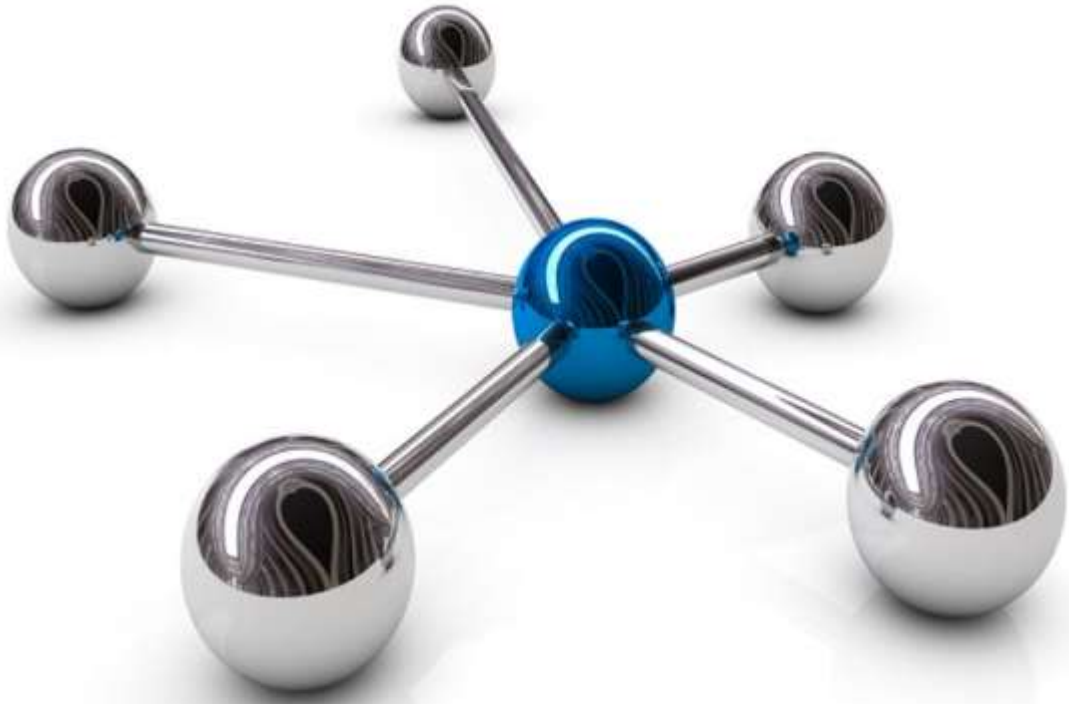
Effect of centralization on ruptured AAA outcomes



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On Behalf of Catalan Vascular Group-Catalan Health Service

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Disclosures

NONE

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Meta-analysis

Meta-analysis and systematic review of the relationship between volume and outcome in abdominal aortic aneurysm surgery

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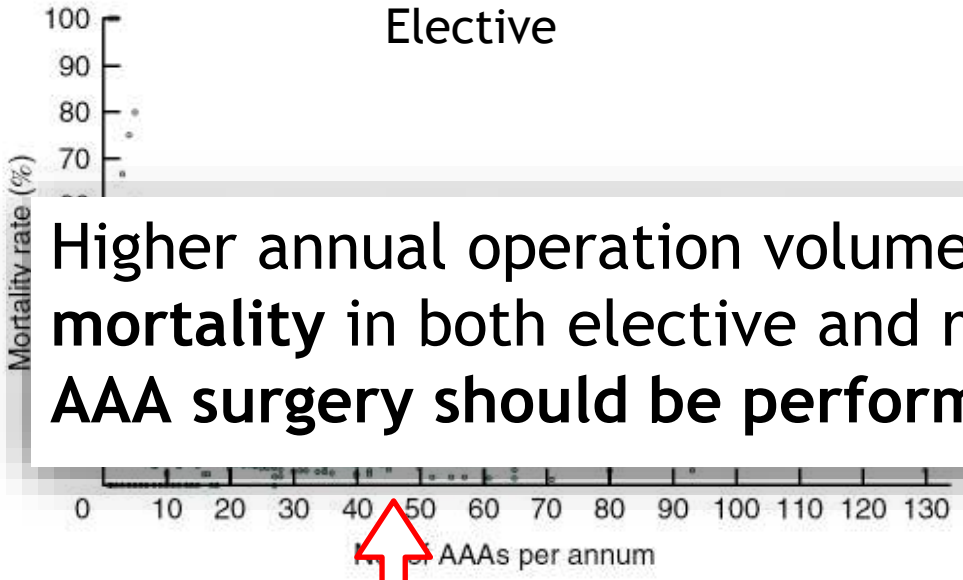

