Managment model between acute hospital and rehabilitation clinic: example of successful cooperation in Canton Ticino

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Simposio REHA TICINO
Venerdì, 25 settembre 2020

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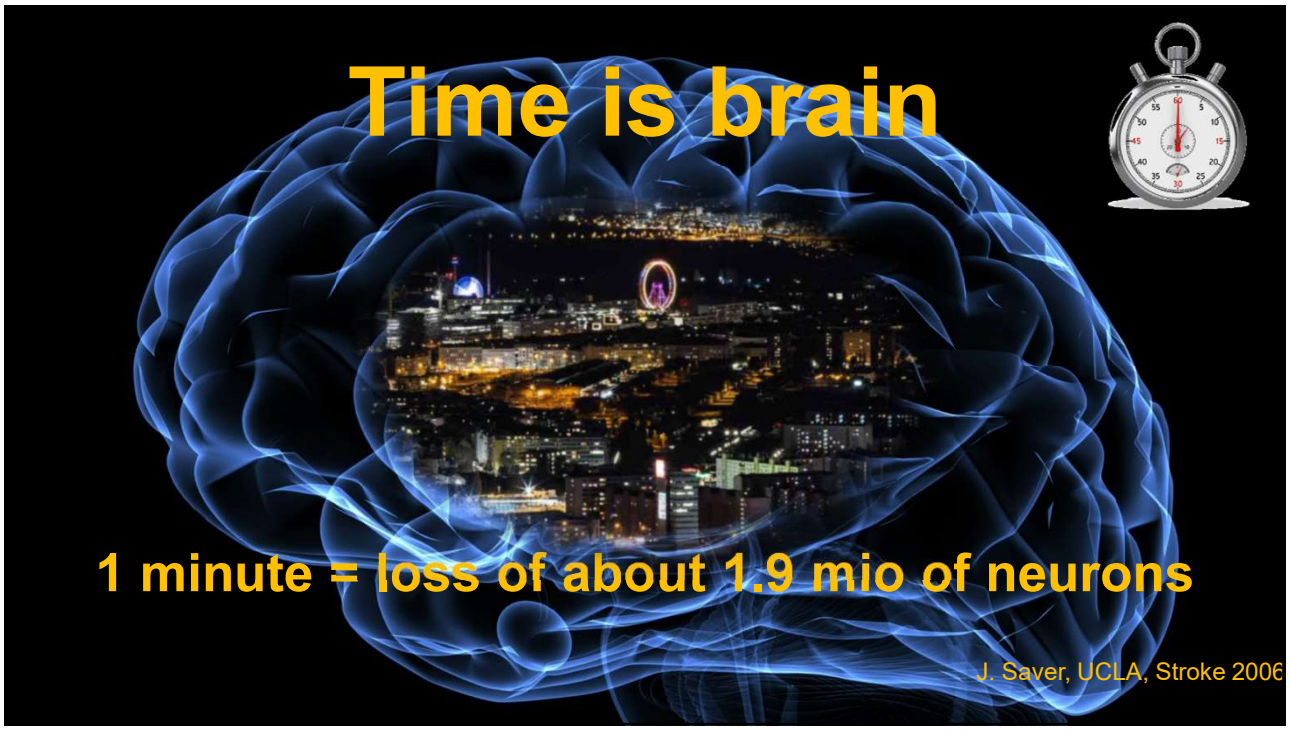
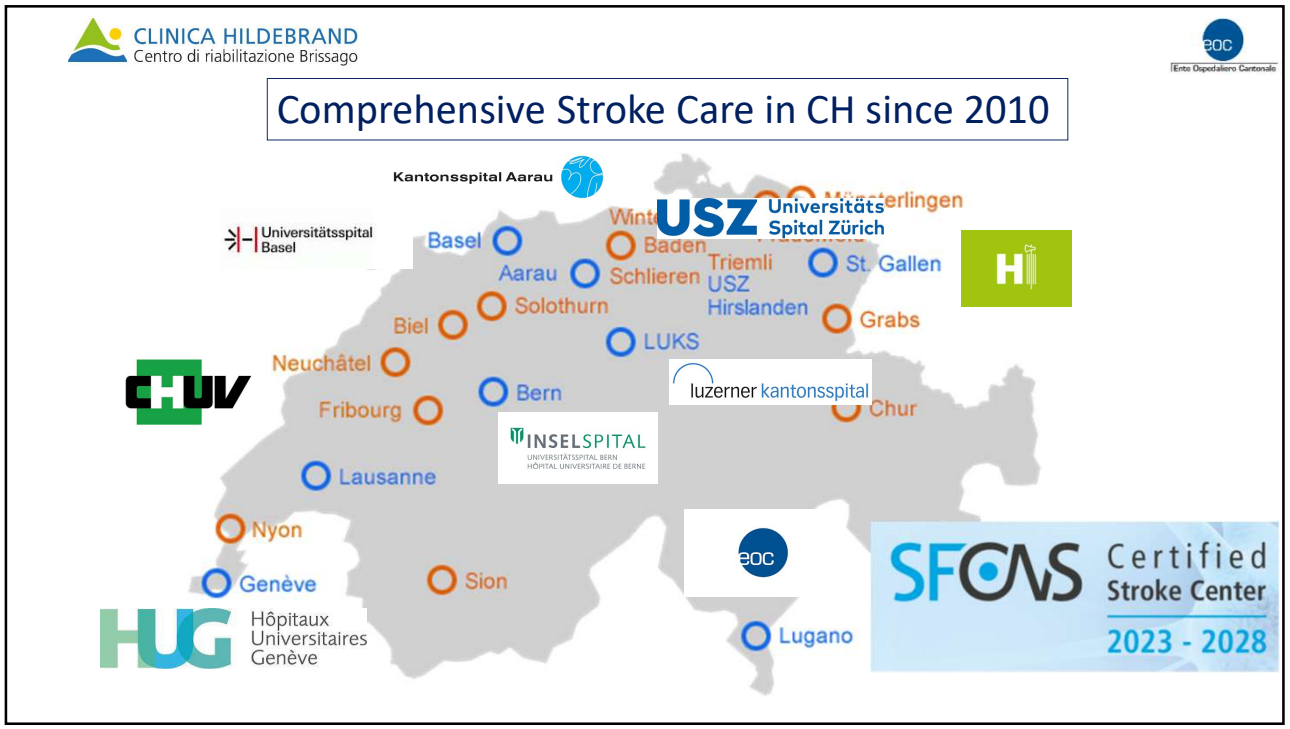
Target of stroke Therapies

