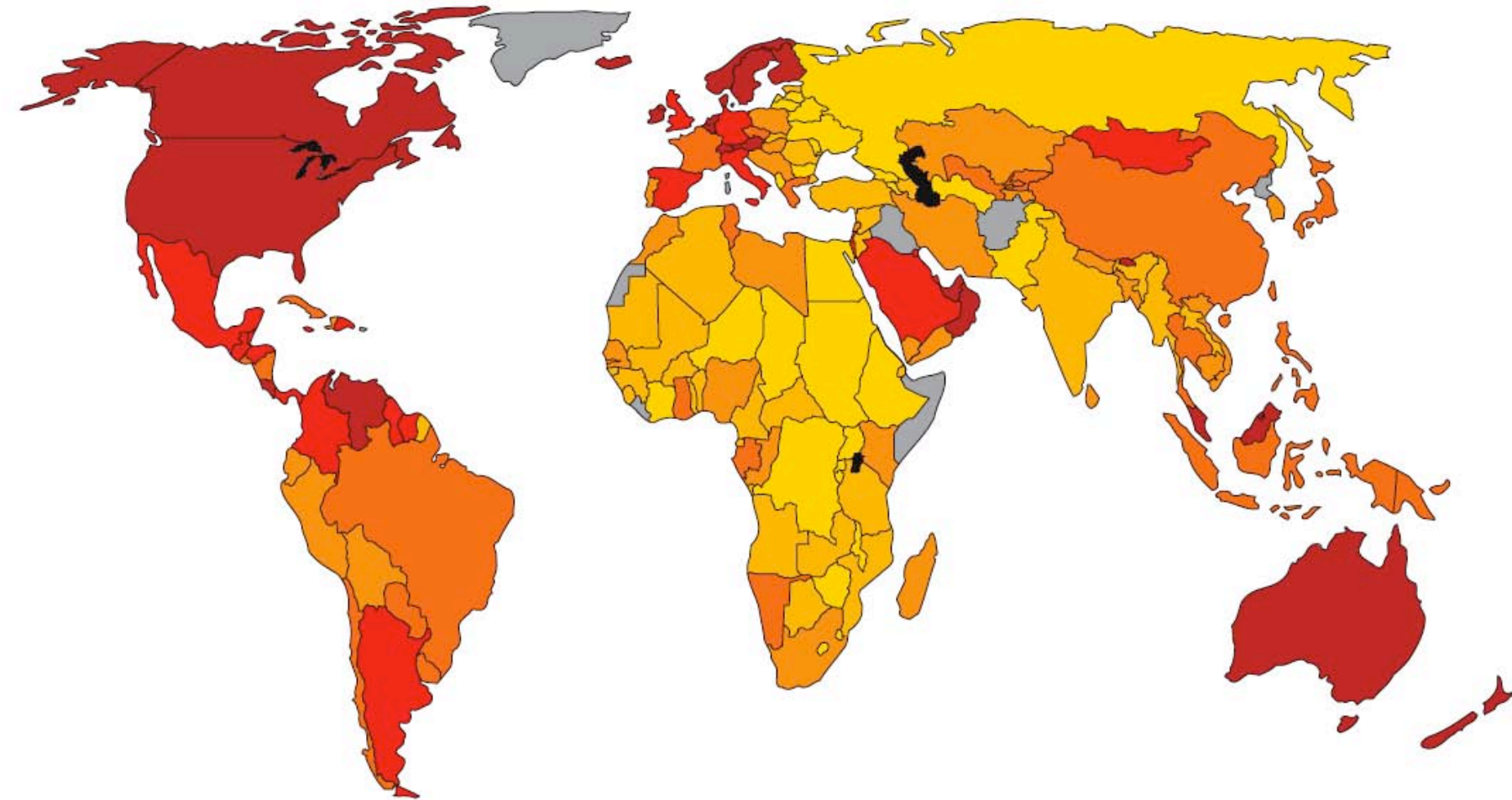
Marriage and

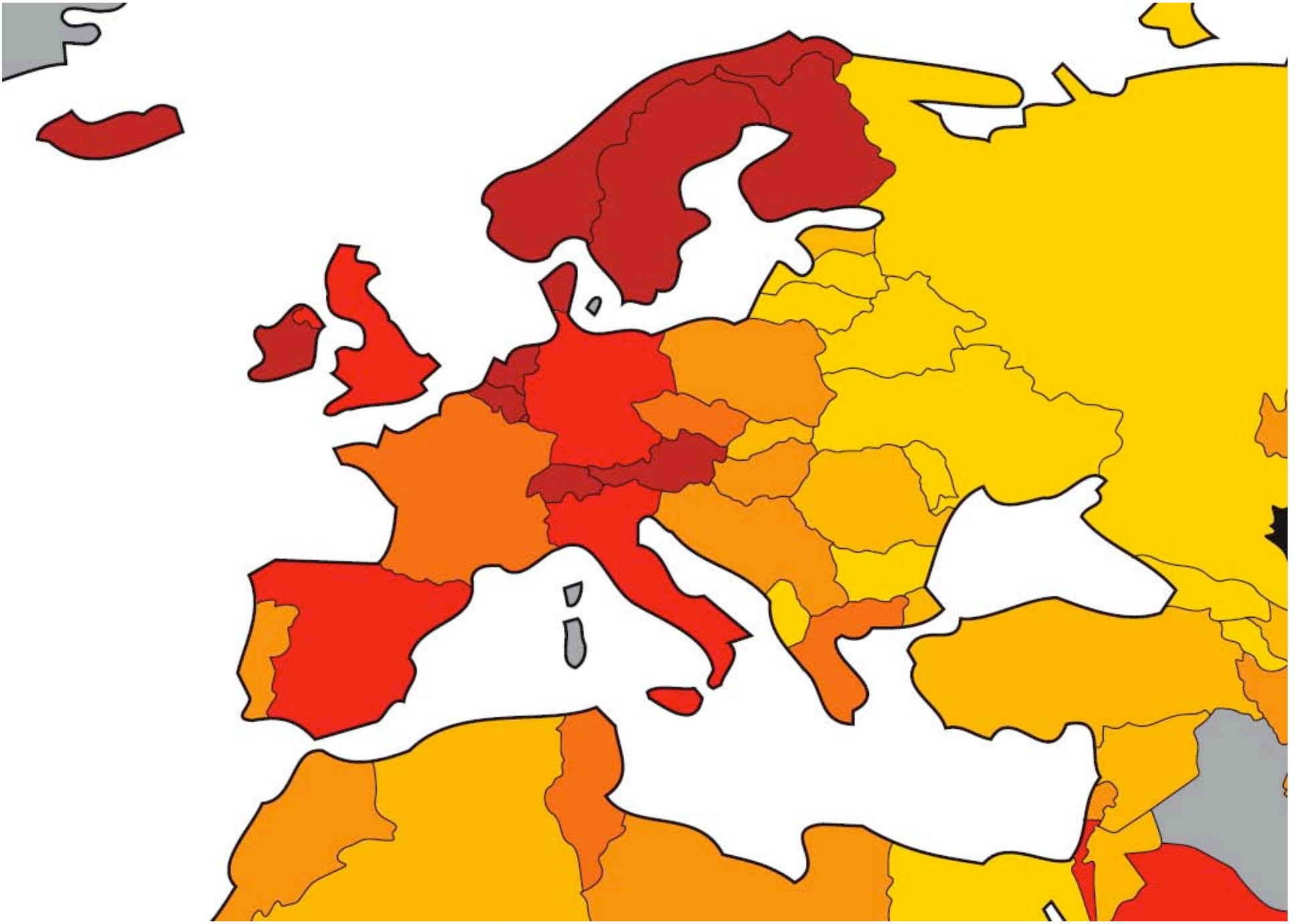


SIMON BURDY/GETTY SPORT

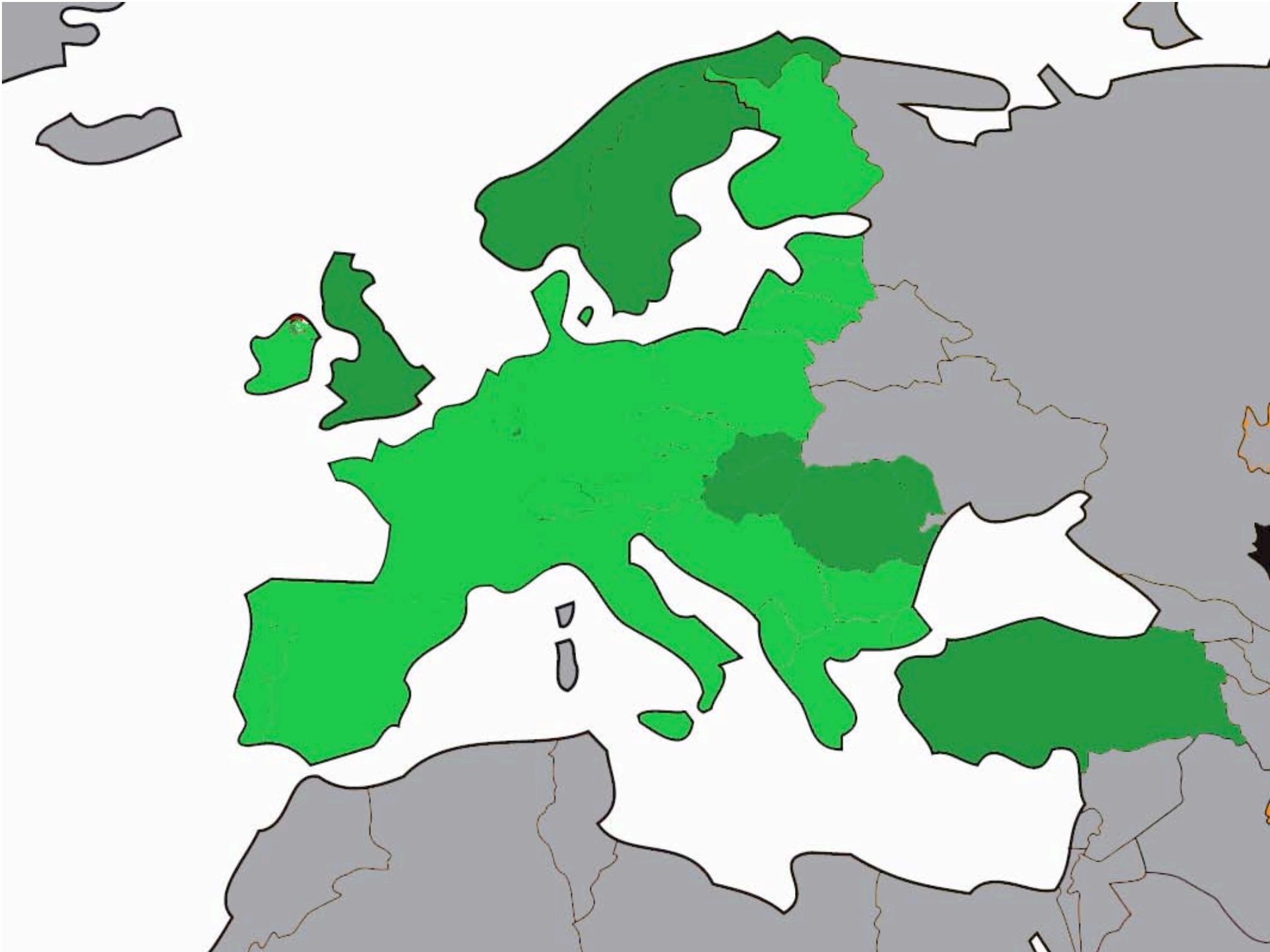
Dane, at peace

A Global Projection of Subjective Well-being: The First Published Map of World Happiness