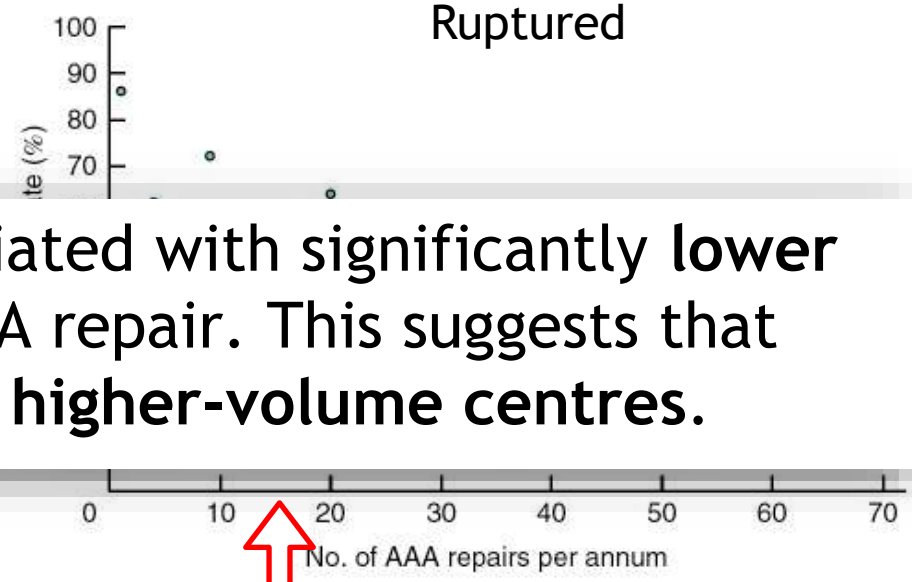

Higher annual operation volumes are associated with significantly **lower mortality** in both elective and ruptured AAA repair. This suggests that **AAA surgery should be performed only at higher-volume centres.**

45 eAAAs per annum

15 rAAAs per annum

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European Society for Vascular Surgery (ESVS) 2019 Clinical Practice Guidelines on the Management of Abdominal Aorto-iliac Artery Aneurysms

Anders Wanhainen [a,†,*], Fabio Verzini [a,†], Isabelle Van Herzeele [a], Eric Allaire [a], Matthew Bown [a], Tina Cohnert [a], Florian Dick [a], Joost van Herwaarden [a], Christos Karkos [a], Mark Koelemay [a], Tilo Kölbel [a], Ian Loftus [a], Kevin Mani [a], Germano Melissano [a], Janet Powell [a], Zoltán Szeberin [a]

Recommendation 3	Class	Level
Abdominal aortic aneurysm repair should only be considered in centres with a minimum yearly caseload of 30 repairs.	IIa	C

EJVES 2019

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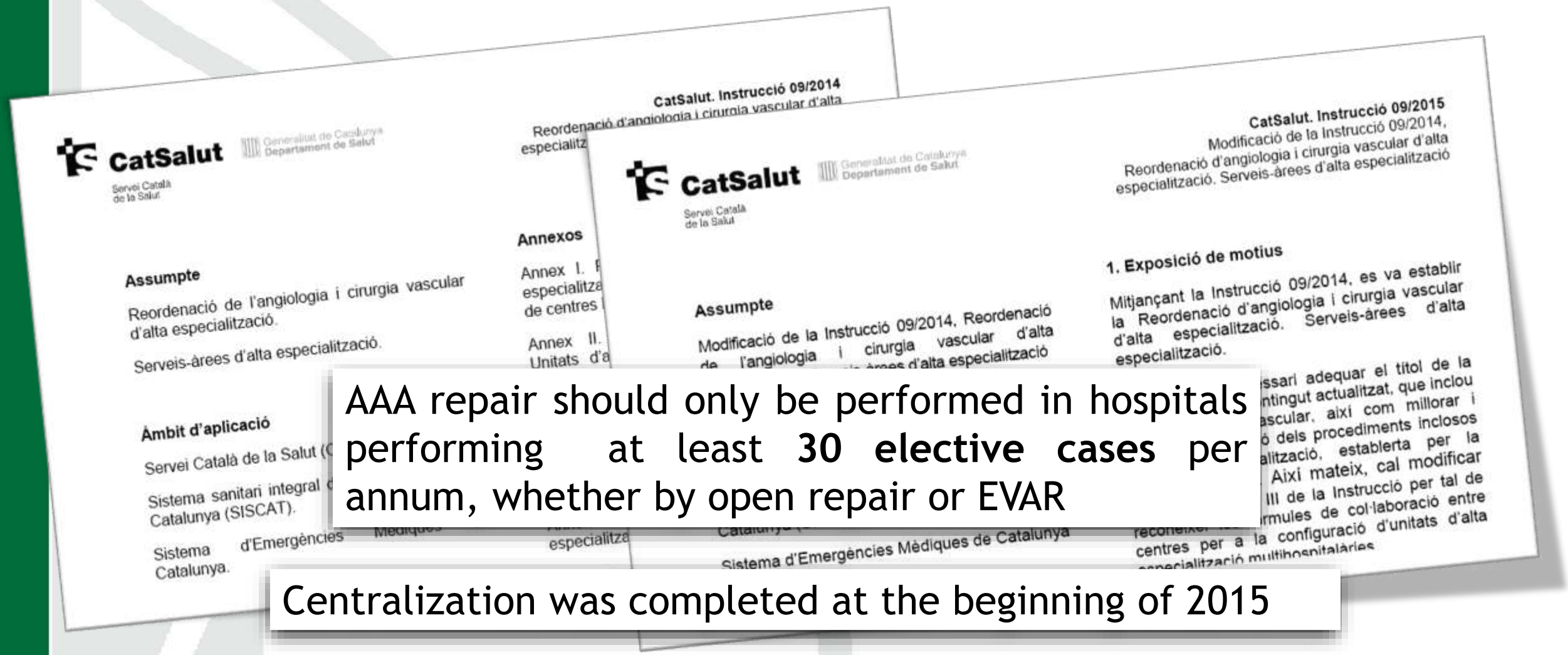
The Catalan experience