Il 40% si riprende completamente

Il 35% rimane handicappato

Il 25% muore


Time is brain
1 minute = loss of about 1.9 mio of neurons
J. Saver, UCLA, Stroke 2006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Comprehensive Stroke Care in CH since 2010
Kantonsspital Aarau
Universitätsspital Basel
Basel
Baden
USZ Universitäts Spital Zürich
Triemli
USZ
Hirslanden
St. Gallen
Aarau
Schlieren
Solothurn
Biel
Grabs
LUKS
Neuchâtel
Bern
luzerner kantonsspital
Fribourg
Chur
INSELSPITAL
Lausanne
Nyon
Genève
Sion
Lugano
Hôpitaux Universitaires Genève
SFOCS Certified Stroke Center
2023 - 2028

Stroke Center Neurocentro (EOC)

- ✓ Care Unit with 12 beds dedicated to Stroke Patients
  - ✓ Within neurology Departement Neurocentro (NSI), Ospedale Civico Lugano
  - ✓6 semi-intensive monitored beds
  - ✓Dedicated staff (specialized nurses, vascular neurologists, Rehab)
- ✓Comprehensive Stroke Center 24/24 h – 365/365 availability:
  - ➢Neurologist on site
  - ➢Neuroradiology diagnostic & interventional
  - ➢Neurosurgery, Vascular Surgery,
- ✓ >600 patients /year
- ✓Acute phase ↔ specialized out-patient unit

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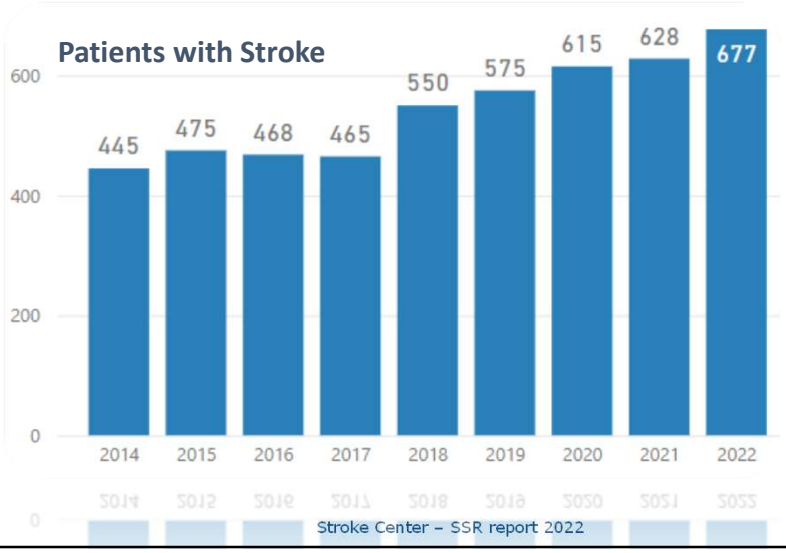
Stroke Center EOC Lugano: centralization of competences



