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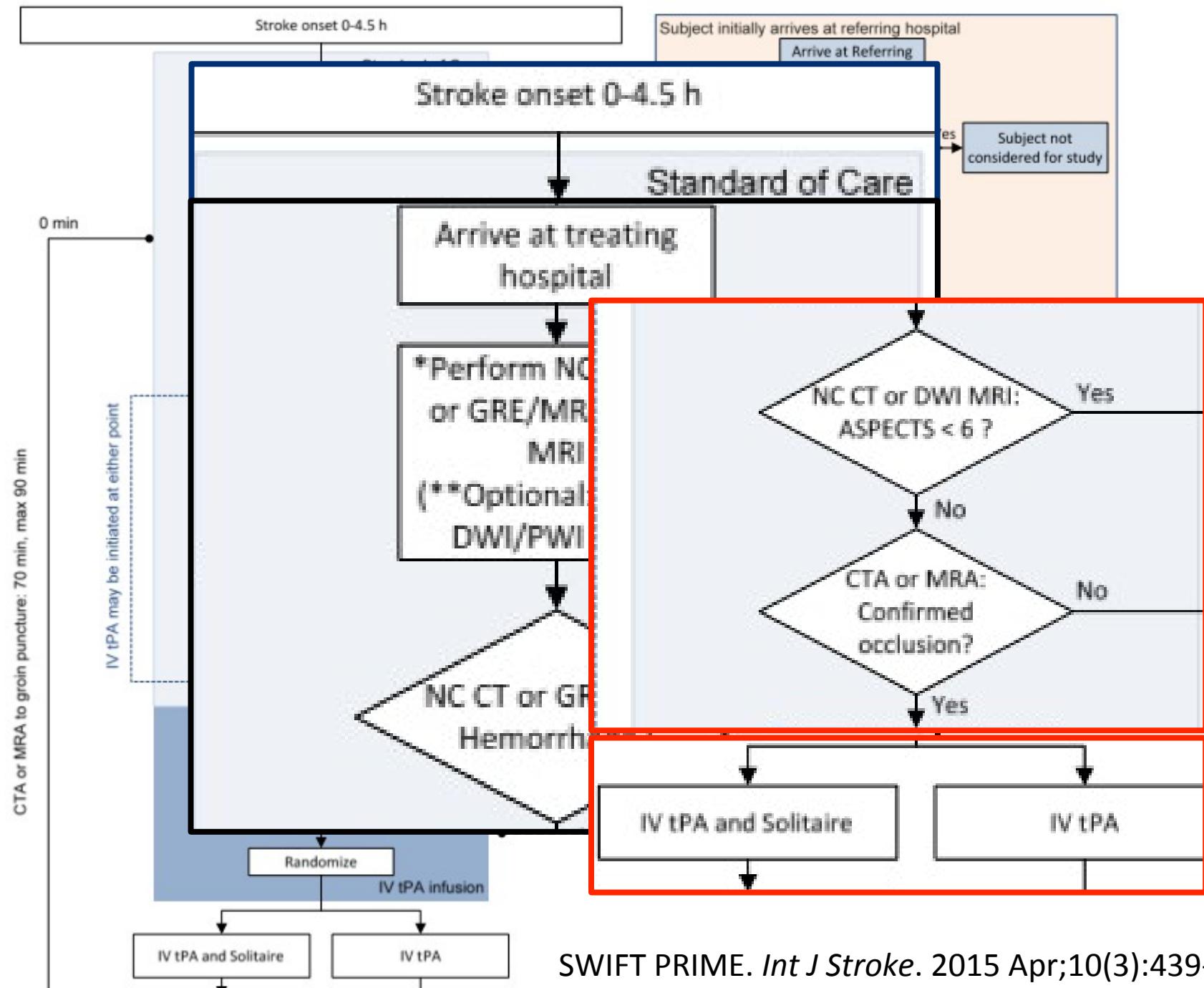
SAMEDI 25 JUIN 2016 - 8H00-13H00
INSTITUT SCIENCES COGNITIVE - LYON

Les défis de la prise en charge pré-hospitalière pour une thrombectomie dans les 6 heures

Carlos El KHOURY

Conflits d'intérêt en rapport avec le sujet

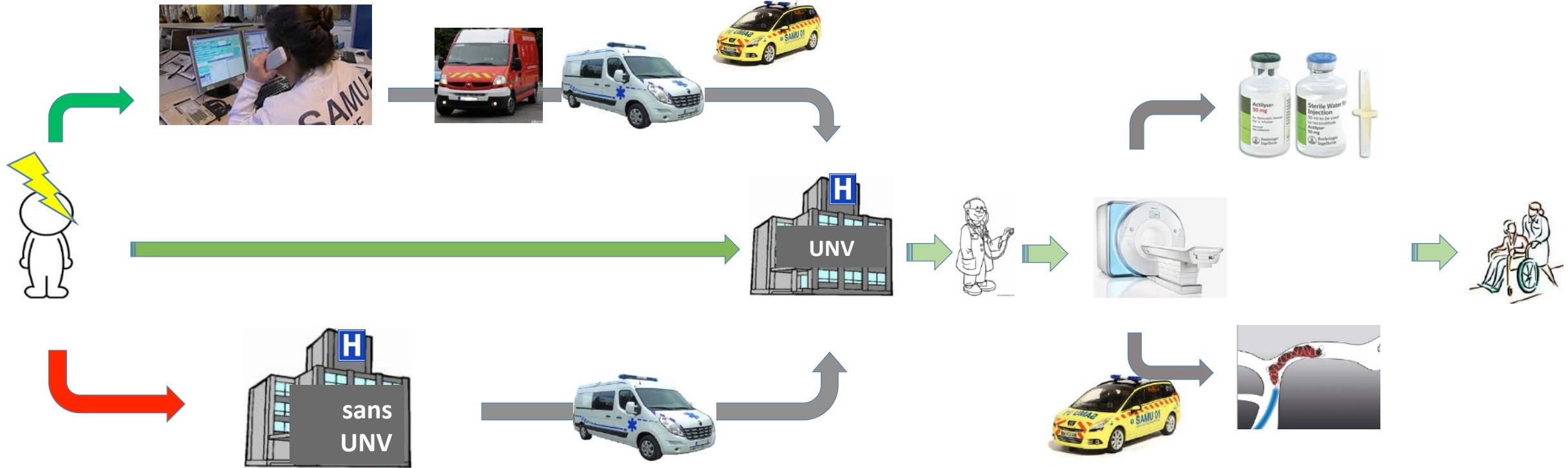
aucun



Questions préalables

1. Quel patient éligible à la thrombectomie dès l'appel au 15 ?
2. Quand privilégier un transfert direct en NRI plutôt qu'en UNV la plus proche ?