CatSalut
Servei Català de la Salut
Generalitat de Catalunya
Departament de Salut

CatSalut. Instrucció 09/2014
Reordenació d'angiologia i cirurgia vascular d'alta especialitz

Assumpte
Reordenació de l'angiologia i cirurgia vascular d'alta especialització.
Serveis-àrees d'alta especialització.

Àmbit d'aplicació
Servei Català de la Salut (C
Sistema sanitari integral d Catalunya (SISCAT).
Sistema d'Emergències Mèdiques de Catalunya.

Annexos
Annex I. P especialitza de centres
Annex II. Unitats d'a especialitza

CatSalut
Servei Català de la Salut
Generalitat de Catalunya
Departament de Salut

Assumpte
Modificació de la Instrucció 09/2014, Reordenació de l'angiologia i cirurgia vascular d'alta especialització
Sistema d'Emergències Mèdiques de Catalunya

CatSalut. Instrucció 09/2015
Modificació de la Instrucció 09/2014, Reordenació d'angiologia i cirurgia vascular d'alta especialització. Serveis-àrees d'alta especialització

1. Exposició de motius
Mitjançant la Instrucció 09/2014, es va establir la Reordenació d'angiologia i cirurgia vascular d'alta especialització. Serveis-àrees d'alta especialització.
issari adequar el títol de la ntingut actualitzat, que inclou scular, així com millorar i ó dels procediments inclosos alització, establerta per la Així mateix, cal modificar III de la Instrucció per tal de rmules de col·laboració entre centres per a la configuració d'unitats d'alta especialització multihospitalàries

AAA repair should only be performed in hospitals performing at least **30 elective cases** per annum, whether by open repair or EVAR

Centralization was completed at the beginning of 2015

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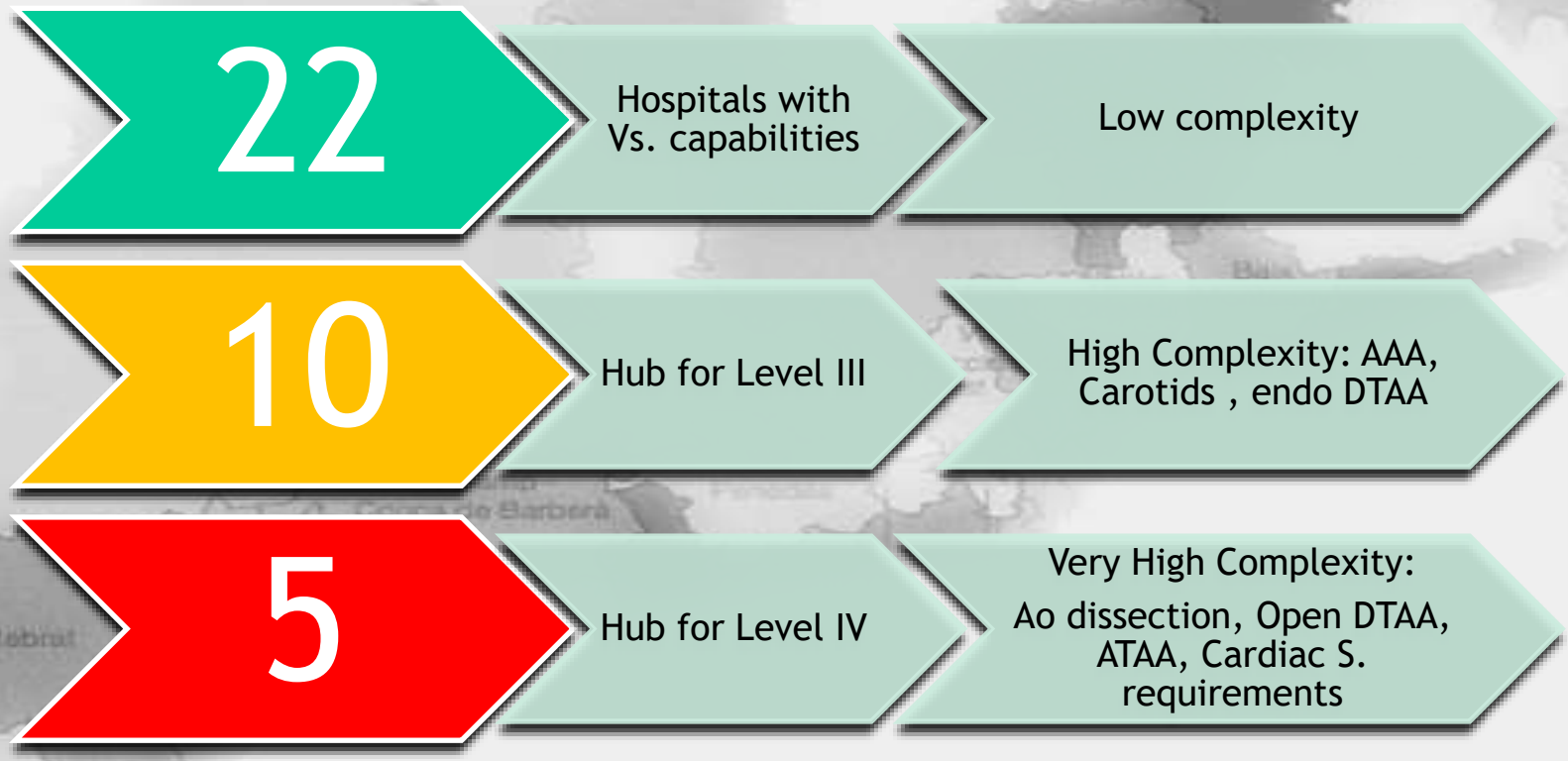
7 543 825 inhabitants and a density of 234 inhabitants/km²