Organised trauma systems

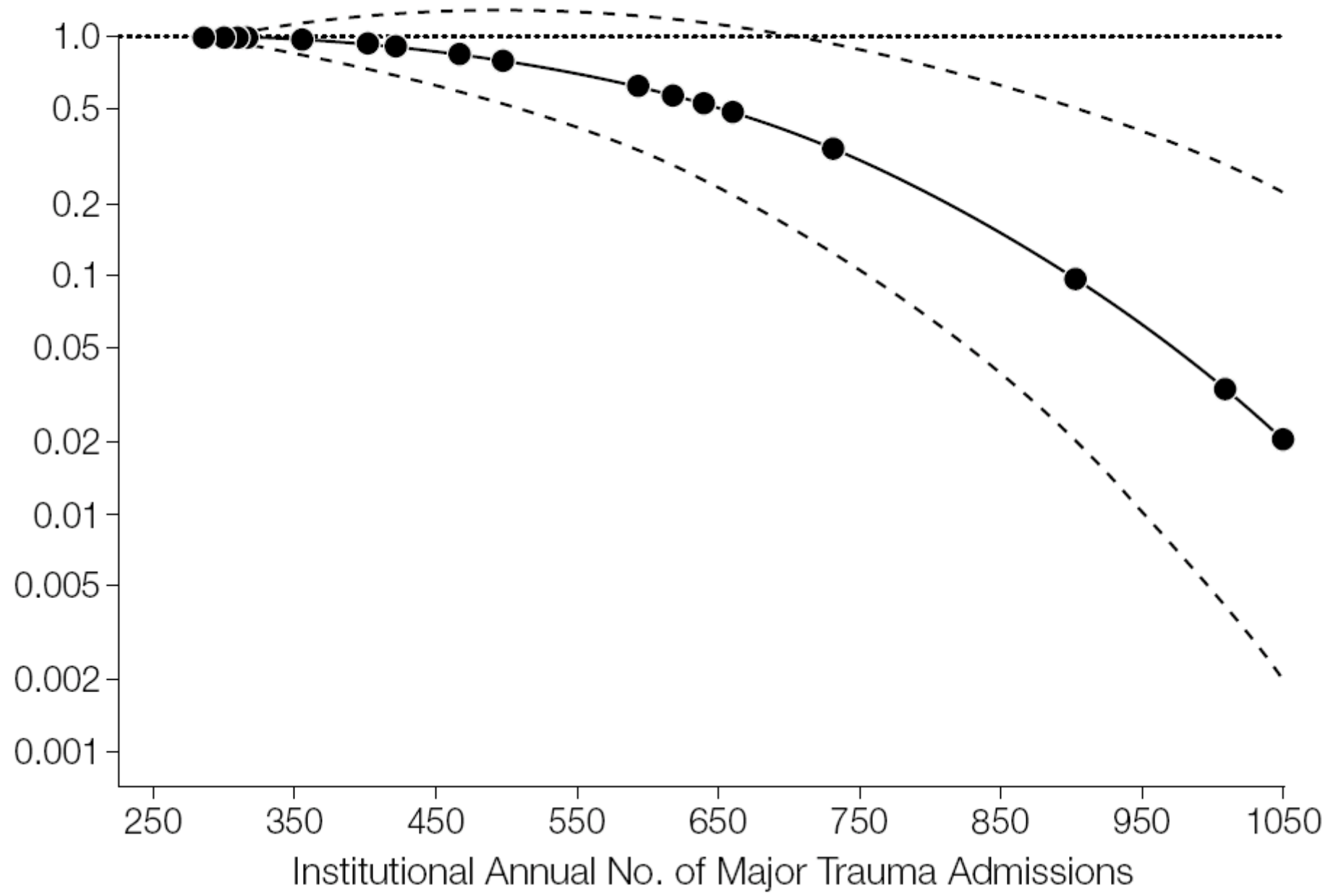


They Work!