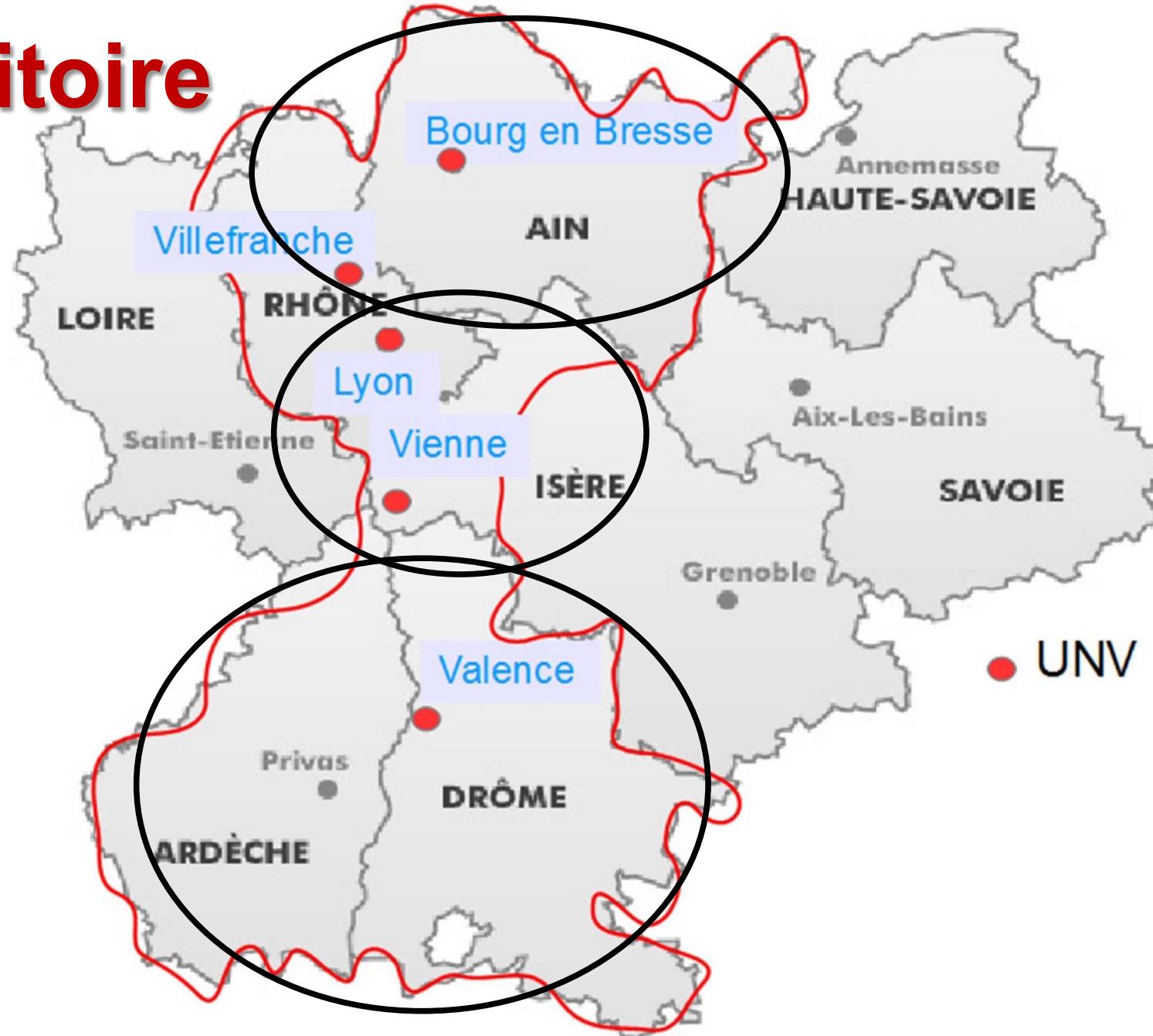
Parcours de soins



Connaître le territoire

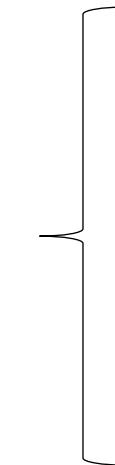
UNV	Délai spt – adm (min)
Bourg en Bresse	100 [69 - 126]
Villefranche	76 [60 – 89]
Lyon	79 [58 – 119]
Vienne	85 [68 – 109]
RESUVal	87 [61 – 115]
Valence	96 [71 – 140]

Source : registre RESUVal des AVC thrombolyrés

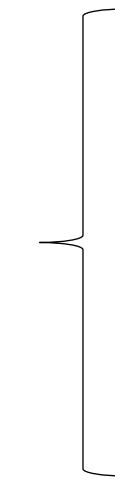


Maîtriser le temps ?

MR CLEAN (N Engl J Med 2015;372:11-20)
ESCAPE (N Engl J Med 2015;372:1019-30)
SWIFT PRIME (N Engl J Med. 2015 Jun 11;372(24):2285-95)
REVASCAT (Engl J Med 2015; 372: 2296–2306)
EXTEND IA (N Engl J Med 2015; 372: 1009–1018)

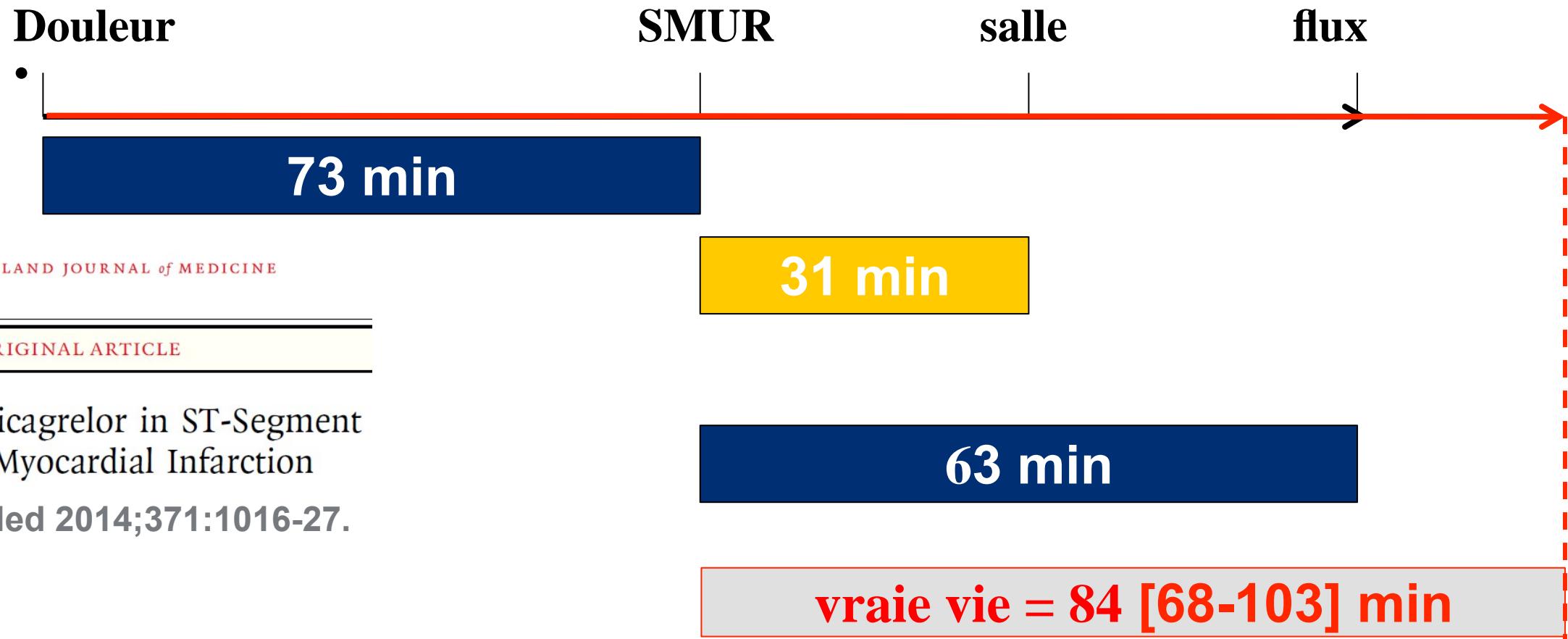


	Délai spt – TL (min)
MR CLEAN	85 [67 – 110]
ESCAPE	110 [80-142]
SWIFT PRIME	117 [80 – 155]
REVASCAT	117.5 [90 – 150]
EXTEND IA	127 [93 – 162]