Stroke Center – SSR report 2022

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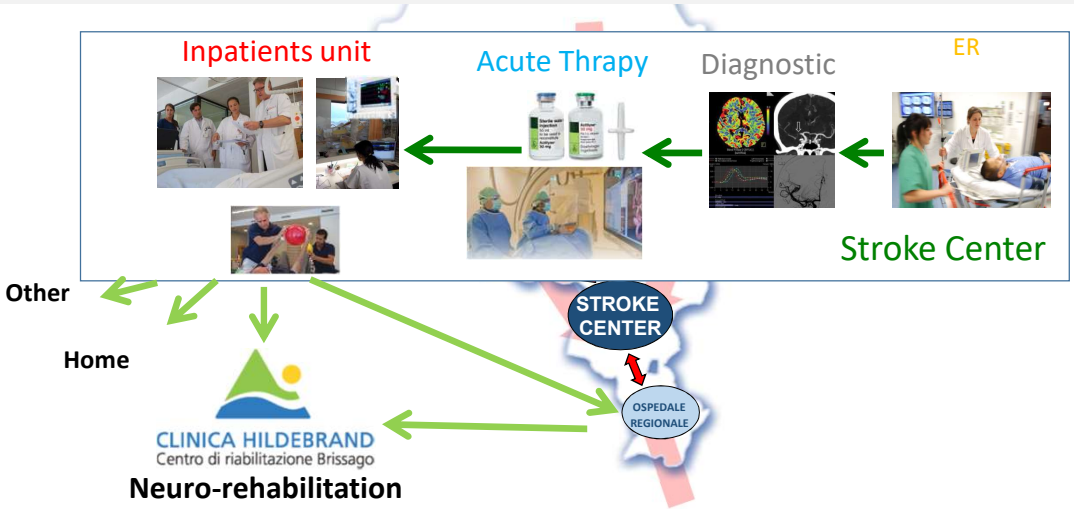
Stroke Center: care network



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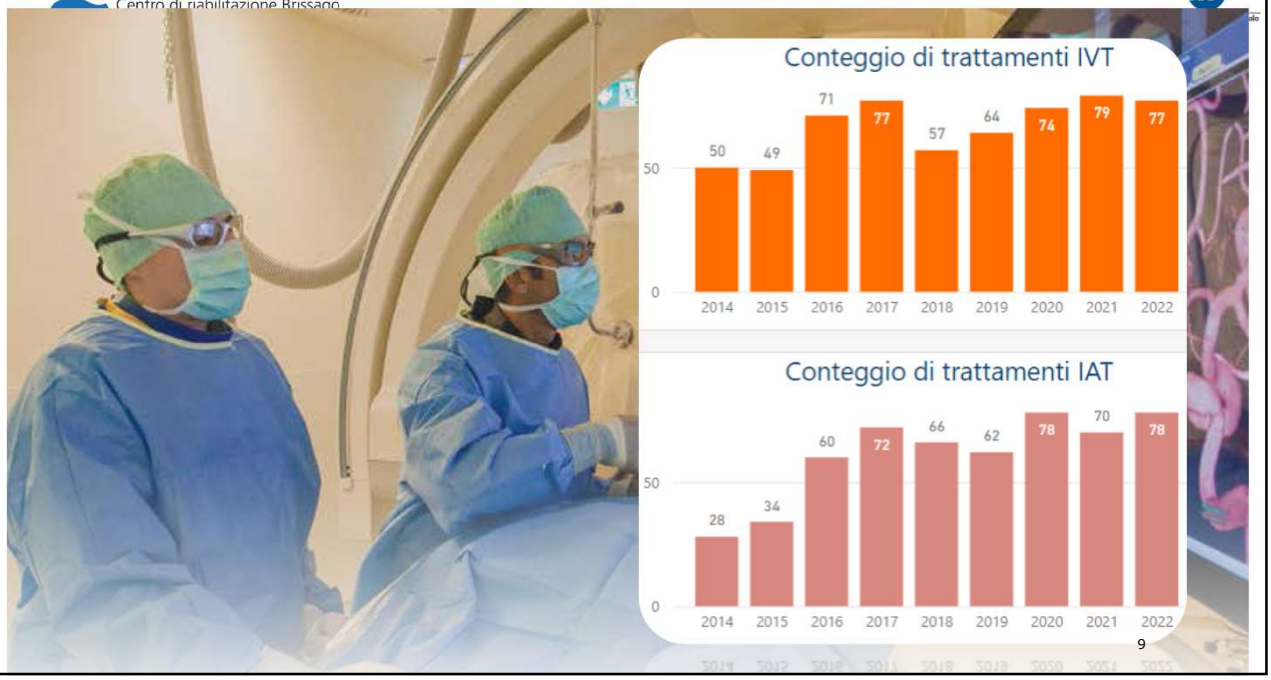