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Objectives

- To analyze the impact of centralization
  - in-hospital mortality
  - length of stay (LoS) in urgent repair of rAAA

- Secondary endpoints include
  - In-hospital Mortality and LoS associated to rAAA repair in **high volume** centers

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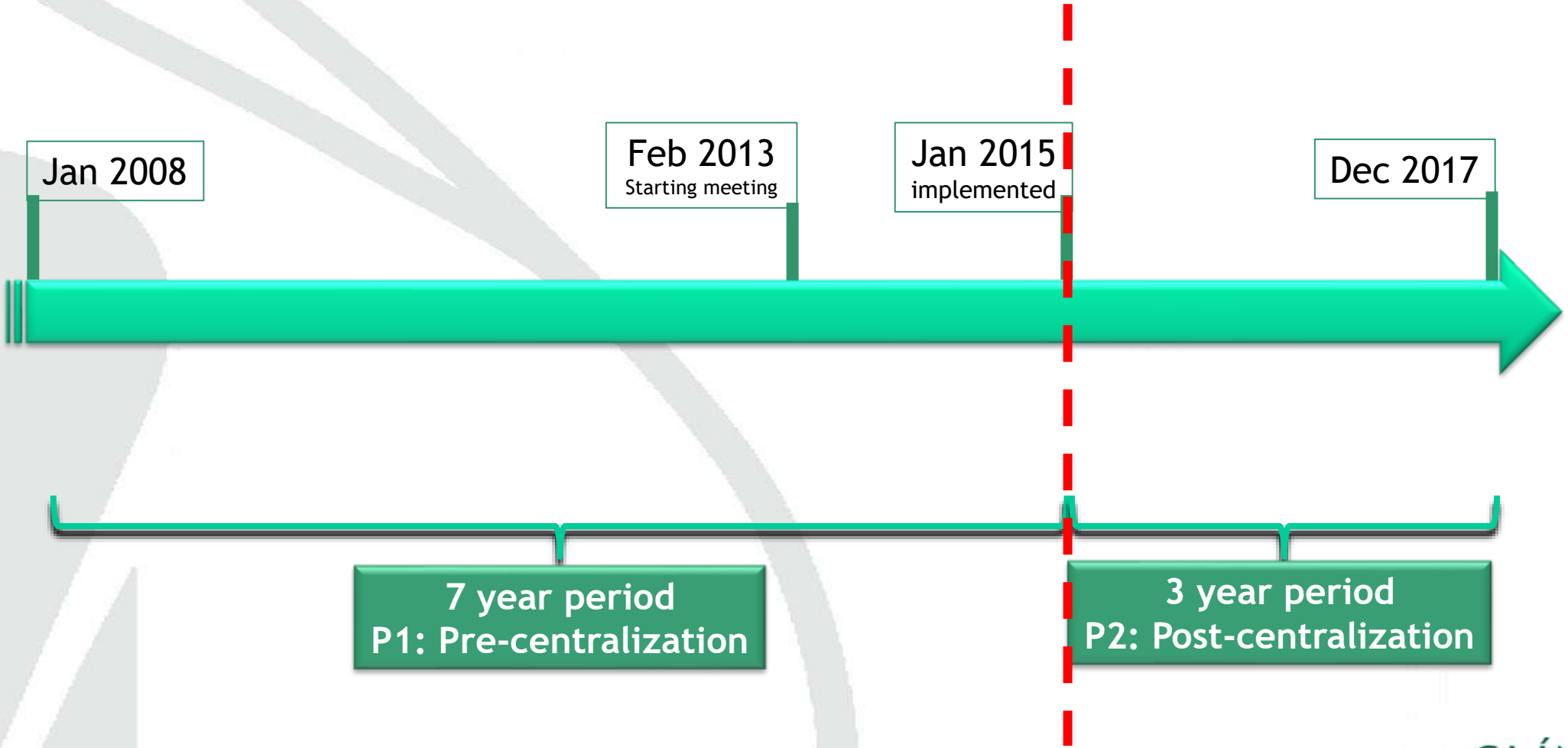
Centralization time-line