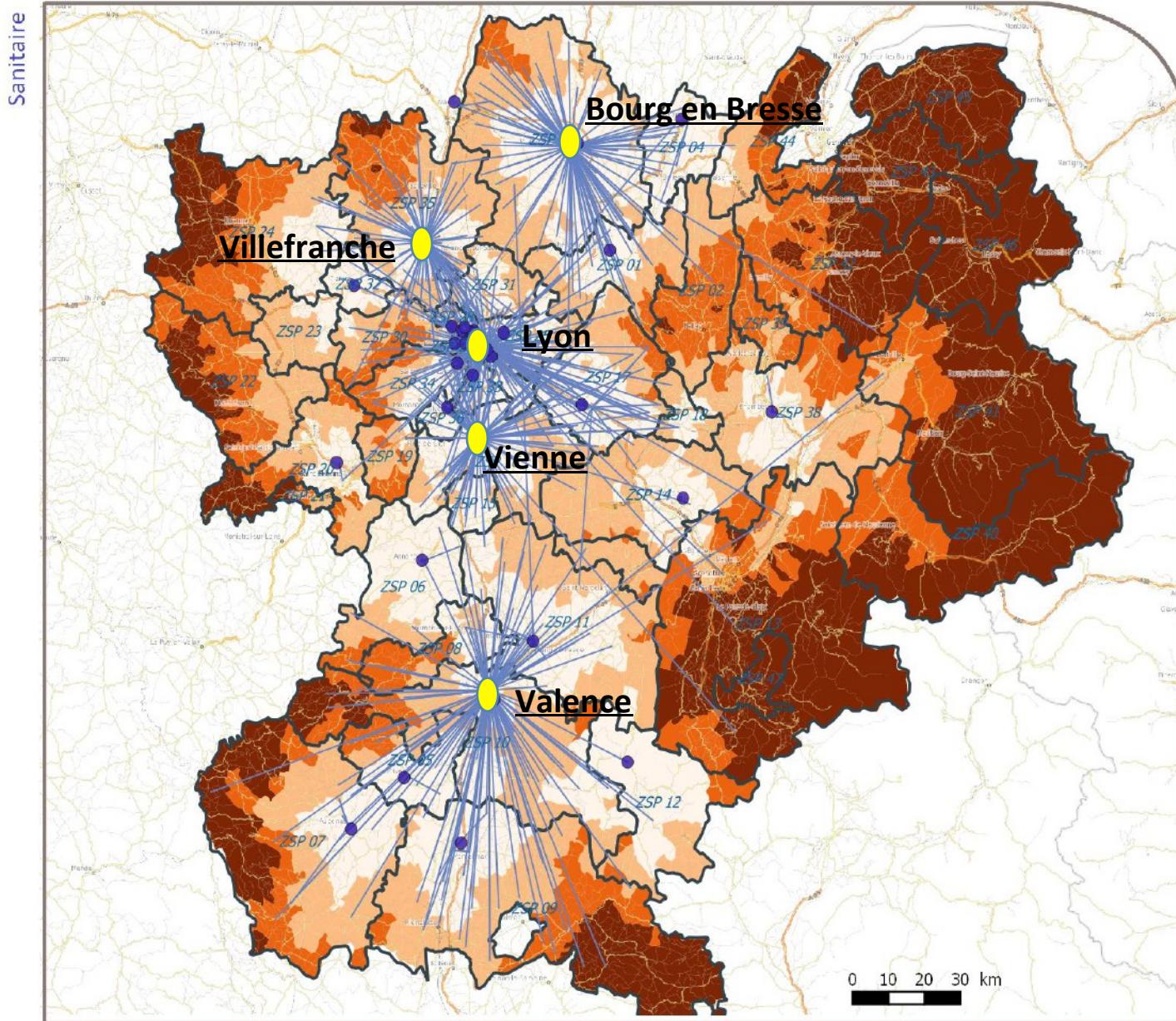


Lyon	139 [113 – 192]
Villefranche	140 [118-166]
Vienne	159[139-188]
RESUVal	154 [120 – 190]
Bourg en Bresse	161 [1825 – 188]
Valence	170 [144 – 193]

Randomisation versus vraie vie ...