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Stroke Center: multidisciplinary work

Cereda et al., Cerebrovascular diseases 2015

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AHA/ASA Guideline

Guidelines for the Early Management of Adults With Ischemic Stroke

Adams et al, Circulation 2007

Class I, Level of Evidence A

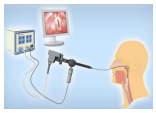
TABLE 6. Standardized Measures for Stroke: JCAHO Primary Stroke Centers

tPA considered
Screen for dysphagia
Deep vein thrombosis prophylaxis
Lipid profile during hospitalization
Smoking cessation
Education about stroke
Plan for rehabilitation considered
Antithrombotic medications started within 48 hours
Antithrombotic medications prescribed at discharge
Anticoagulants prescribed to patients with atrial fibrillation

The use of comprehensive specialized stroke care (stroke units) incorporating rehabilitation is recommended

PREVENT DAMAGE

PROMOTE RECOVERY



Indredavik B, Bakke F, Solberg R, Rokseth R, Haaheim LL, Holme I. Benefit of a stroke unit: a randomized controlled trial. Stroke. 1991 Aug;22(8)
Indredavik B, Bakke F, Slordahl SA, Rokseth R, Hâheim LL. Treatment in a combined acute and rehabilitation stroke unit: which aspects are most important? Stroke. 1999 May;30(5):917-23

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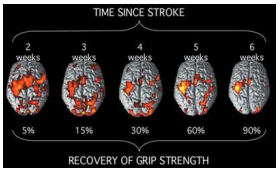
EARLY NEUROREHABILITATION IN NSI: EOC-CRB mixed team from 2010 to 2023

- **Early** interdisciplinar rehabilitaiton in acute phase
- **Quick** pathway identification
- Correct **resource** allocation
- **Specialistic know** how development and sharing
- More linear pathways and more **clinical sharing** in setting change
- Patient and care giver **involvement** in linear pathway



2010 SU/N → SU/N/NCH → SU/N/NCH/CIM → SU/N/NCH/CIM/CNSI/Amb-Rheab **2023**

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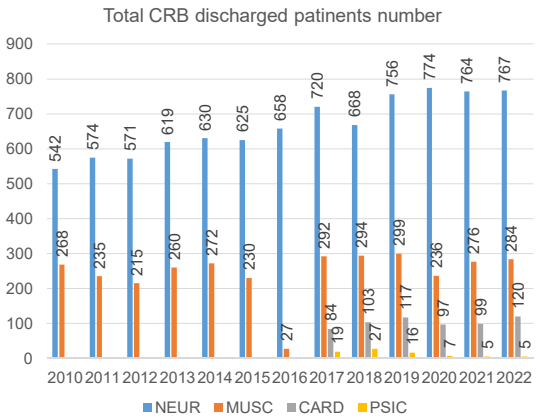
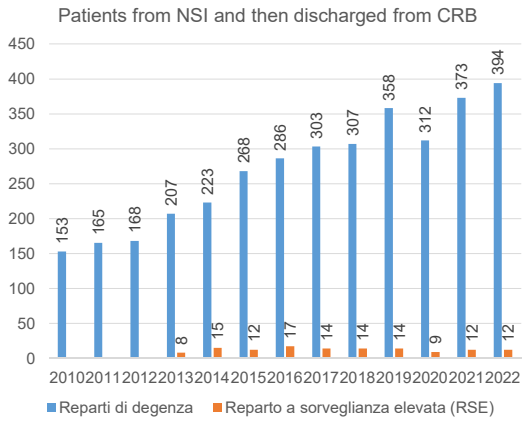
Number of patients discharged from CRB