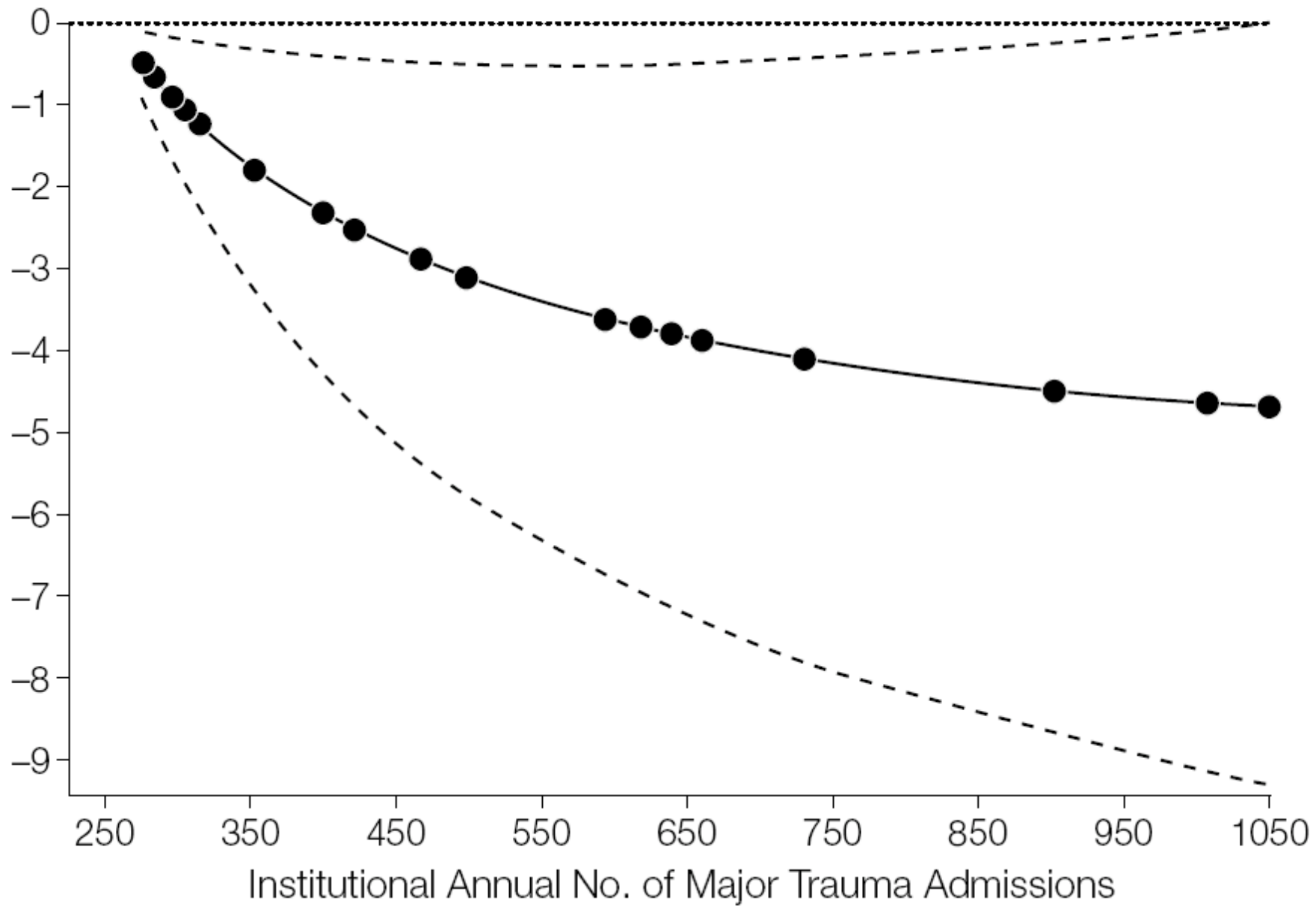
25% reduction overall
mortality

preventable deaths ~ 0

B Patients With Shock

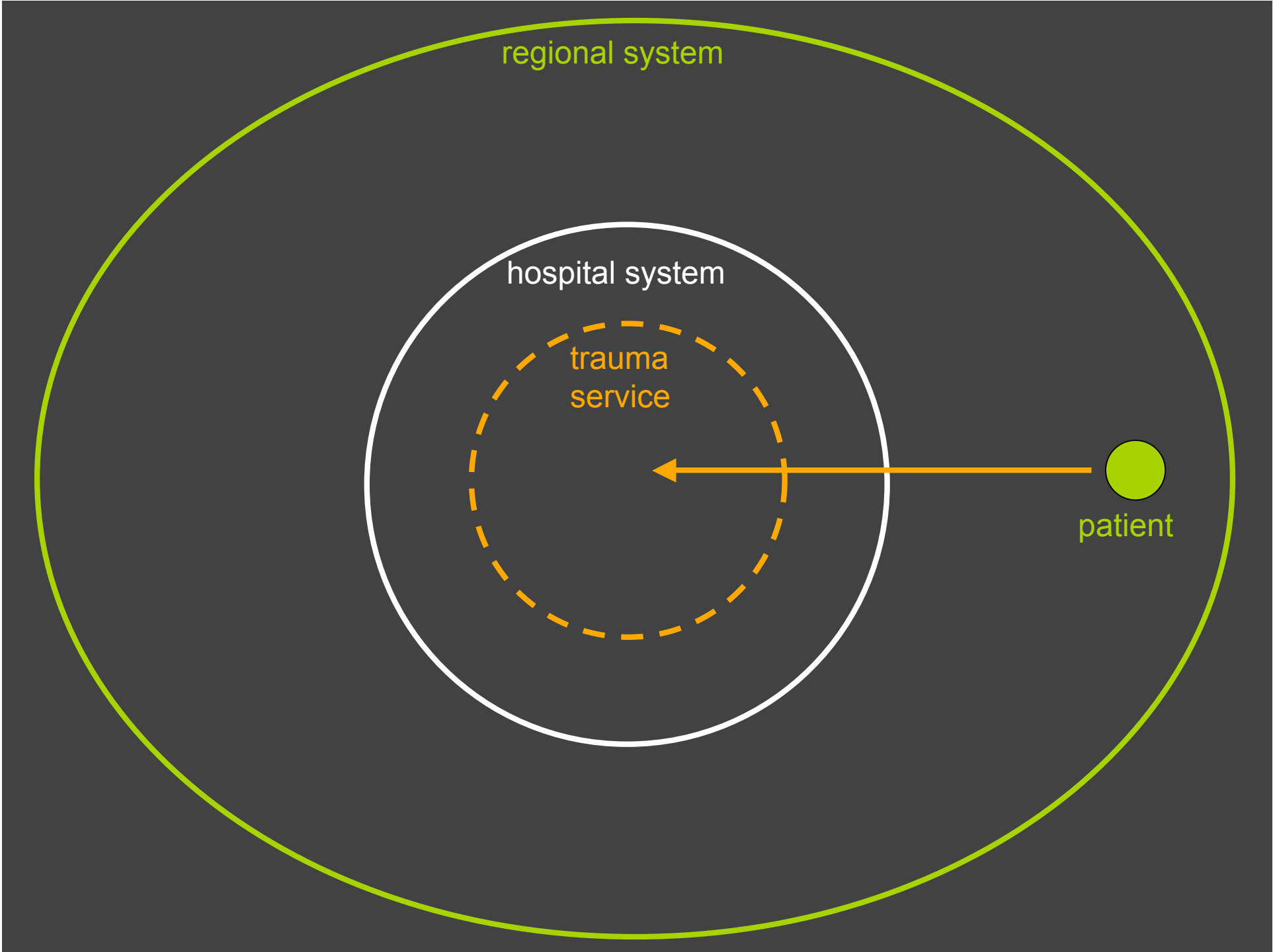


B NISS >15



	<i>Cost per Life-Year Saved</i>
Trauma Centers	
Durham ¹³	\$2,815
Rotondo ¹⁴	\$2,184
Prevention CVS disease	
Aspirin	\$21,864
<u>Statins</u>	\$245,456
<u>tPA</u> for heart attack	\$40,140
End stage kidney disease	
Dialysis	\$50,000
Kidney Transplant	\$10,000
Breast Cancer	
<u>Tamoxifen</u>	\$123,780
<u>Herceptin</u>	\$209,518