Délai symptôme – admission



Légende

- Etablissements de l'étude

Flux_AVC

- Flux de patients

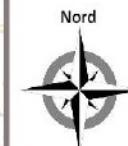
Distances mn - Heures pleines

0 - 30
30 - 45
45 - 60
60 - 180

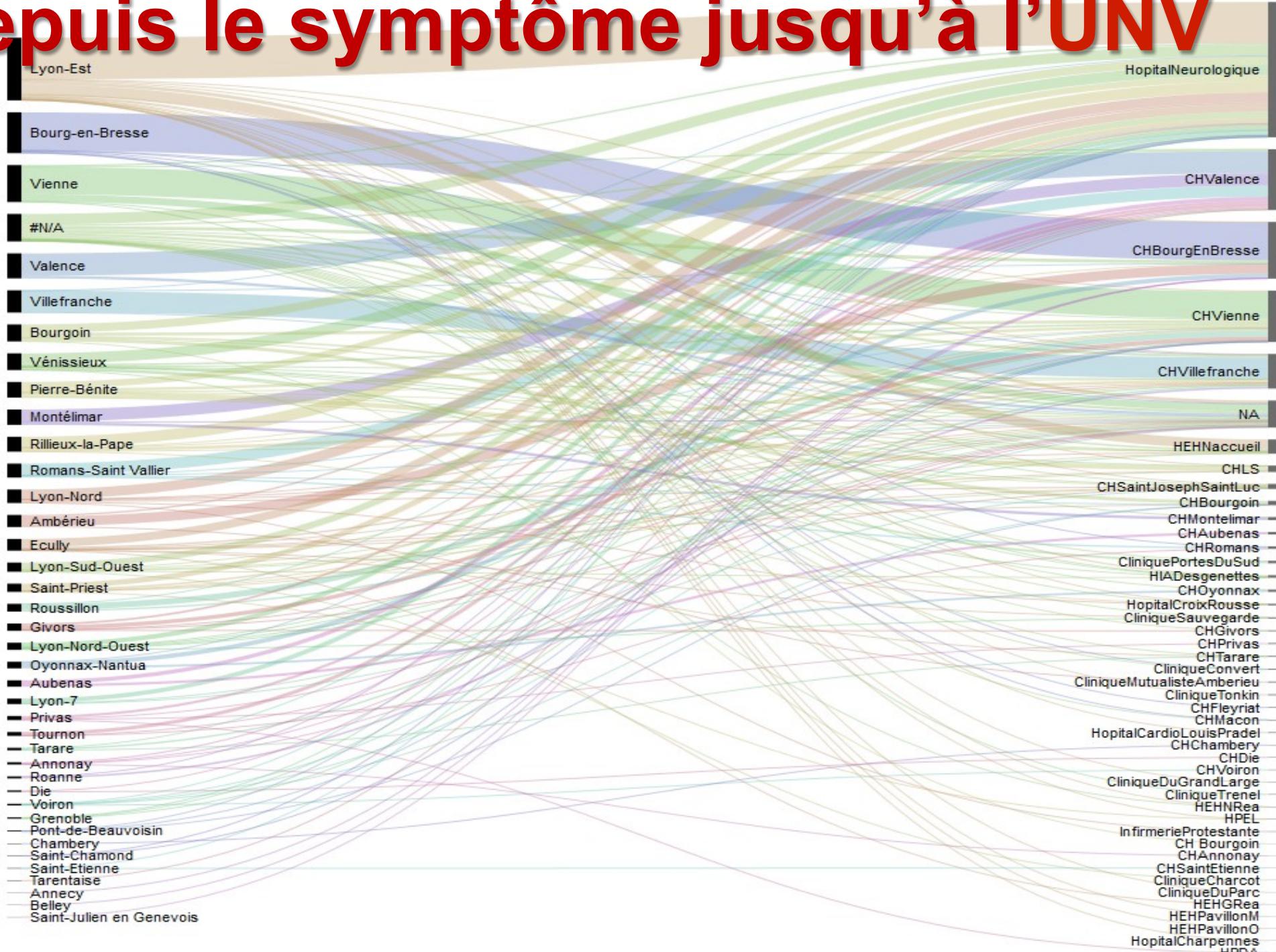
- Zones de Soins de Proximité

Distance médiane jusqu'à
l'UNV = 38 [25 – 63] km

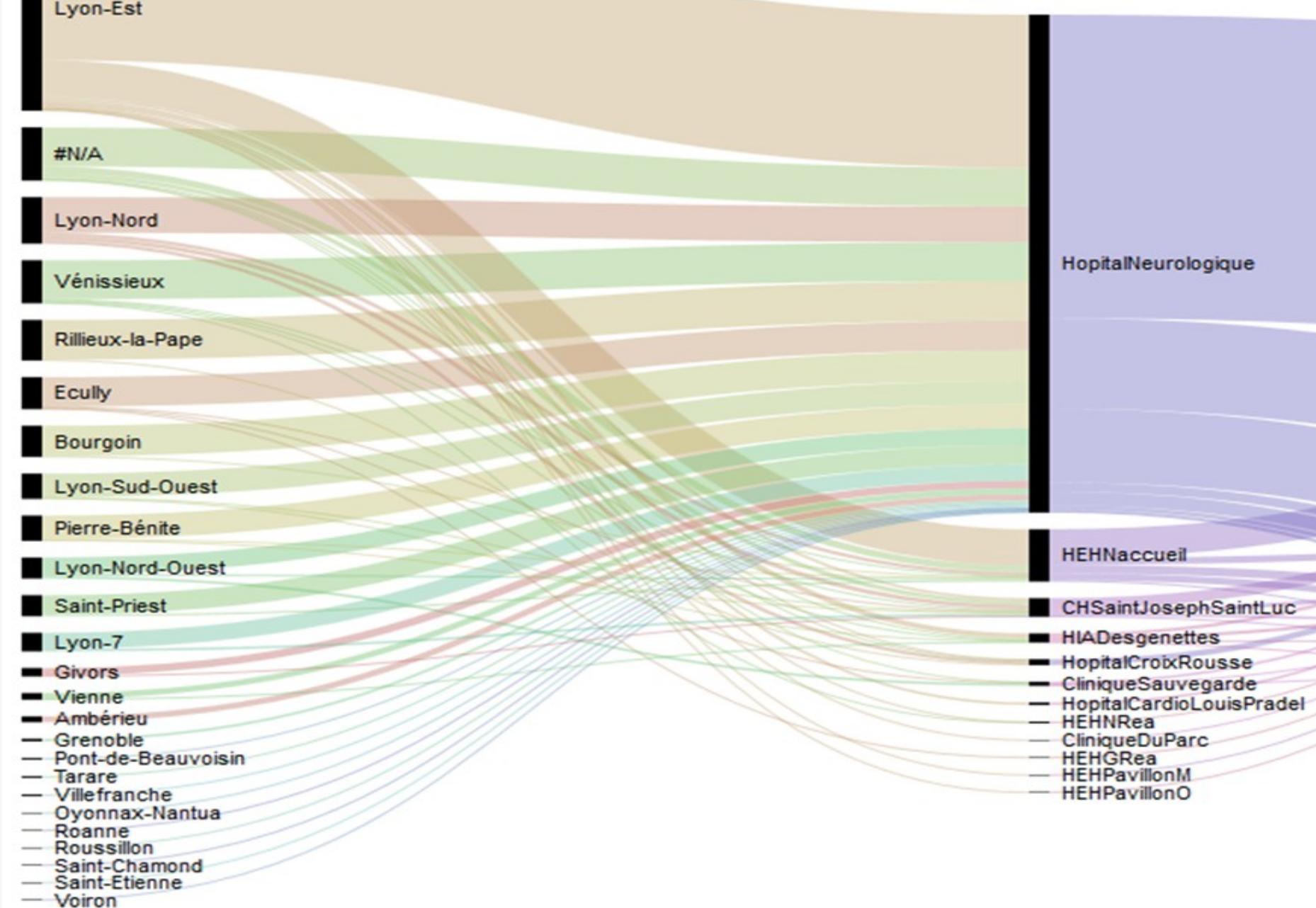
Sources : Fond Open Street Map - Odomatrix
Données réseau d'urgence RESUVAL - 2015
Edition : 15/4/2016



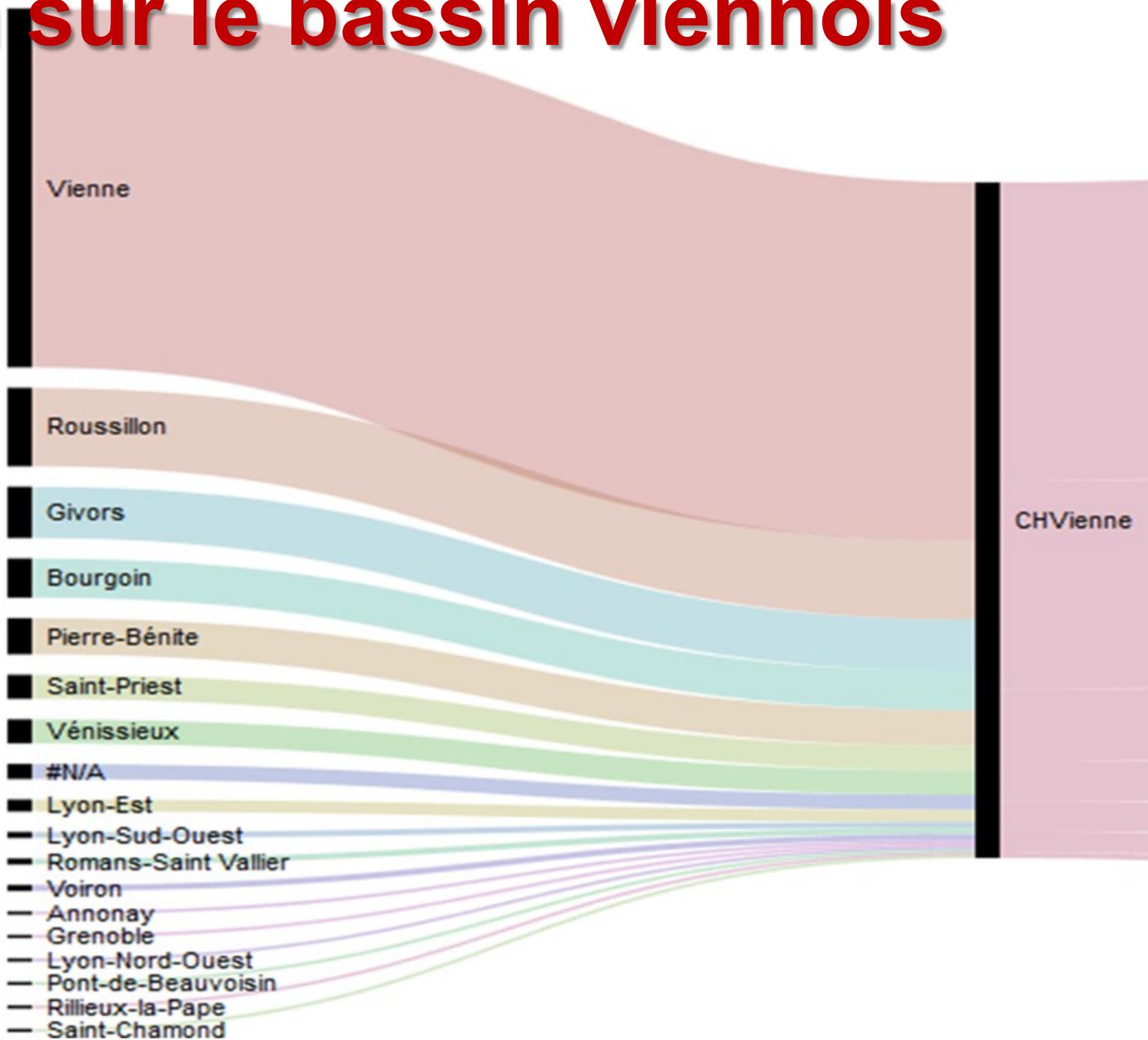
Depuis le symptôme jusqu'à l'UNV



Zoom sur le bassin lyonnais

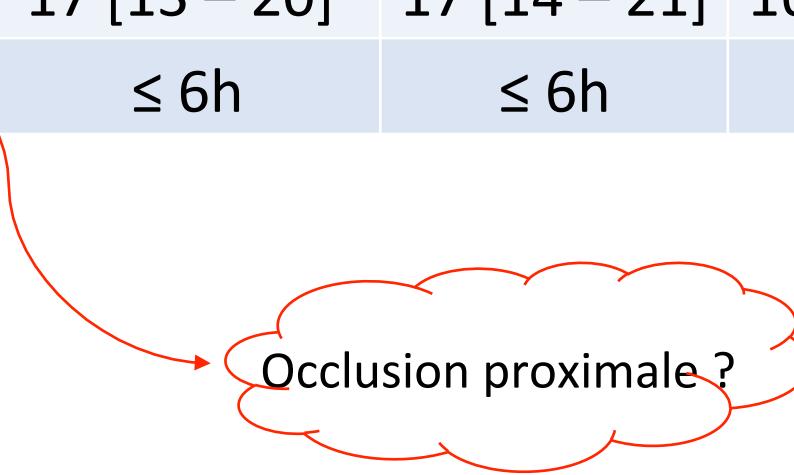


Zoom sur le bassin viennois



Repérer le bon patient

	SWIFT PRIME	MR CLEAN	ESCAPE	EXTEND	REVASCAT
Age	66	66	71	69	66
NIHSS	17 [13 – 20]	17 [14 – 21]	16 [13 – 20]	17 [13 – 20]	17 [14 – 20]
Spt - TC	≤ 6h	≤ 6h	≤ 12h	≤ 6h	≤ 8h



Occlusion proximale ?