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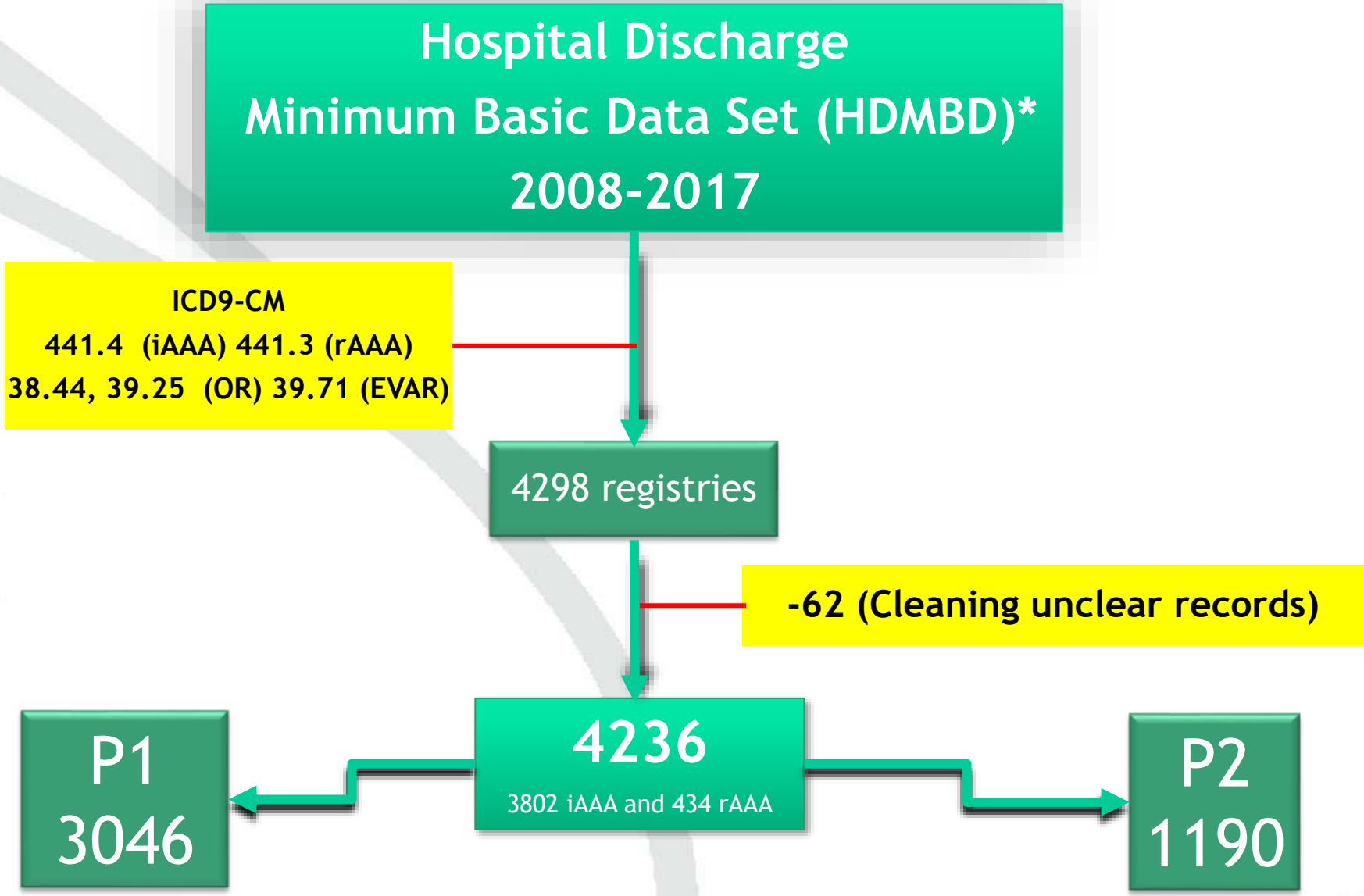
Flow chart



*http://catsalut.gencat.cat/ca/proveidors-professionals/registres-catalegs/registres/cmbd/