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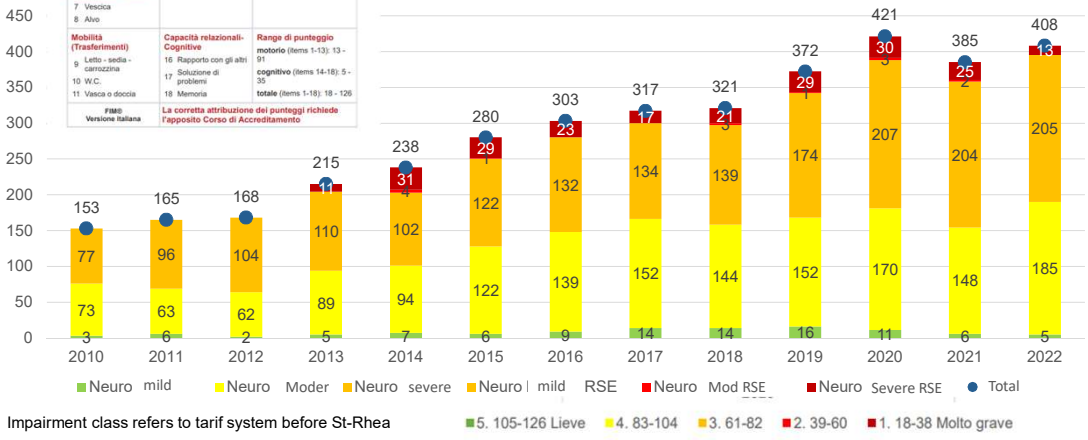
Patients from NSI - functional severity



Impairment class refers to tarif system before St-Rhea

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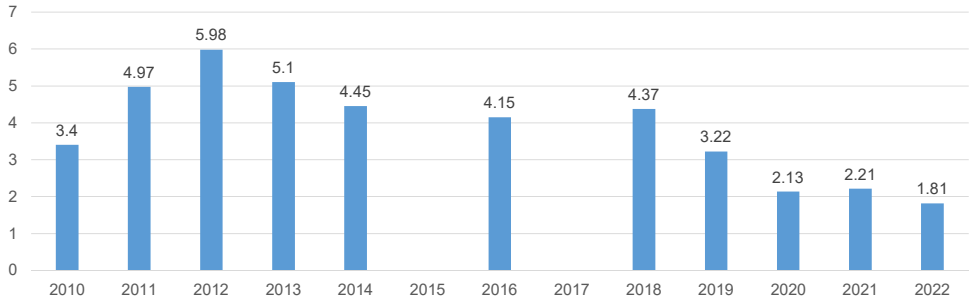
Patients from NSI: waiting time for CRB admission



Fonte: Servizio sociale EOC

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48 years old man

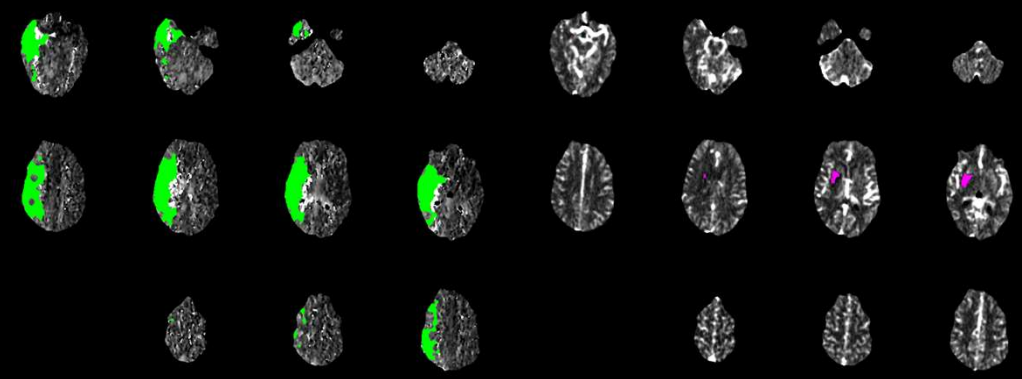
At 11:45 at his computer desk, he presents acutely:

- Paralysis of the face on the left, and motor impairment of the arm
- No speech problems, but slower thinking
- Urinary incontinence

"I'm feeling well", the colleagues must insist to call the ambulance "144"
Wife quickly calls 144

Just known for diabetes type 1, on Insulin shots

Perfusion Brain Imaging



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- Initial Stroke Severity 22 (NIHSS)
- Intravenous therapy + Endovascular therapy
- 90 minutes after symptoms with complete reperfusion
- NIHSS at 24 hours 6: paralysis has disappeared !
- Cause: severe heart disease, not previously known
- Early Neuro-Rehabilitatin programm

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TIMELINE

10 days

2.05	4.05	5.05	7.05	10.05	11.05	12.05
Hospitalization in SU Start physio and ergo and nurses swallowing evaluation	Start logo: dysphagia	CRB hospitalization request	Interdisciplinary meeting: discharge on 11.05	CCT for coronaro graphy	Flow confirmation by physician discussion	Admission in CRB

Clinical assessment: CRB MD at NSI **(5.05)**

- Mild dysphonia and dysphagia
- Mild left ataxic hemisyndrome
- Walking and trasfer impaired

Clinical assessment from in CRB (**12.05**)

- No significant clinical changes
- Small initial functional improvement
- Specialistic evaluation (cardio etc..)
- Rehabilitation project and program

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REHABILITATION PROGRAM IN CRB

Hip Stab, balance, endurance

Shoulder Stab, bimanual, BADL

New technologies

Hip Stab, balance, endurance, executive functions

Diet

No speech deficit nor dysphagia

REHABILITATION PROJECT
DISCHARGE IN 6-8 WEEKS

NPS: attention, impulse inhibition, Speed, verbal memory, psychological support, Vienna test

Cardio: aerobic training (continuous training with constant effort 25Wx15', progressive improvement, more endurance at 2-4 mets)

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DISCHARGE 04.07 (7 WEEKS)

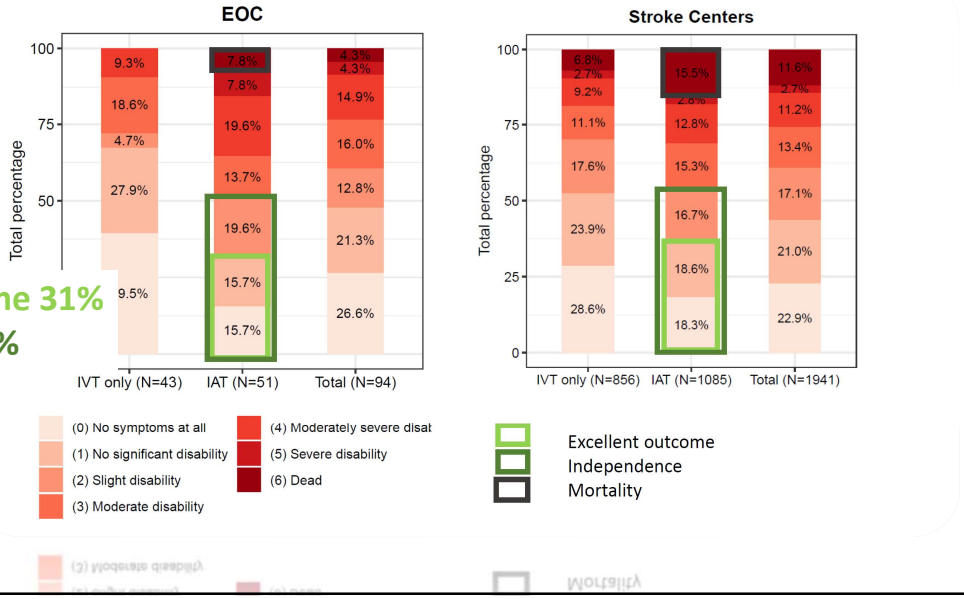
No motor limbs or axial deficit
No coordination deficit
Normal walking
More effort endurance
Loss of weight (-7Kg)
No NPS deficit (minimal verbal mermory)
Autonomus in IADL and abilitation do drive

MI AVETE SUPPORTATO AFFINCHE' POTESSI TORNARE ALLA MIA VITA FUORI DI QUI....

VI SALUTO, IO ESCO E TORNO DALLA MIA FAMIGLIA..

Reperfusion therapies: outcome after 3 months – national benchmarking

Excellent outcome 31%
Independent 51%



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Thank you

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