Repérer le bon patient

SWIFT PRIME		MR CLEAN		ESCAPE		EXTEND IA		REVASCAT	
intervention (n = 98)	control (n = 98)	intervention (n = 233)	control (n = 267)	intervention (n = 165)	control (n = 150)	intervention (n = 35)	control (n = 35)	intervention (n = 103)	intervention (n = 103)
CTA or MRA		CTA, CTA, MRA or DSA		Multiphase or dynamic CTA		CTA, MRA, DSA and CTP		CTA, MRA	
ASPECTS ≥6 Confirmation of occlusion		No ASPECT limitation Confirmation of occlusion		ASPECTS ≥6 Confirmation of occlusion Moderate to good collateral circulation ^a		Confirmation of occlusion Ischemic core <70 ml Mismatch ^b ratio >12 or volume >10		Confirmation of occlusion ASPECTS ≥6 DWI MRA ASPECTS ≥7 NCCT	
M1/M2 segment of MCA, ICA		ICA, M1 segment of MCA, M2 segment of MCA, A1 or A2 anterior cerebral artery segment		ICA, MCA		ICA, M1/M2 segment of MCA		ICA, M1 segment of MCA, M1 segment of MCA	



A



B



C

Scanner embarqué
+ télémédecine
=> Spt – TL : 76 à 35 min

Walter et al, Lancet Neurol 2012



Ebinger M et al, Int J Stroke 2012
Liman T et al, Stroke 2012

CPSSS : Cincinnati Prehospital Stroke Severity Scale

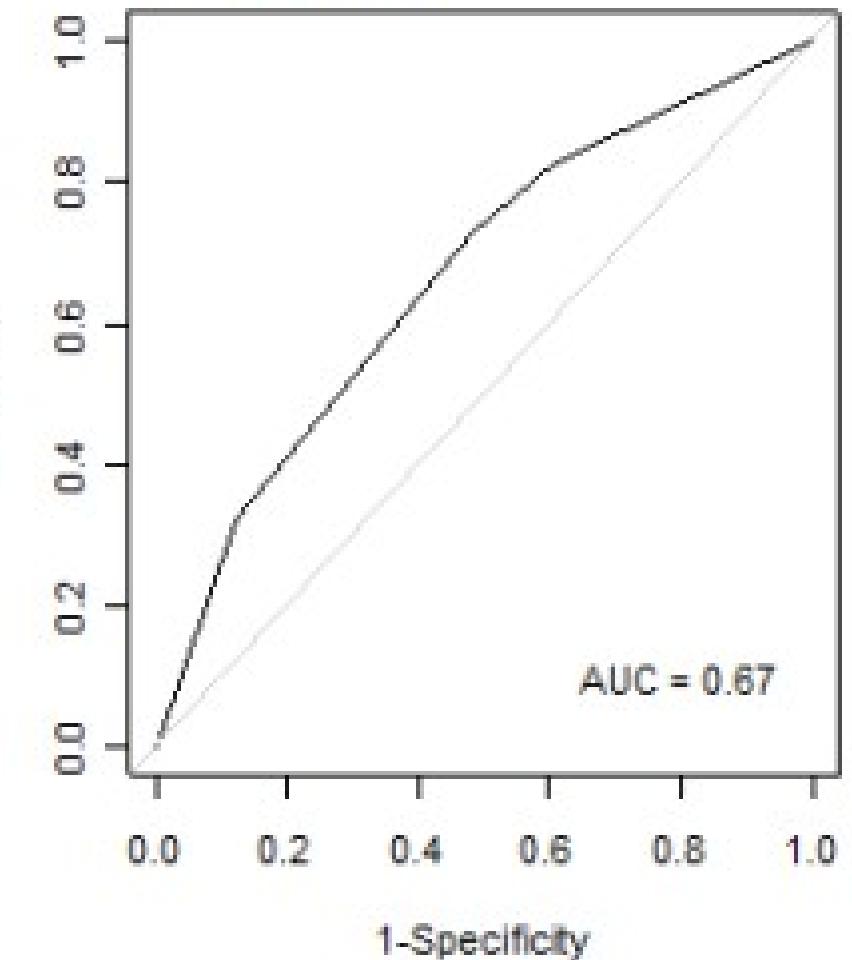
Cincinnati Prehospital Stroke Severity Scale

2 points: Conjugate gaze deviation (≥ 1 on NIHSS item for Gaze)

1 point: Incorrectly answers at least one of two level of consciousness questions on NIHSS (age or current month) **and** does not follow at least one of two commands (close eyes, open and close hand) (≥ 1 on the NIHSS item for Level of Consciousness 1b and 1c)

1 point: Cannot hold arm (either right, left or both) up for 10 seconds before arm(s) falls to bed (≥ 2 on the NIHSS item for Motor Arm)

C. LVO



Stroke. 2015; 46: 1508-1512

Population : AVC ischémique déjà connu

LVO = Large Vessel Occlusion defined as occlusion sites of ICA, M1, tandem cervical ICA plus M2, or basilar arteries.

RACE : The Rapid Arterial Occlusion Evaluation Scale

Validation of RACE on a Prospective Prehospital Cohort

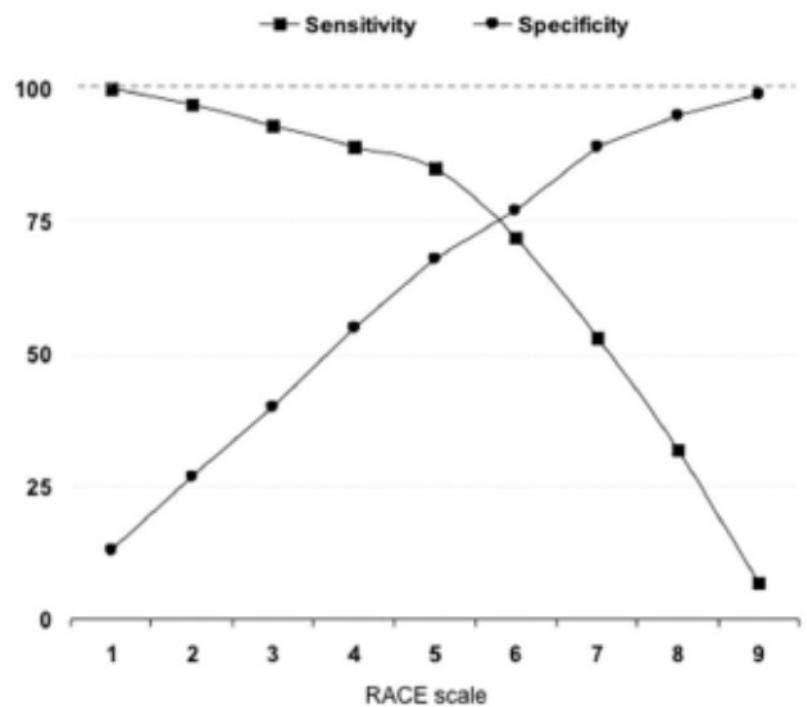


Figure 1. Sensitivity (squares) and specificity (circles) of different cutoff values of the Rapid Arterial Occlusion Evaluation (RACE) scale for the detection of large vessel occlusion.