responsible for a defined
patient population



regional system

hospital system

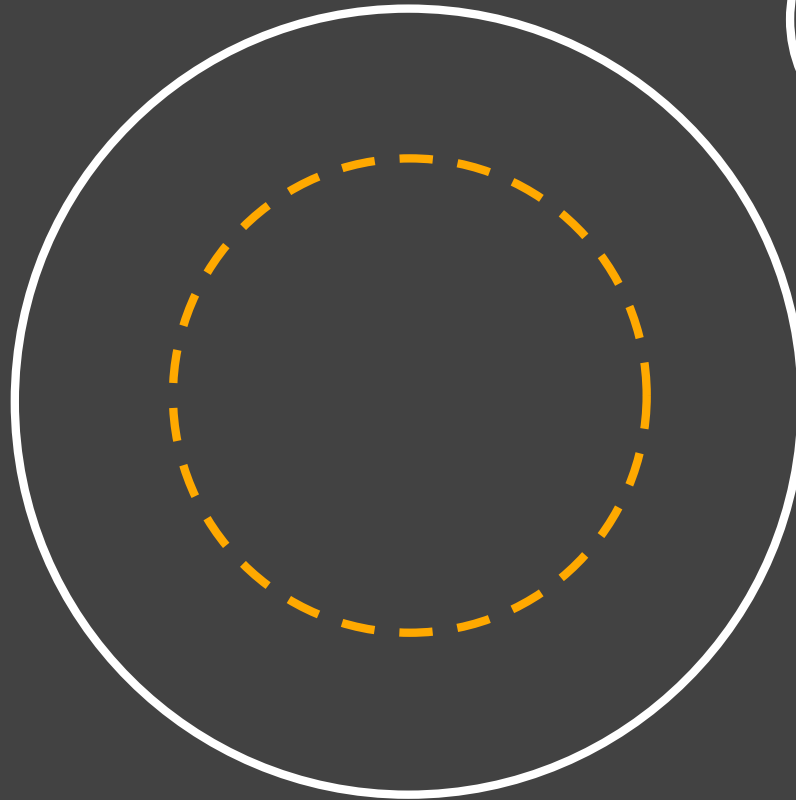
trauma
service

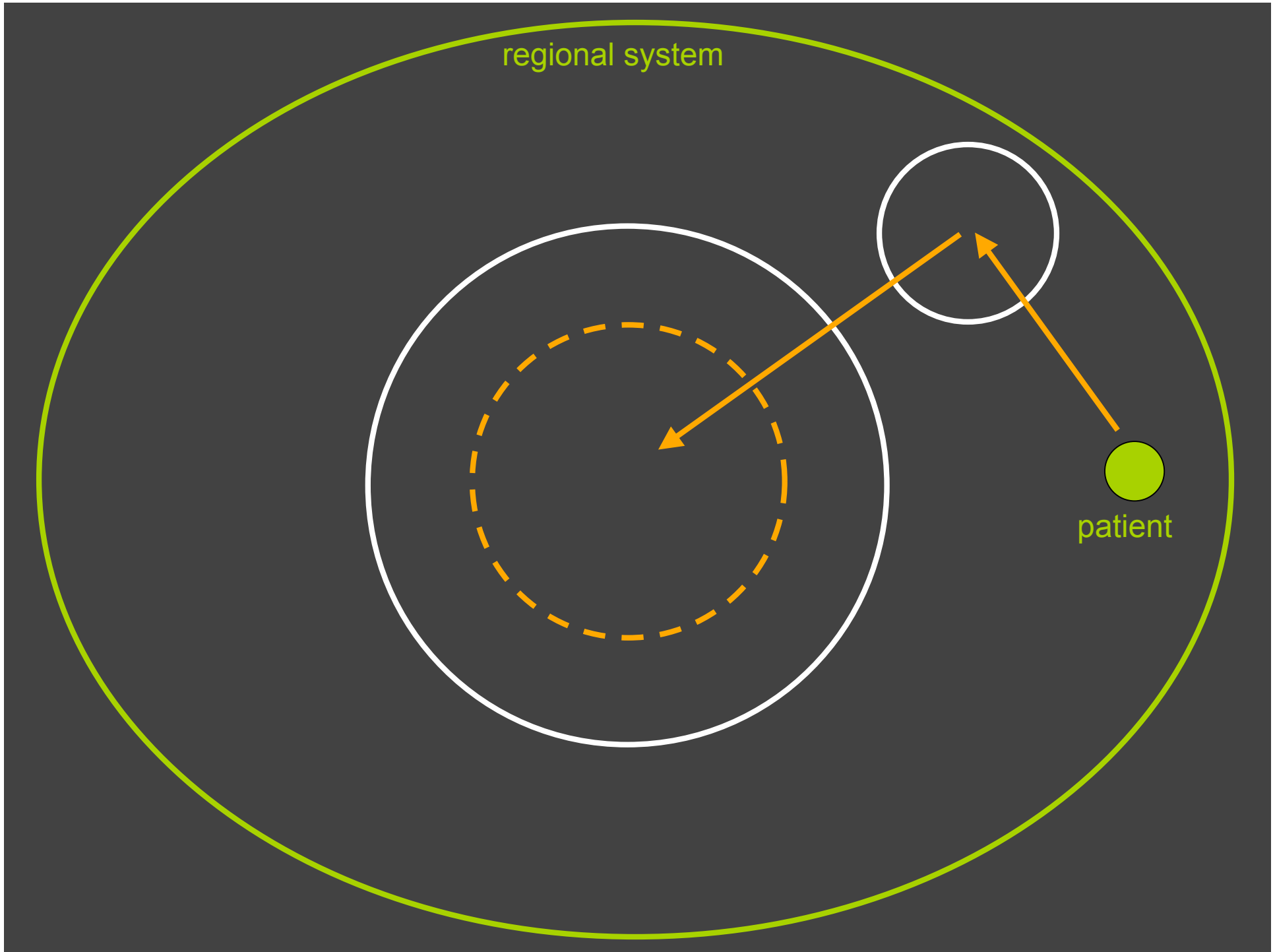
patient

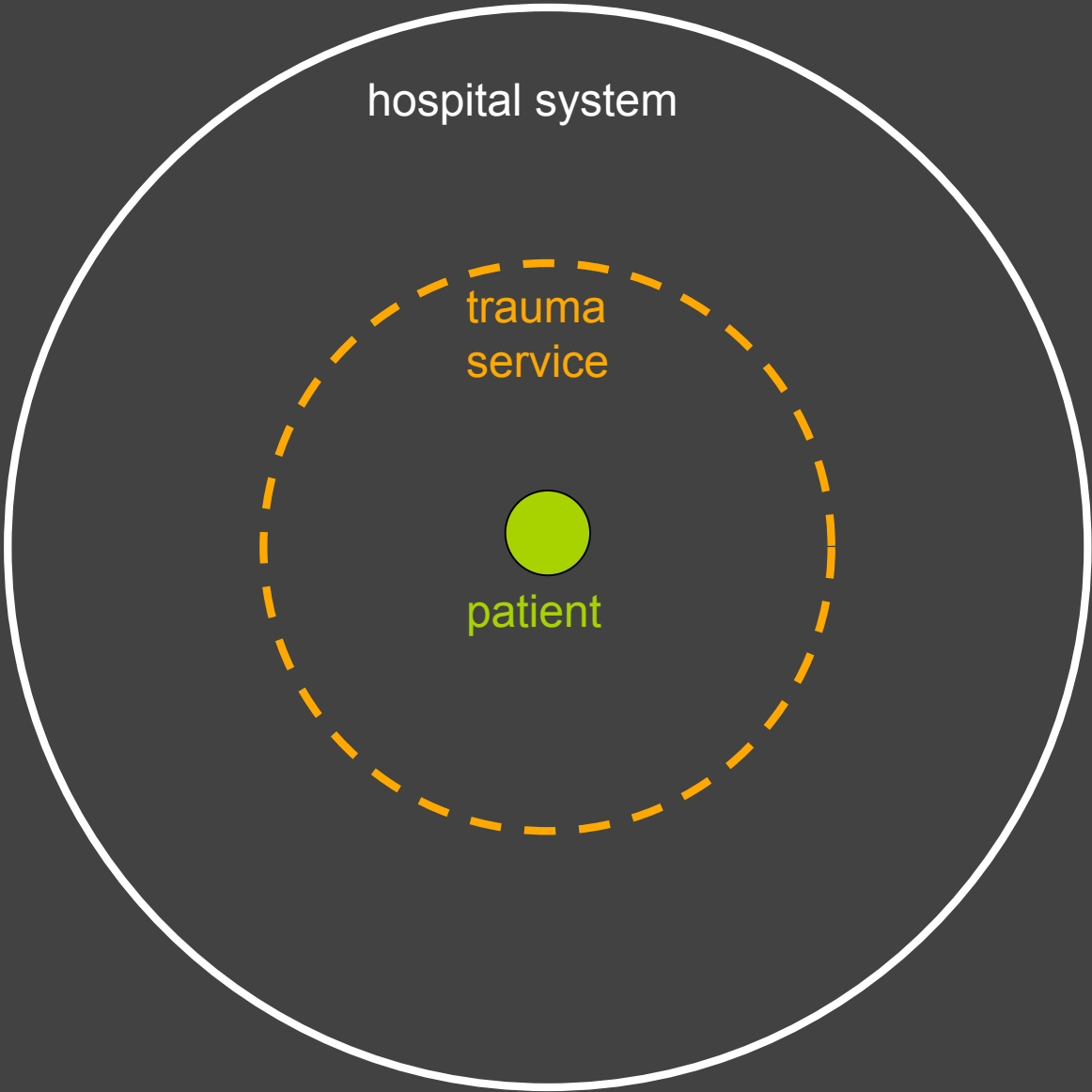
regional system



patient



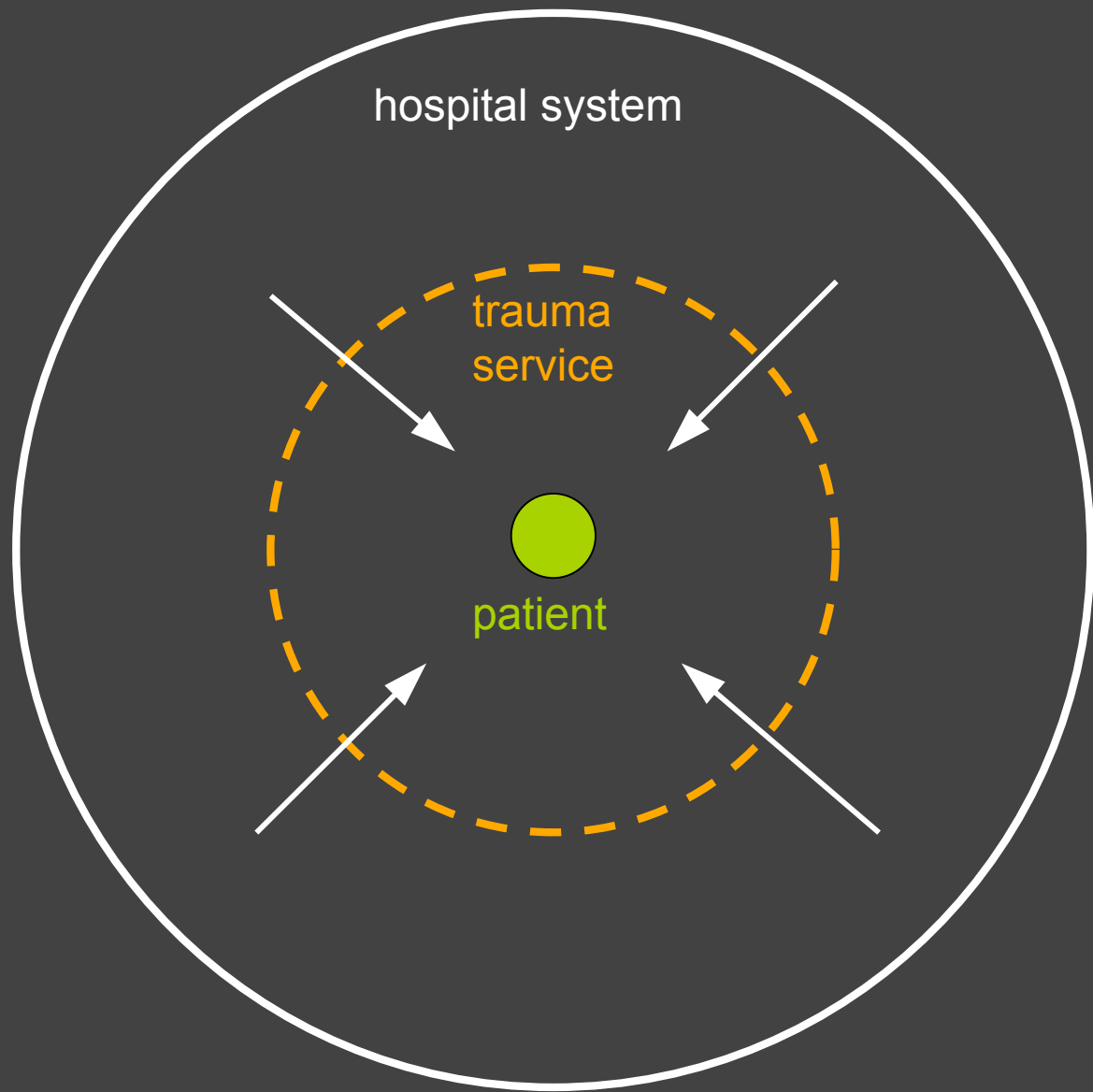