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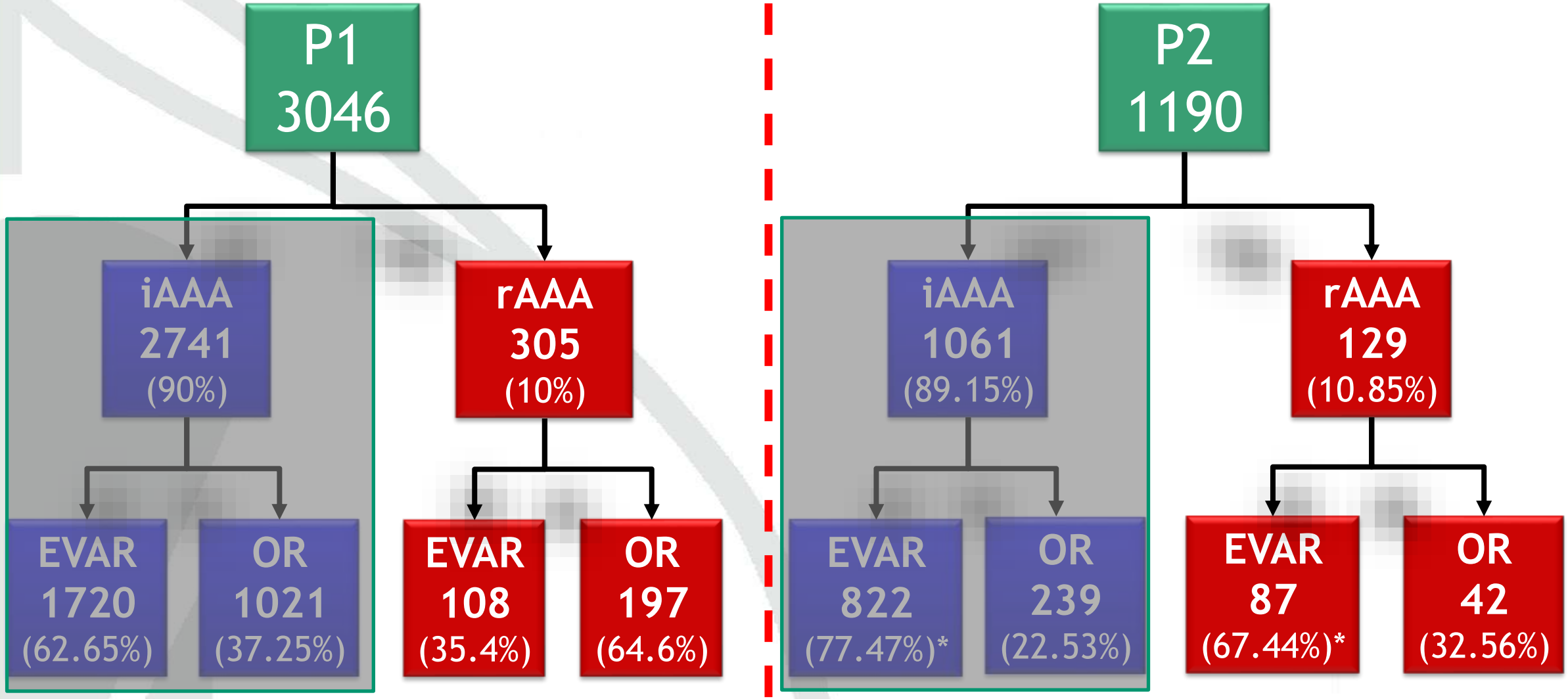
Procedure Distribution