Stroke. 2014; 45: 87-91

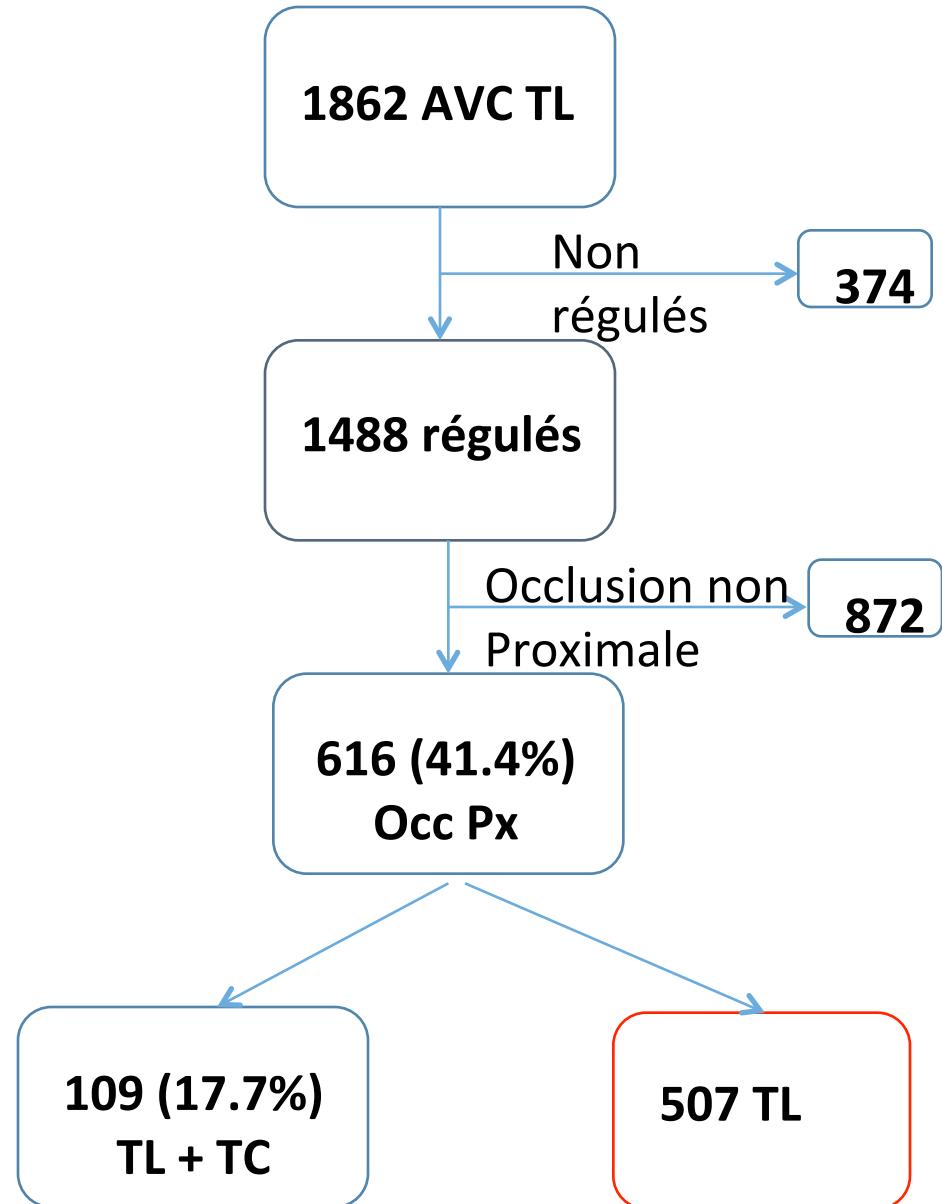
Item	RACE Score	NIHSS Score Equivalence
Facial palsy		
Absent	0	0
Mild	1	1
Moderate to severe	2	2-3
Arm motor function		
Normal to mild	0	0-1
Moderate	1	2
Severe	2	3-4
Leg motor function		
Normal to mild	0	0-1
Moderate	1	2
Severe	2	3-4
Head and gaze deviation		
Absent	0	0
Present	1	1-2
Aphasia* (if right hemiparesis)		
Performs both tasks correctly	0	0
Performs 1 task correctly	1	1
Performs neither tasks	2	2
Agnosia† (if left hemiparesis)		
Patient recognizes his/her arm and the impairment	0	0
Does not recognize his/her arm or the impairment	1	1
Does not recognize his/her arm nor the impairment	2	2
Score total	0-9	

La vraie vie

- Registre RESUVAl
- Oct 2010 – Nov 2015
- 5 UNV
- Tout AVC TL
- Admission UNV / SU / Imagerie

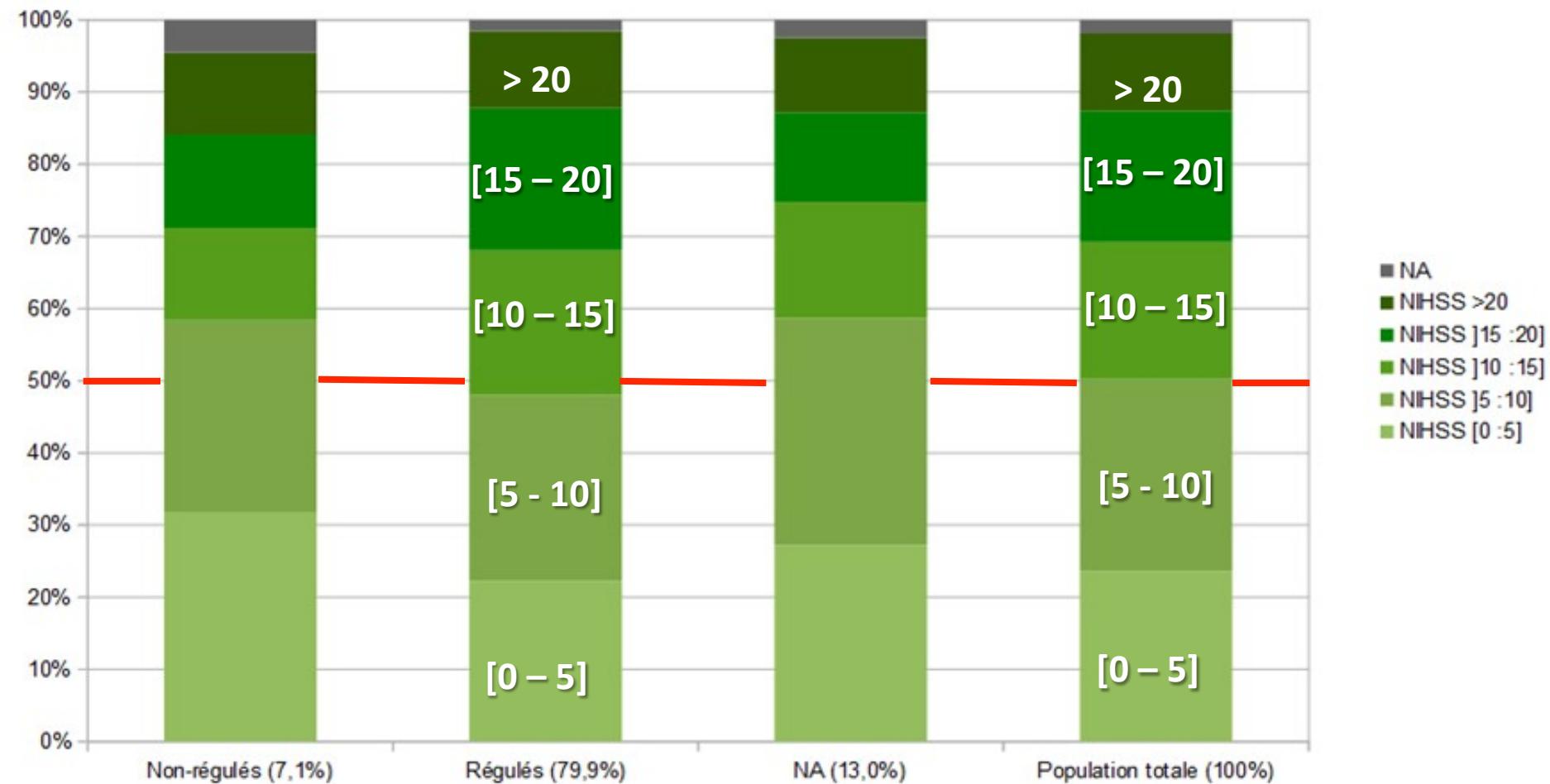
>80 ans : > 30%

NIHSS à l'adm : 10 [5 – 16]