hospital system

trauma
service

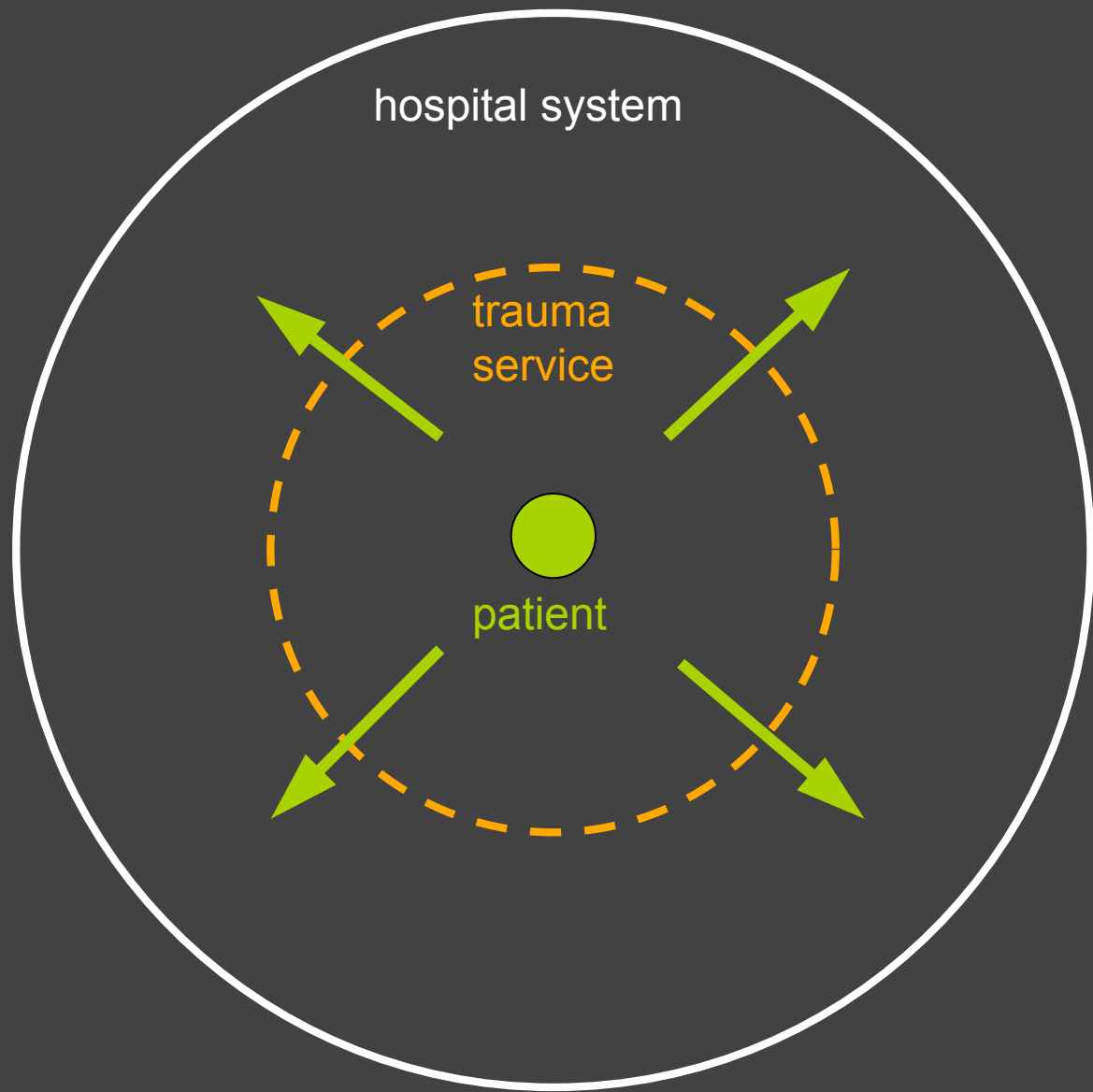
patient



hospital system

trauma
service

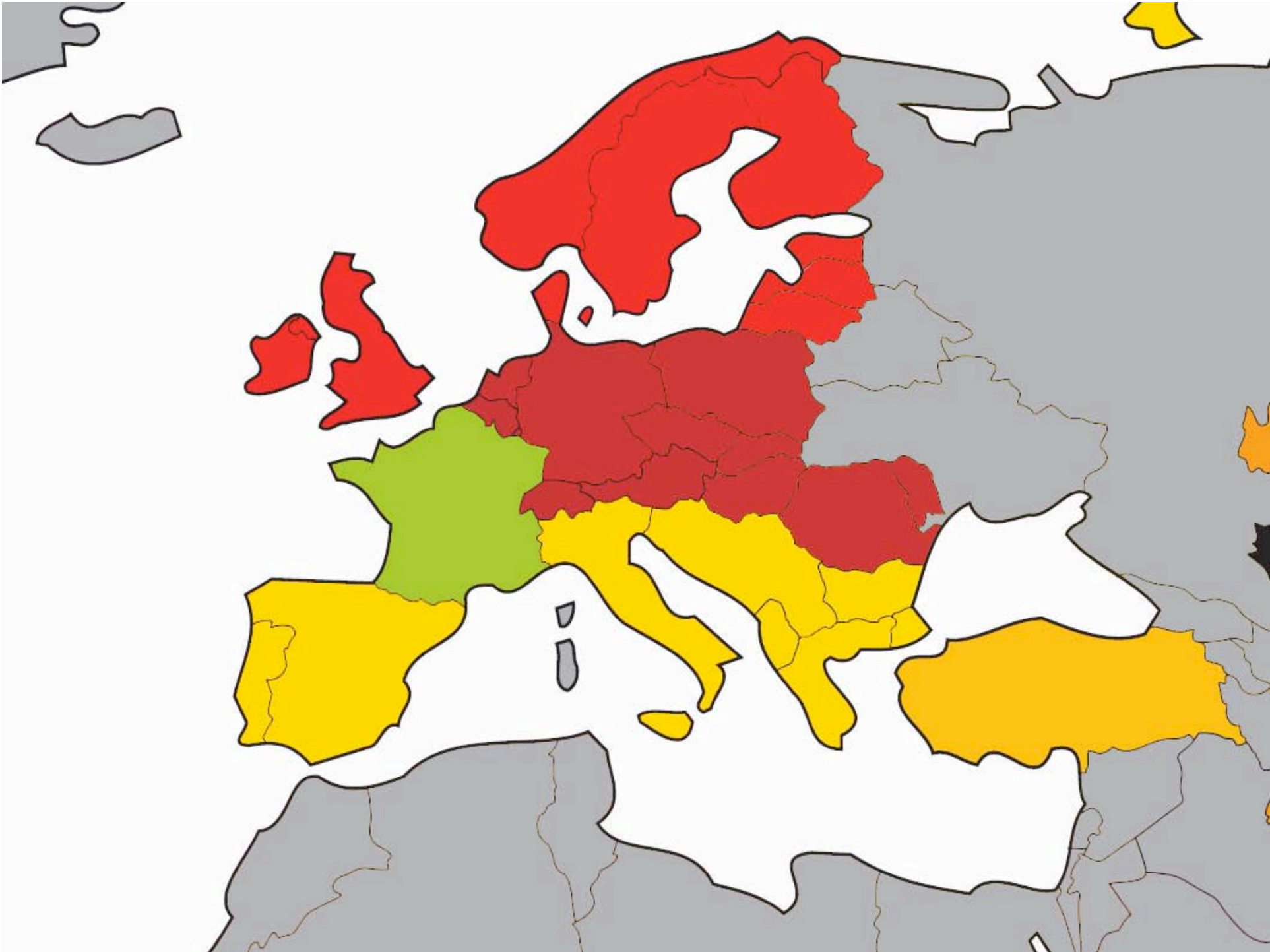
patient



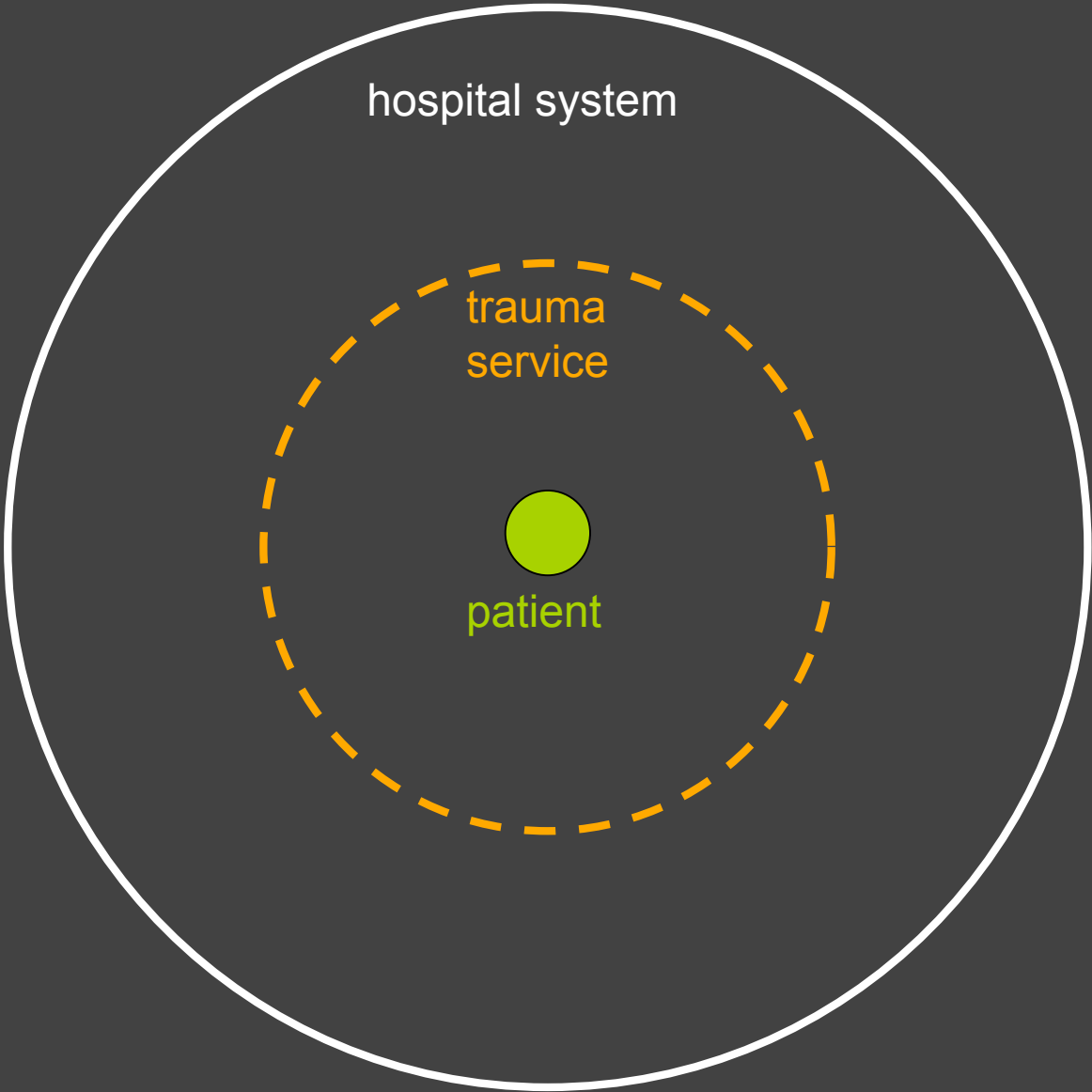
hospital system

trauma
service

patient



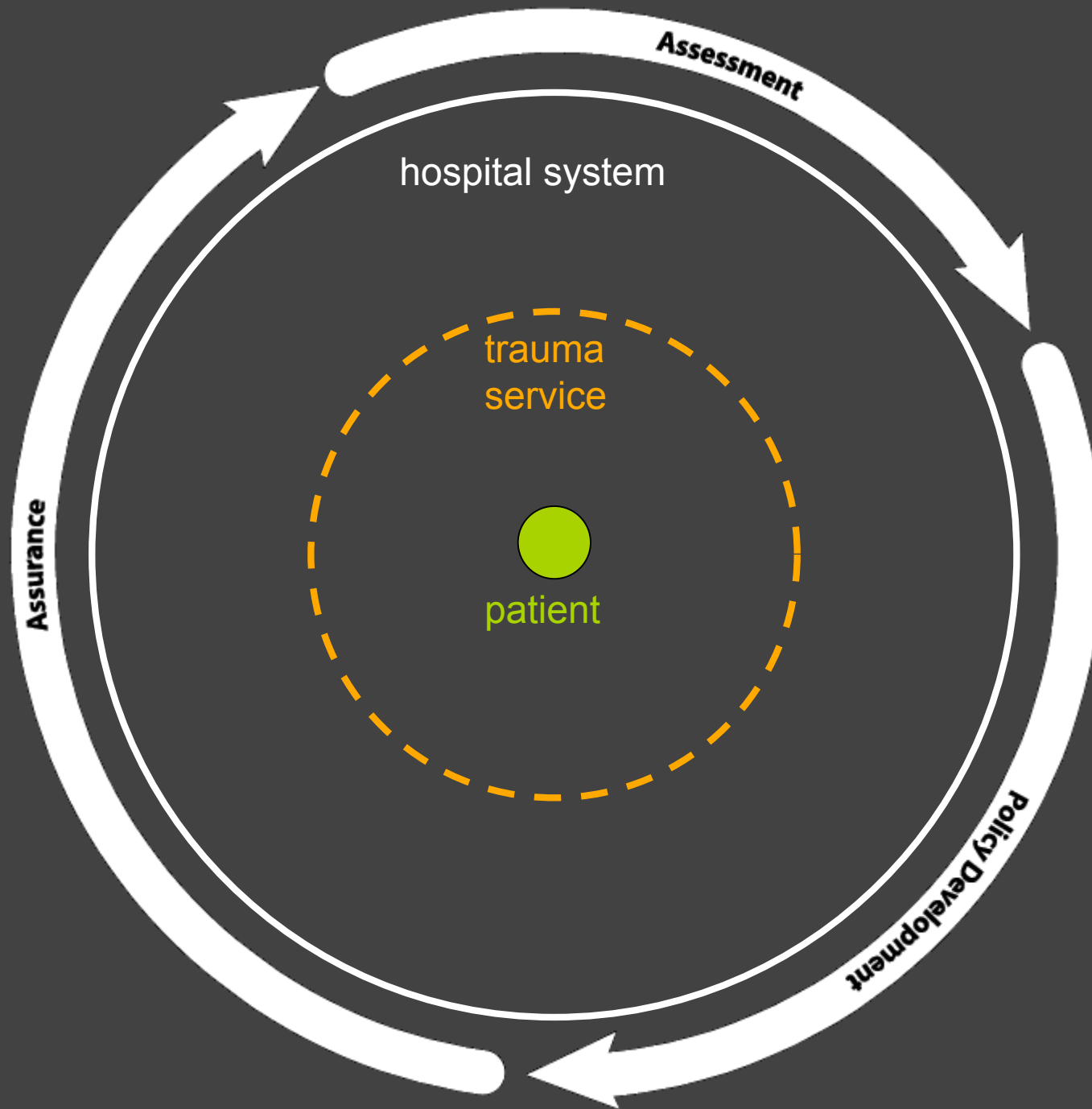


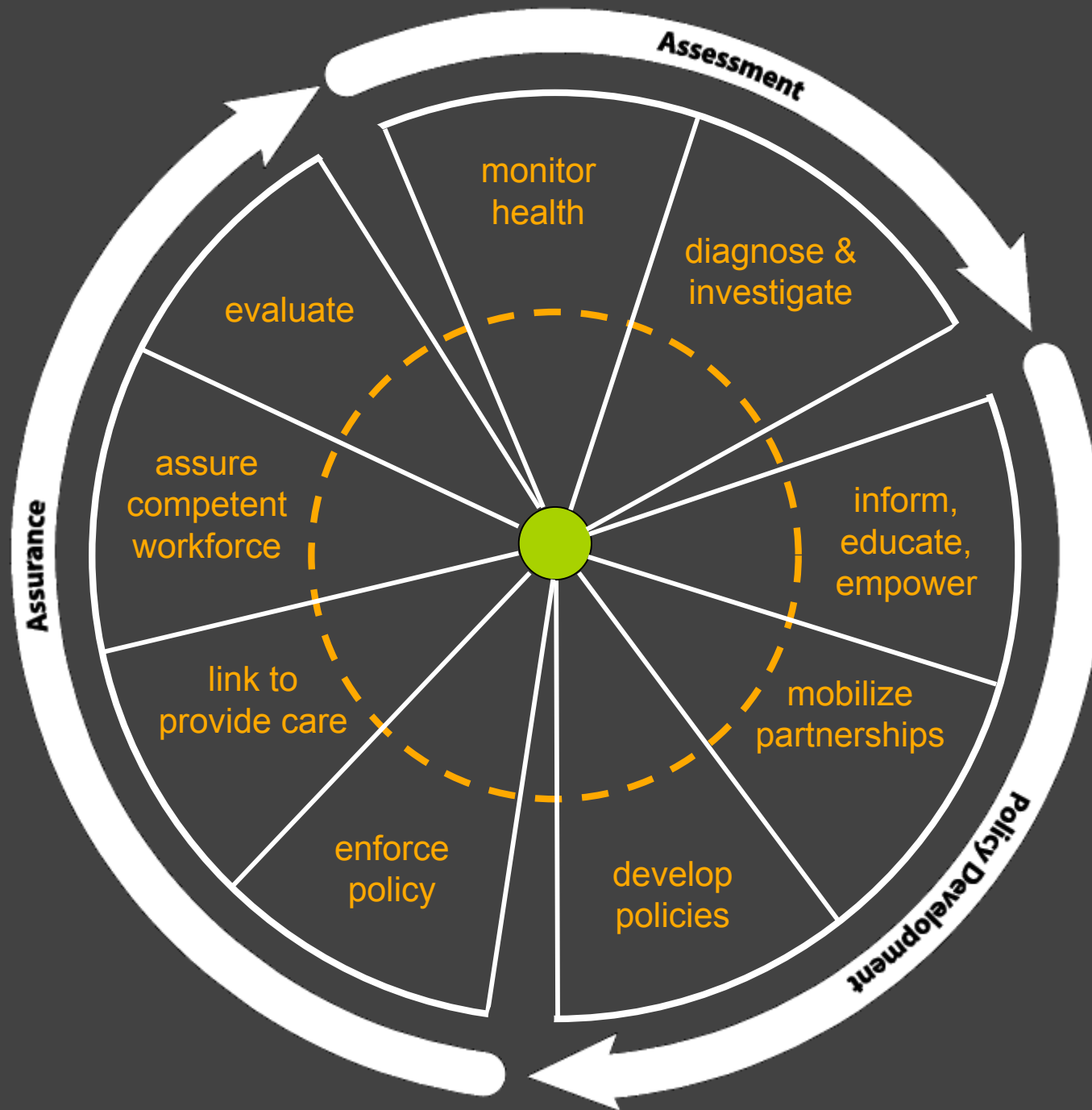