*EVAR/OR increased after centralization P<.001

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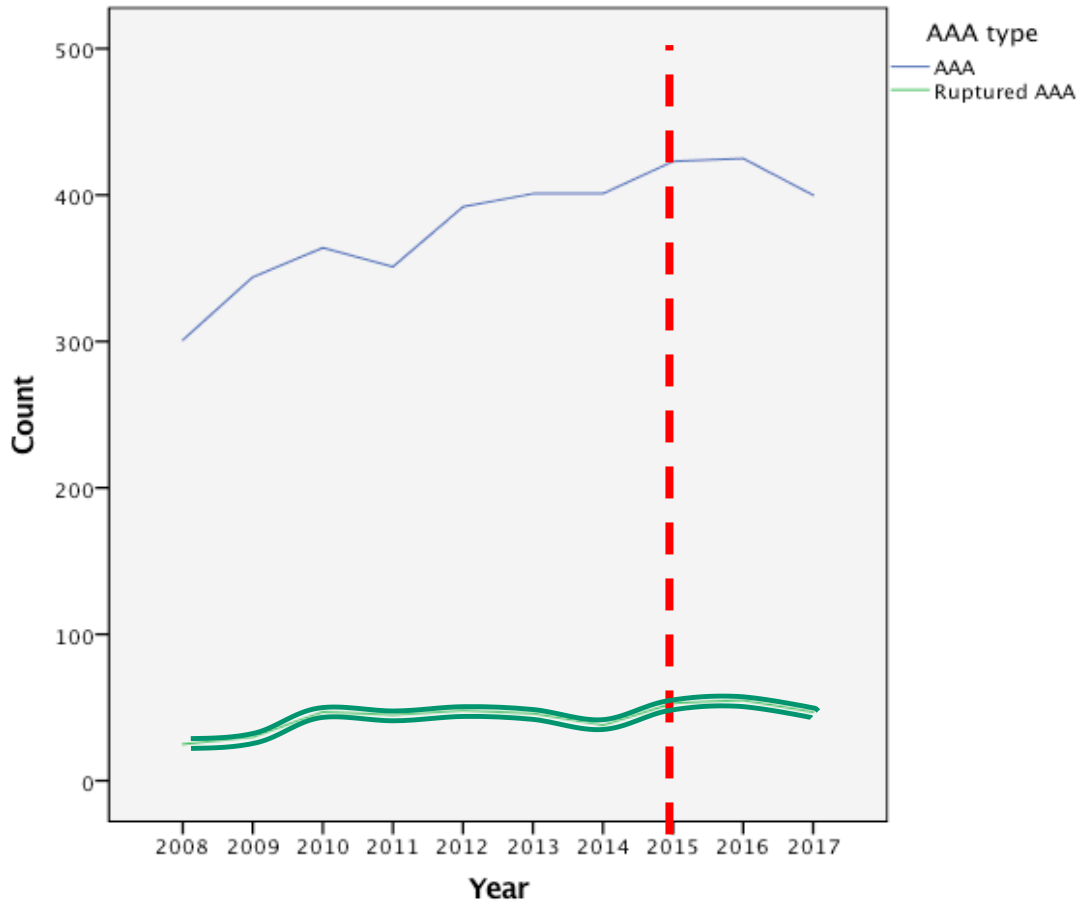
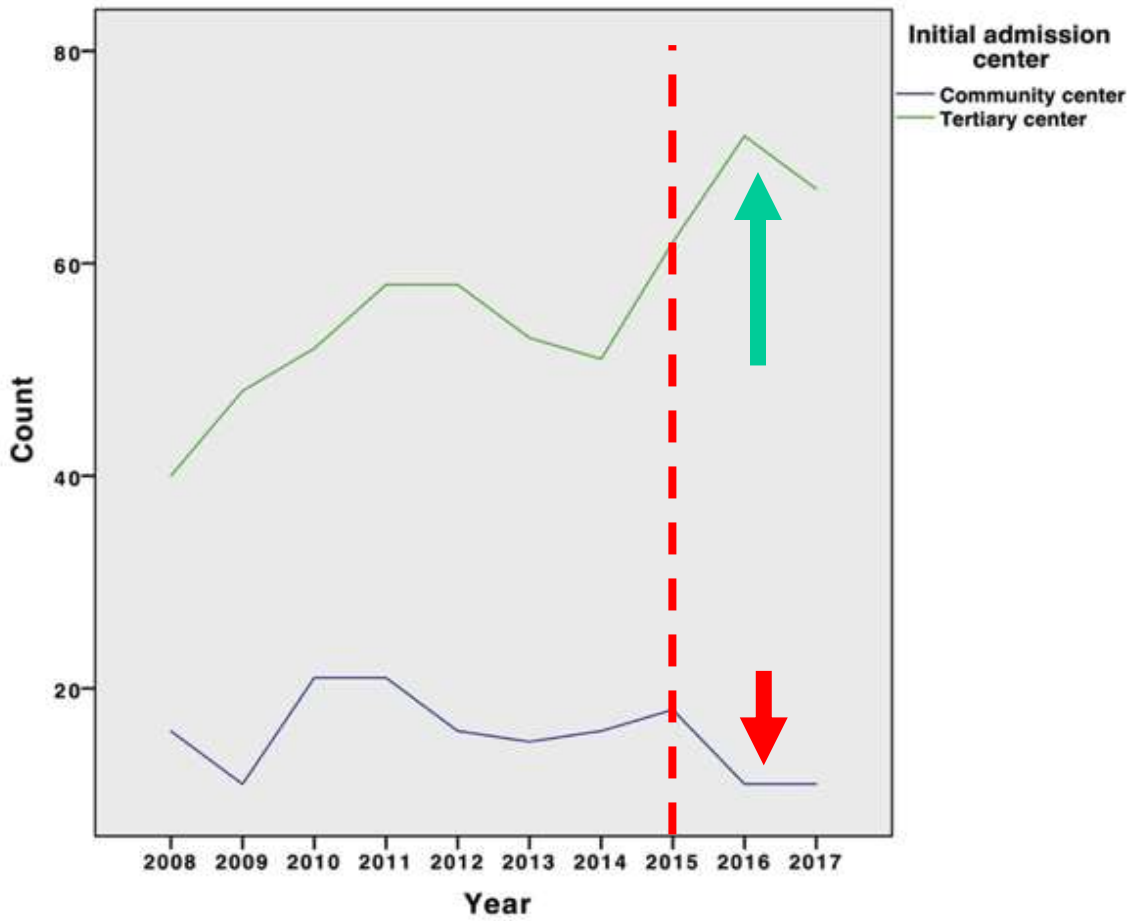
rAAA trends over 10 year-period