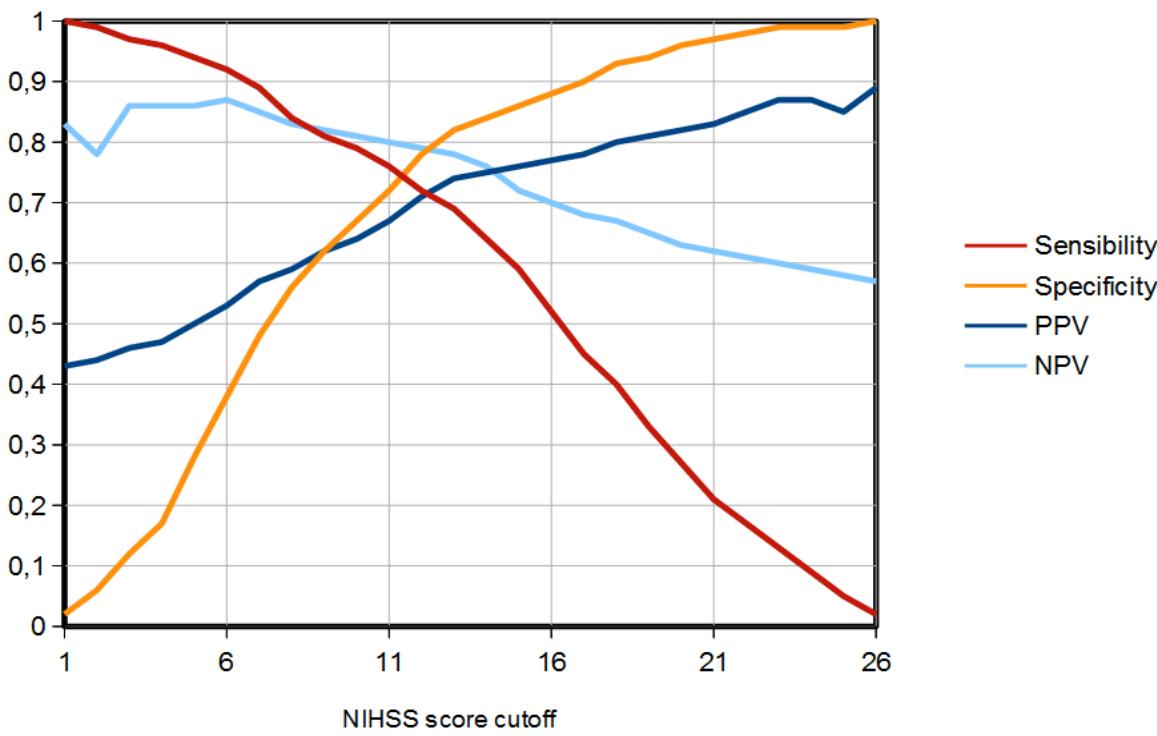
Source : registre RESUVAl des AVC thrombolysés

DéTECTER UNE OCCLUSION PROXIMALE PAR LE NIHSS ?

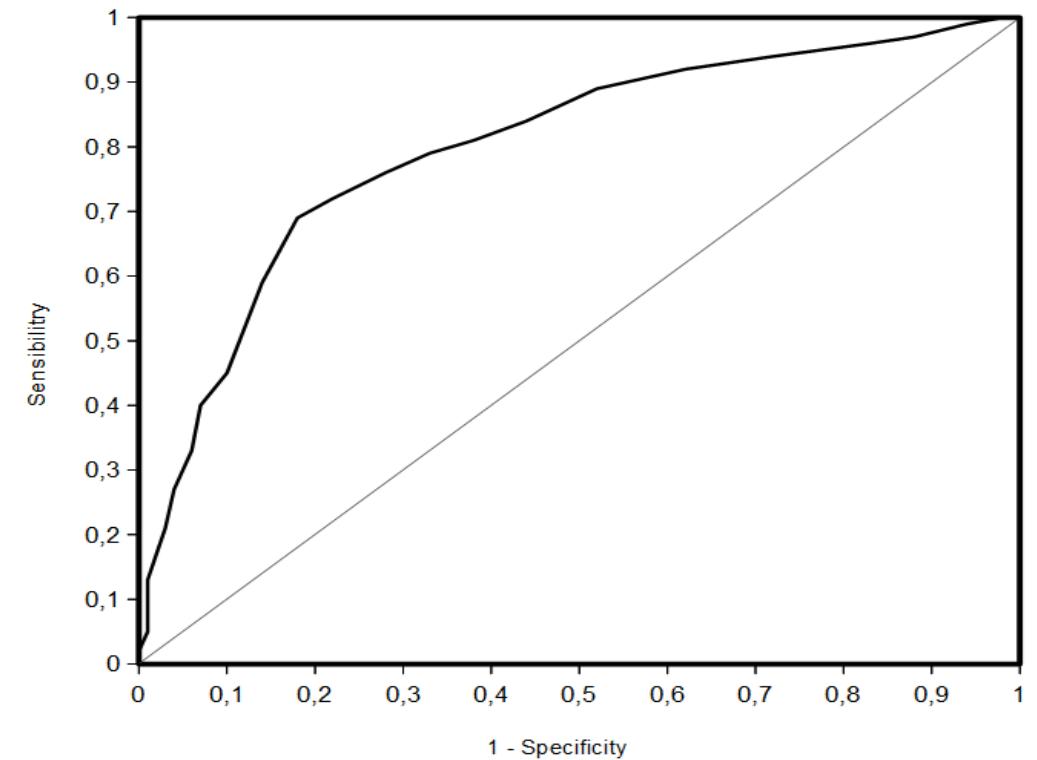


Source : registre RESUVal des AVC thrombolysés

Variation of the specificity, sensibility and predictive value for each NIHSS score cutoff



ROC curve of NIHSS score predictability to detect PO



aire sous la courbe ROC = 0,78

seuil optimal NIHSS = 13

sensibilité = 0,69, spécificité = 0,82, VPP = 0,74, VPN = 0,78.