hospital system

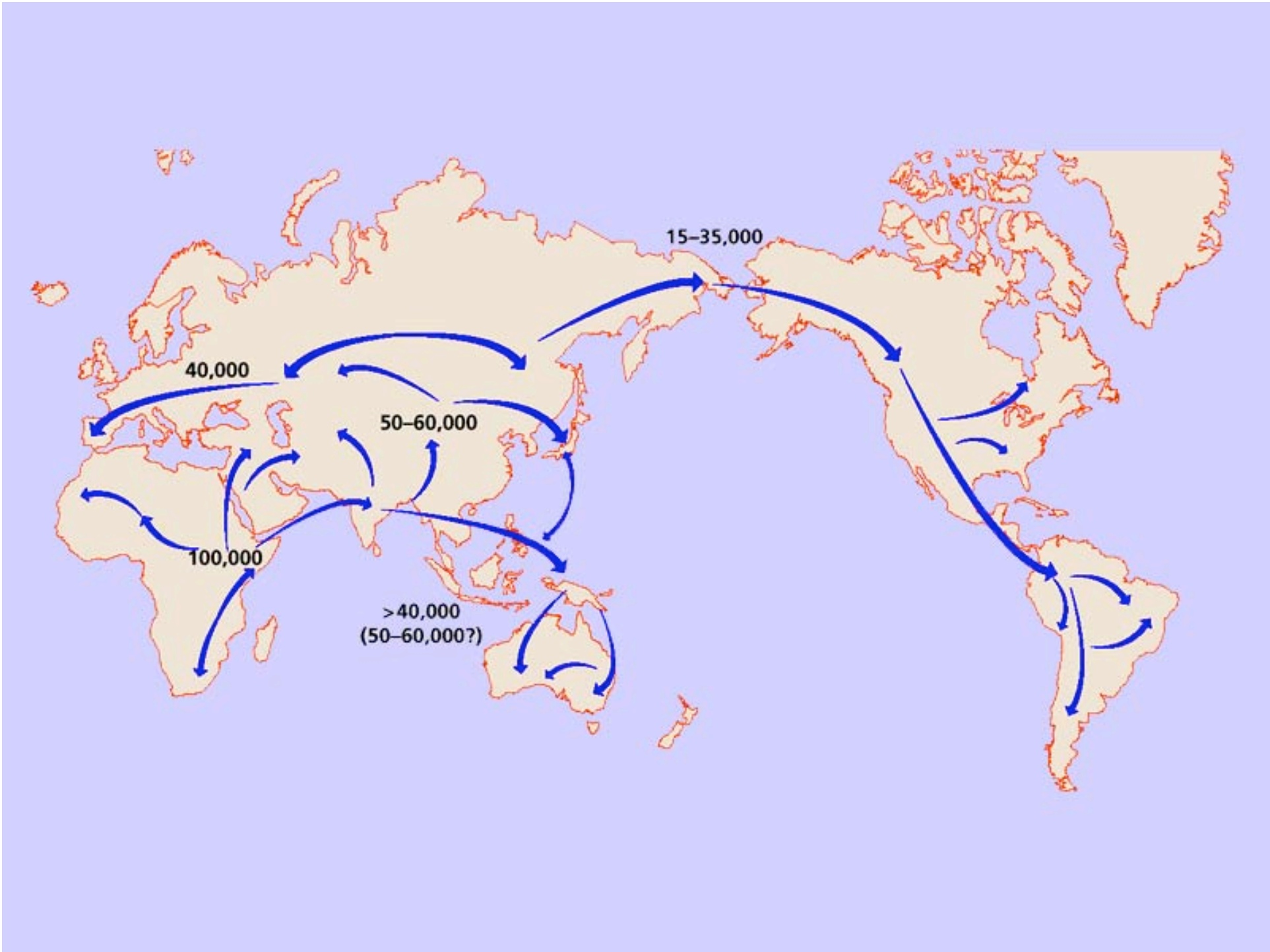
trauma
service

patient





is Europe different?



same species

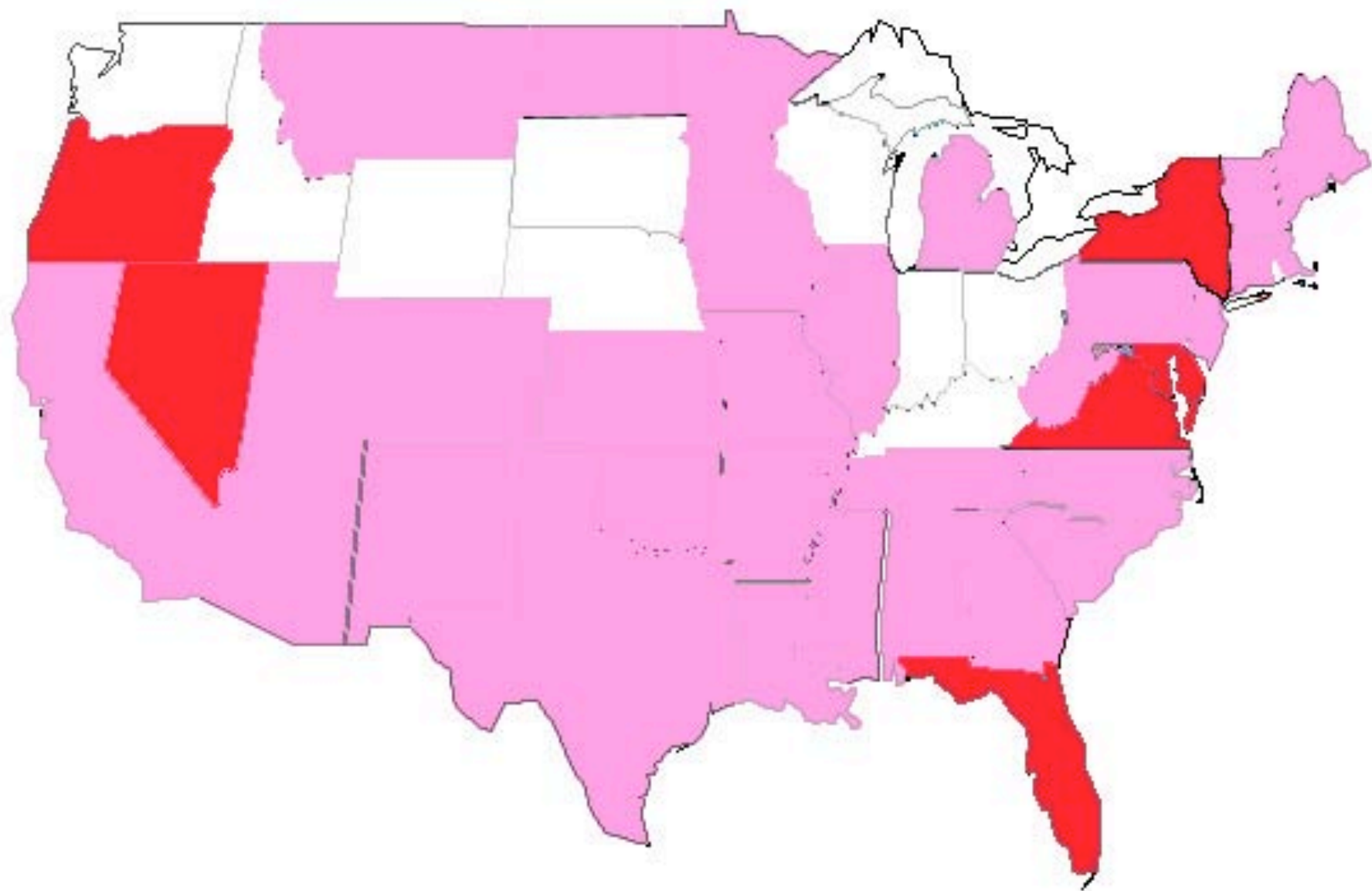
same needs

different delivery of care

local solutions

fragments of systems

fragmented approach



What can Europe offer?