Tripodi P, et al. Eur J Vasc Endovasc Surg. 2020



Fierro A, et al, Ann Vasc Surg 2020

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Mortality and LoS

Before centralization

			N of procedures	Mortality		Length of stay		
				N of deaths	p	days	SD	p
rAAA	Surgery	OR	197	119 (60.4%)	<.001	19.43	31.71	.916
		EVAR	108	42 (38.9%)		19.06	25.28	
	Center	Low Volume	22	13 (59.1%)	.539	21.41	47.74	.729
		High Volume	283	148 (52.3%)		19.13	27.77	
				52.8%		19.25 days		

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Mortality Comparison

Before centralization N= 305	After centralization N=129	P
161 (52.8%)	48 (37.2%)	.003

Mortality Comparison
Type of repair

Repair	Before centralization (SD)	After centralization (SD)	p
EVAR	42 (38.9%)	25 (28.7%)	.138
OR	119 (60.4%)	23 (54.8%)	.499

LoS Comparison

Before centralization (SD)	After centralization (SD)	P
19.30 (29.55)	17.49 (30.22)	.563

LoS Comparison
Type of repair

	Before centralization (SD)	After centralization (SD)	P
EVAR	19.06 (25.28)	16.83 (23.15)	.526
OR	19.43 (31.71)	18.86 (41.52)	.920

Impact in High Volumen Centers

Mortality			Length of stay		
Before centralization	After centralization	p	Before centralization (SD)	After centralization (SD)	P
148 (52.3%)	47 (37.0%)	.004	19.13 (27.77)	17.72 (30.4)	.643

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Summary

- Centralization significantly **improved in-hospital mortality** after rAAA repair

52.8% vs 37.2%, p<.003

- **Even in high volumen centres,** centralization significantly improved in-hospital mortality after rAAA repair

52.3% vs 37.0%, p<.004

- After centralization, **LoS improved,** bot not significantly

- These results support the hypothesis that **rAAA management** have better outcomes after centralization.

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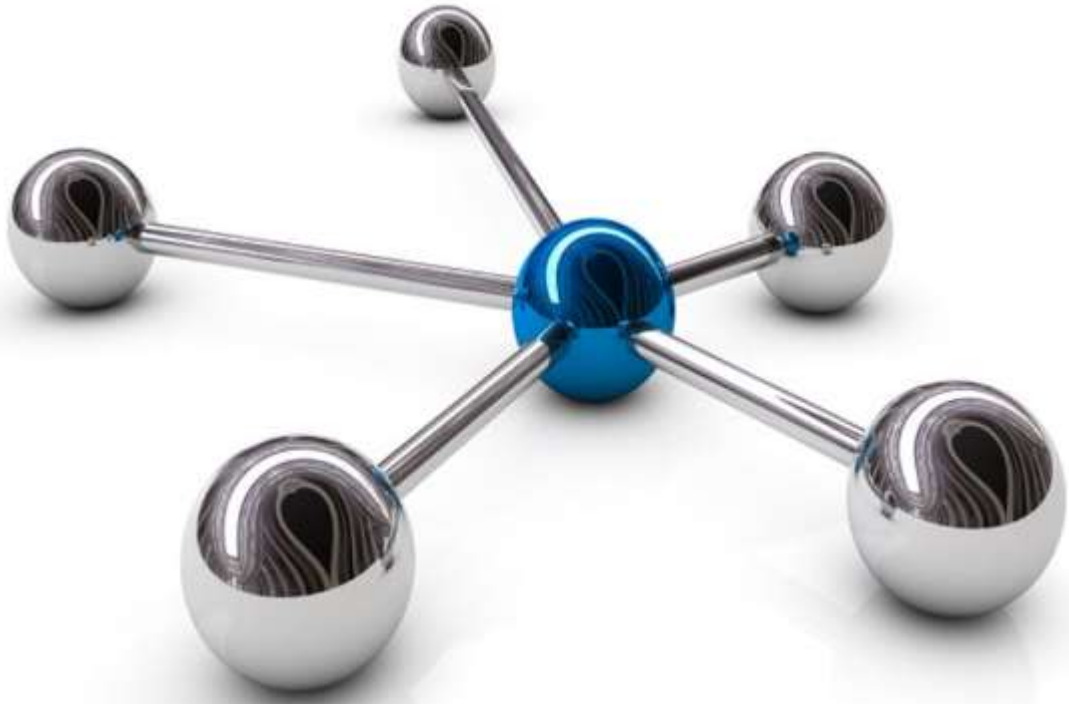
Effect of centralization on ruptured AAA outcomes



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