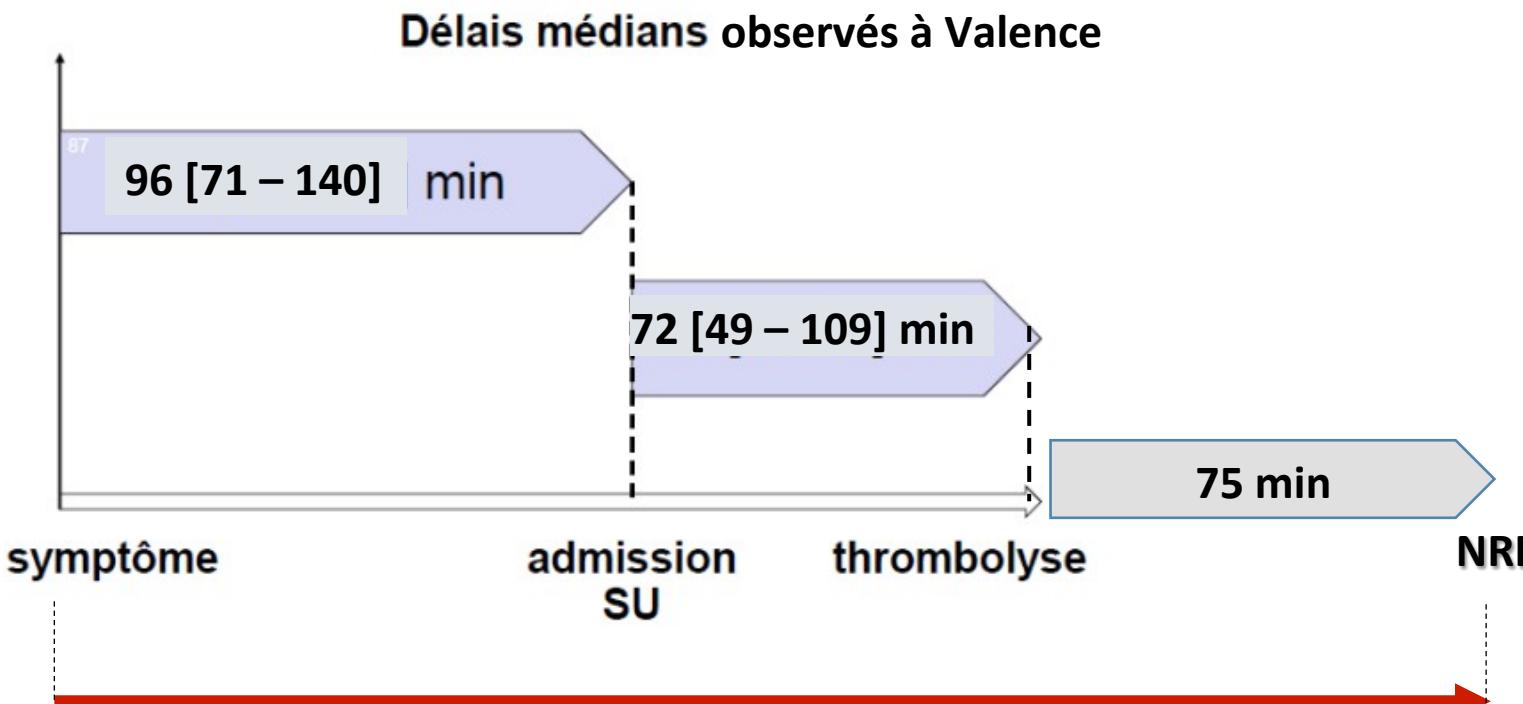
Délai observé en fonction du NIHSS

87%

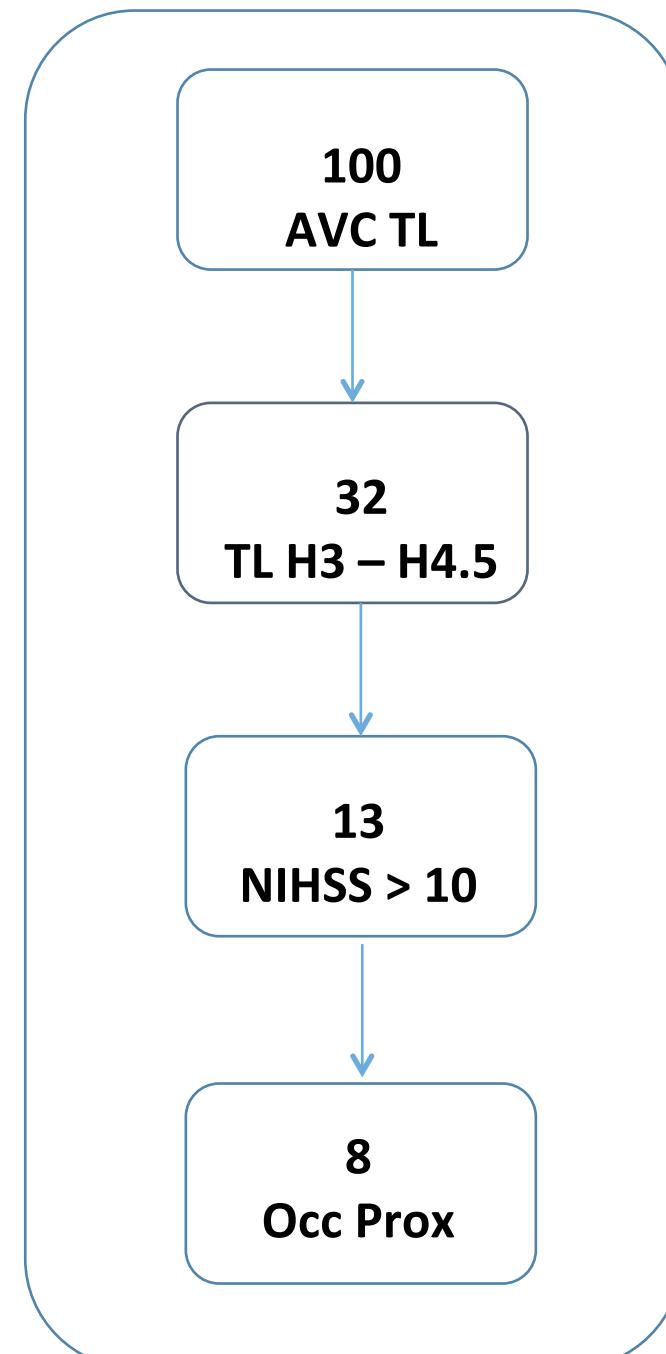
AVC régulés par le Centre 15 + Occlusion Prox + Thrombectomie		
NIHSS J0	Spt - régulation (min)	Spt – Thrombolyse (min)
[0 – 5] (3%)	36 [32 - 41]	114 [108 - 119]
[6 – 10] (11%)	67 [41 - 94]	248 [227 - 269]
[11 – 15] (19%)	34 [19 - 39]	135 [115 - 182]
[16 – 20] (33%)	31 [19 - 65]	157 [116 - 190]
>20 (35%)	40 [22 - 94]	152 [132 - 210]

Source : registre RESUVal des AVC thrombolysés

Concrètement



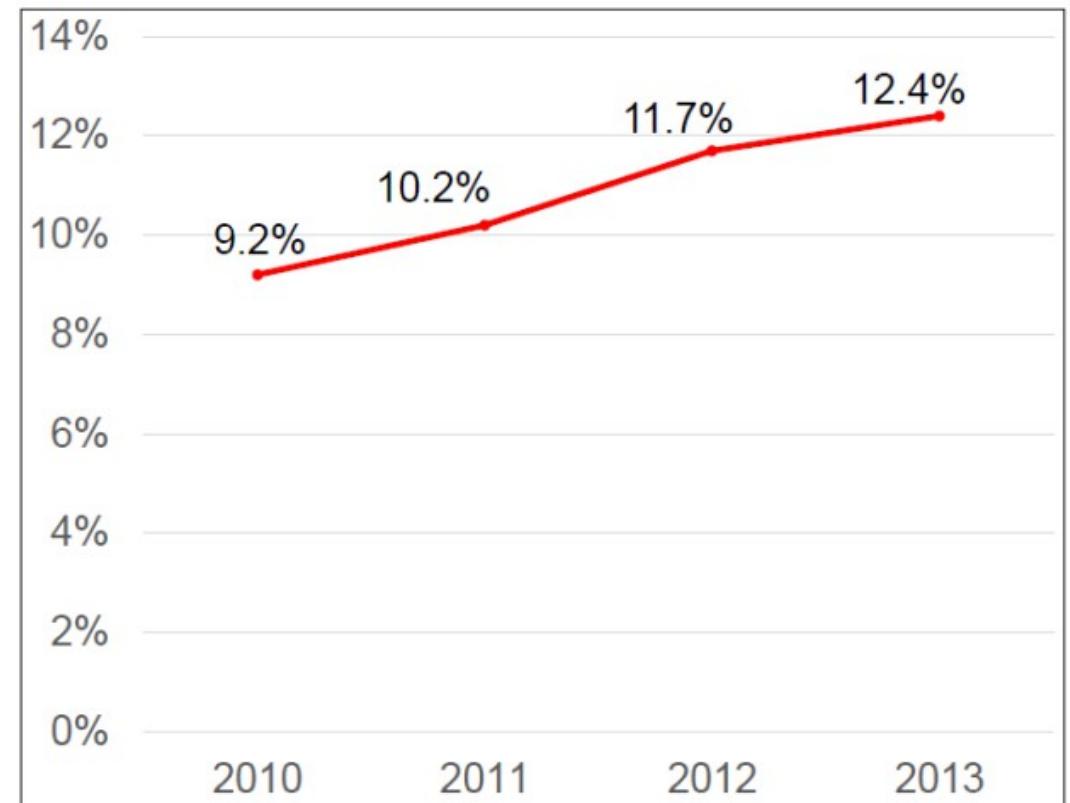
Source : registre RESUVal des AVC thrombolysés



Conclusion

Les patients susceptibles d'être transférés directement en NRI dès la Régulation :

- **Score approprié :**
NIHSS > 10, CPSSS (à valider), RACE
- **Délai estimé de TL entre H3 et H4.5 :**
Gain de 90 min par rapport à un re-transfert secondaire.



Evolution du taux de thrombolyse dans le temps