Expertise



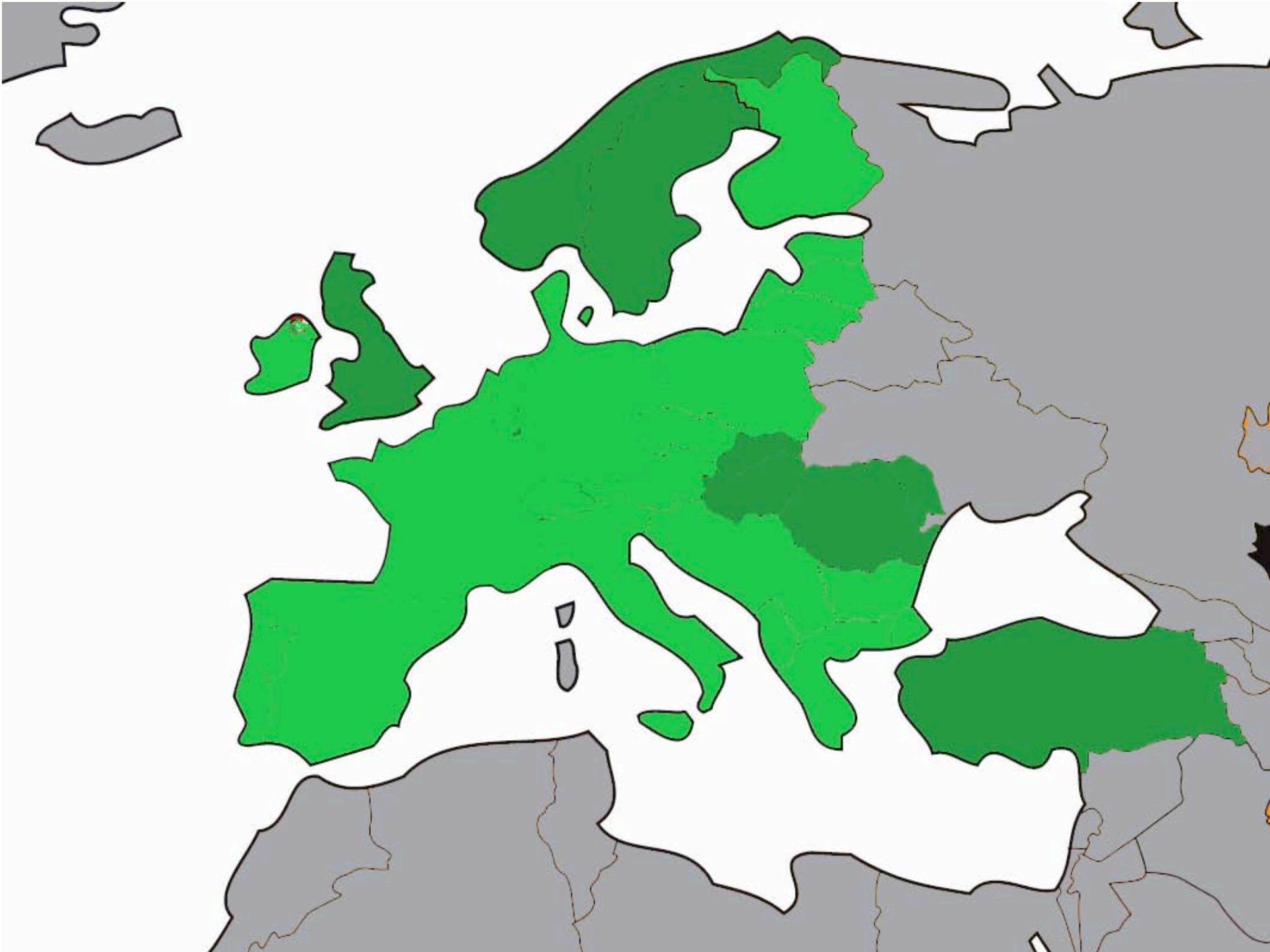












Trauma Education

European perspective?

or non-US?

or non-US?
alt.ATLS

A map of Europe with several regions highlighted in green. The highlighted areas include the British Isles, Scandinavia (Sweden, Finland, and Norway), the Baltic states (Estonia, Latvia, and Lithuania), Poland, Czech Republic, Slovakia, Austria, Hungary, and parts of Germany and France. A black horizontal bar with yellow text is overlaid on the map.

Start a new society

A map of Europe is shown with a black banner across the middle. The banner contains the text "Start a new course" in a yellow, monospace-style font. The map uses two shades of green to highlight different regions: a darker green for the northern and central parts of Europe, and a lighter green for the southern and western parts. The rest of the map is in shades of gray.

Start a new course

modern education principles



technical
skills

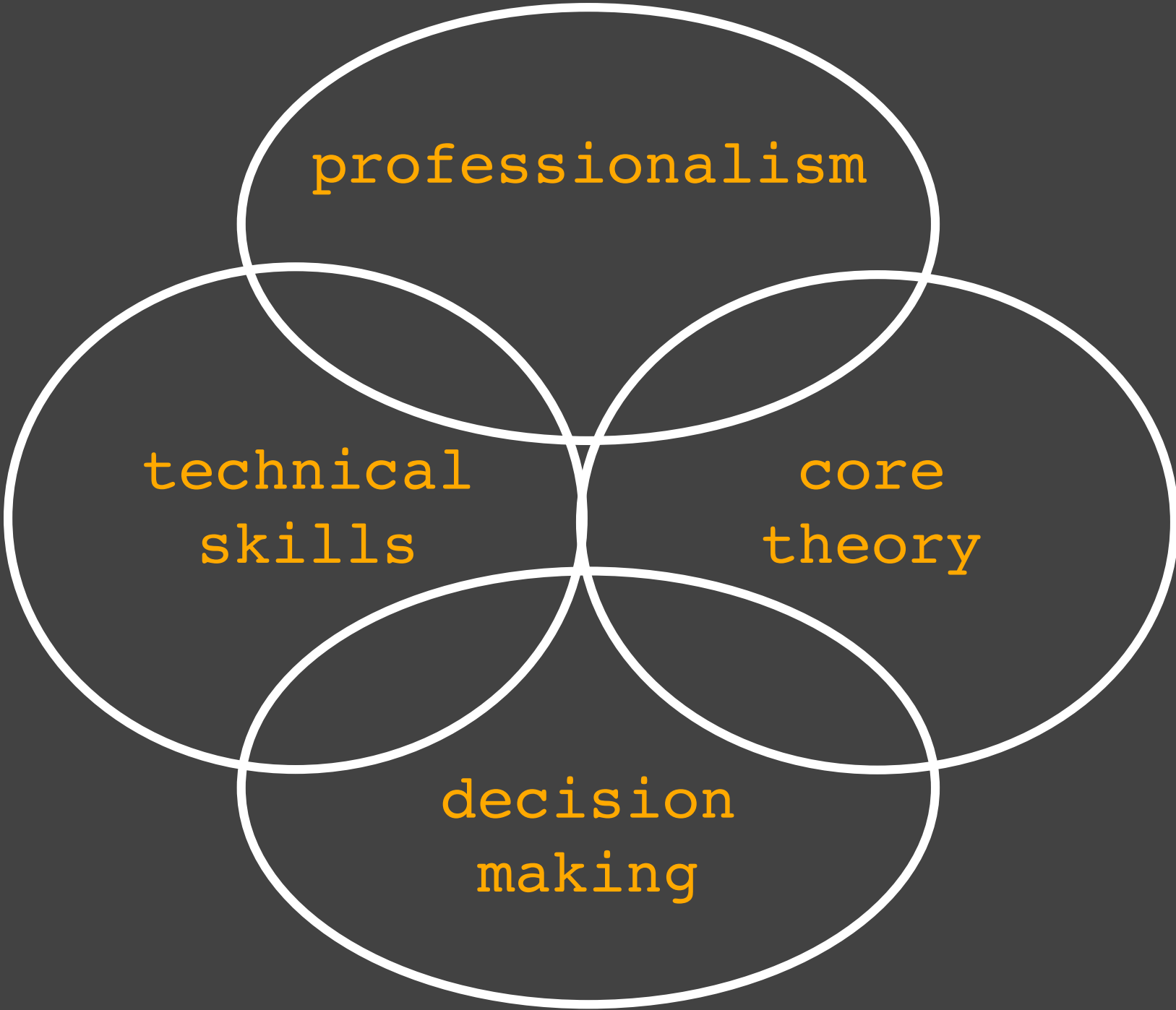
core
theory

A Venn diagram consisting of three overlapping circles. The top-left circle is labeled 'technical skills', the top-right circle is labeled 'core theory', and the bottom circle is labeled 'decision making'. The circles overlap in the center, and each pair of circles also overlaps.

technical
skills

core
theory

decision
making



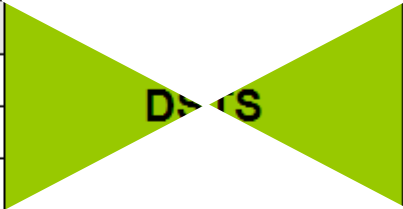
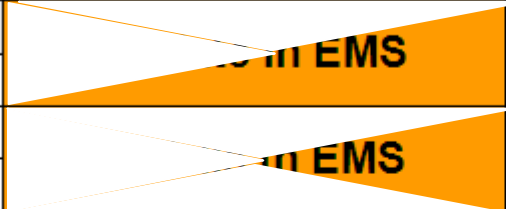




professionalism

technical
skills

core
theory

decision
making

Level	Trauma	Emergency Surgery	Critical Care
CCT+	DSTS	Update in EMS	
ST 8		Pitfalls in EMS	
ST 7			
ST 6		SpR Skills	
ST 5			
ST 4			
ST 3		BSS	CCrISP
ST 2			
ST 1	ATLS		
FY 2			
FY 1			

Level	Trauma		Emergency Surgery		Critical Care
CCT+					
ST 8					
ST 7					
ST 6					
ST 5					
ST 4					
ST 3					
ST 2					
ST 1					
FY 2					
FY 1					



24 HRS.



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Focused Assessment with Sonography for Trauma (FAST)

A primer on the FAST exam

Karim, July 02, 2006

Introduction

The use of focused ultrasonography has now become an extension of the physical examination of the trauma patient. Performed in the trauma room by properly trained and credentialed staff, it allows the timely diagnosis of potentially life-threatening haemorrhage and is a decision-making tool to help determine the need for transfer to the operating room, CT scanner or angiography suite.



Ultrasound was first utilised for the examination of trauma patients in the 1970s in Europe, where its qualities for being a noninvasive, rapid, safe, accurate and repeatable bedside assessment were first appreciated. It's uptake in North America and the United Kingdom did not occur until the 1990s. Since that time a considerable body of data has been produced to

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KEYWORDS

- pulmonary contusion
- sonography
- test

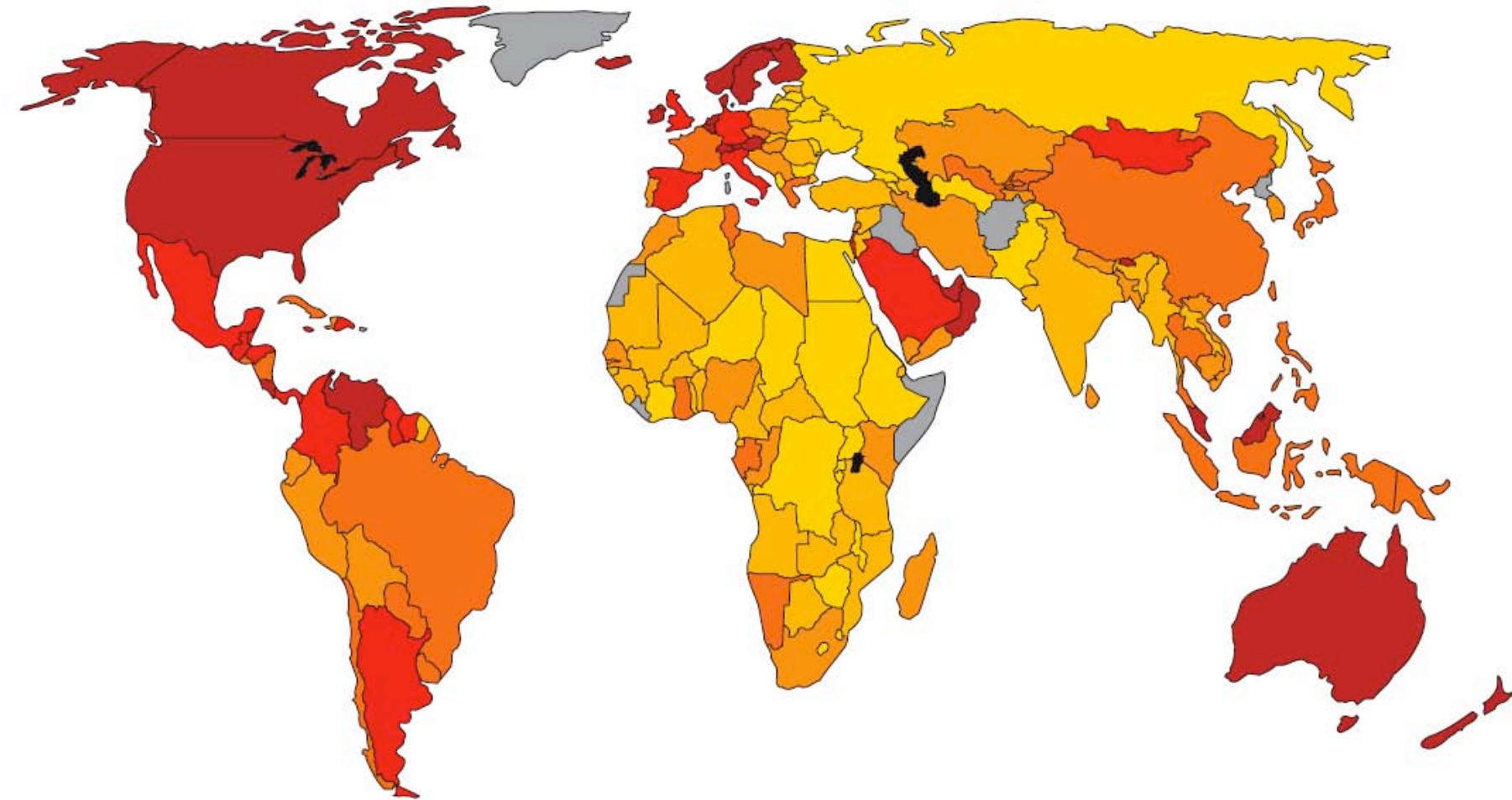
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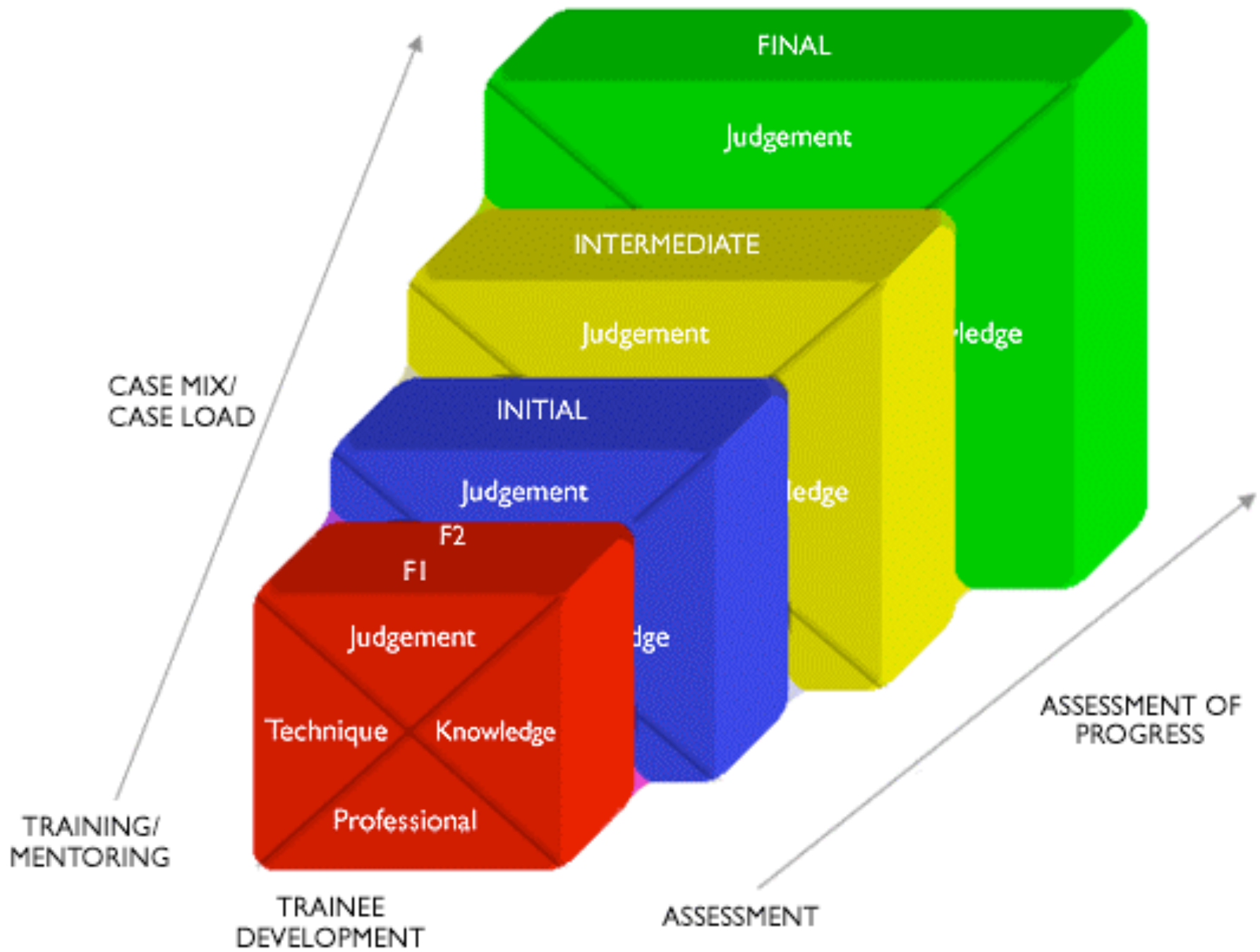
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Level	Trauma	Emergency Surgery	Critical Care
CCT+	Masterclass	Masterclass	
	Advances	Advances	
ST 8	DSTS	Specialist Emergency Surgery	
ST 7			
ST 6	Intermediate Emergency General Surgery & Trauma		
ST 5			
ST 4			
ST 3	Core Skills in Emergency General Surgery & Trauma		
ST 2			
ST 1	ATLS	BSS	CCrISP
FY 2			
FY 1			

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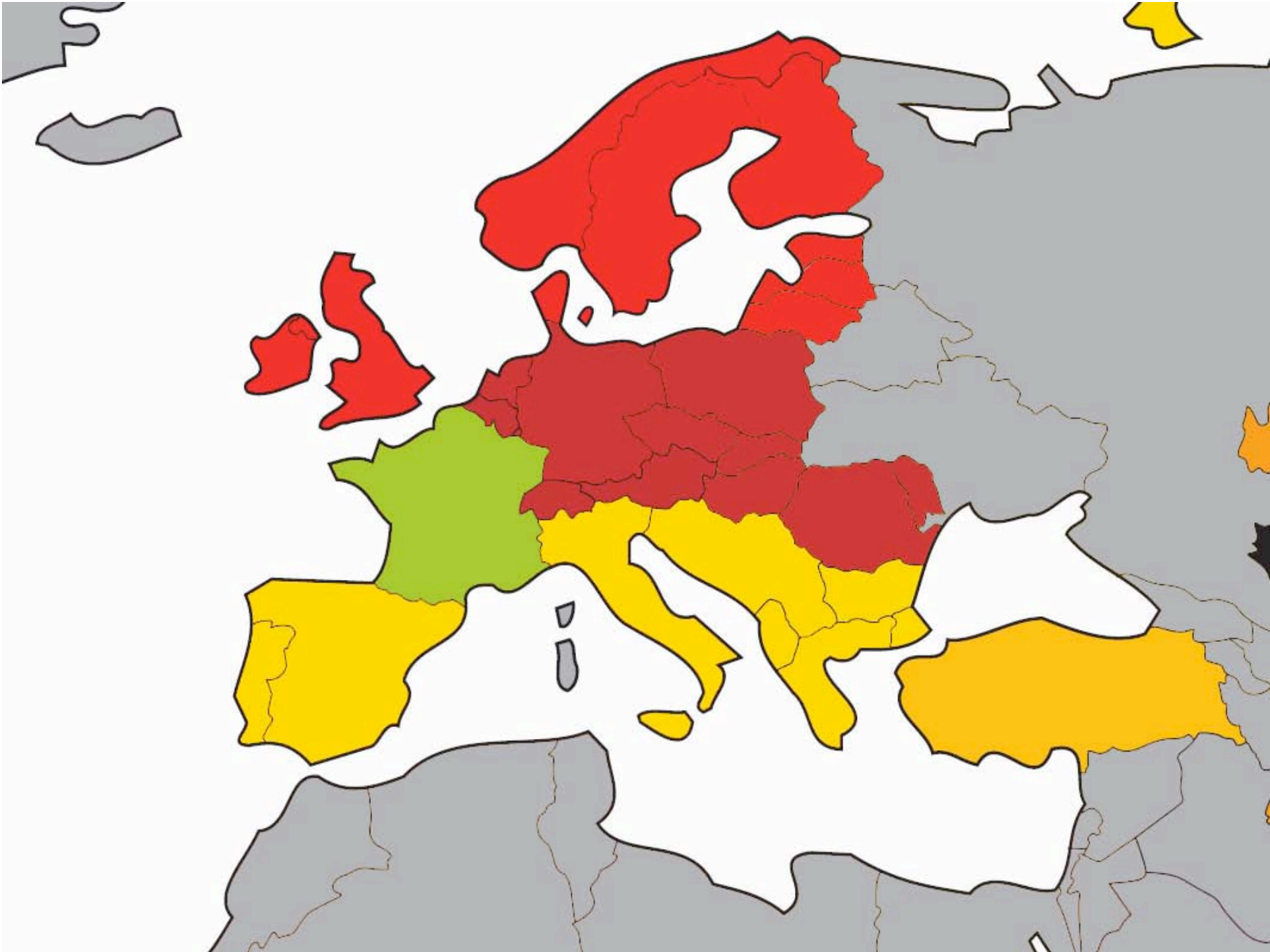
is there a European
perspective?

no

no

(not really)

should there be?



Does Europe have something
to offer?

yes

yes

(almost certainly)





