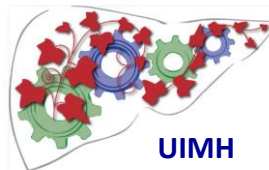




Il ruolo delle reti nella presa in carico del paziente con malattie croniche

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pangeli@unipd.it



***Congresso nazionale della Confederazione delle Associazioni Regionali
di Distretto (CARD)
Trento- 15 Ottobre 2022***

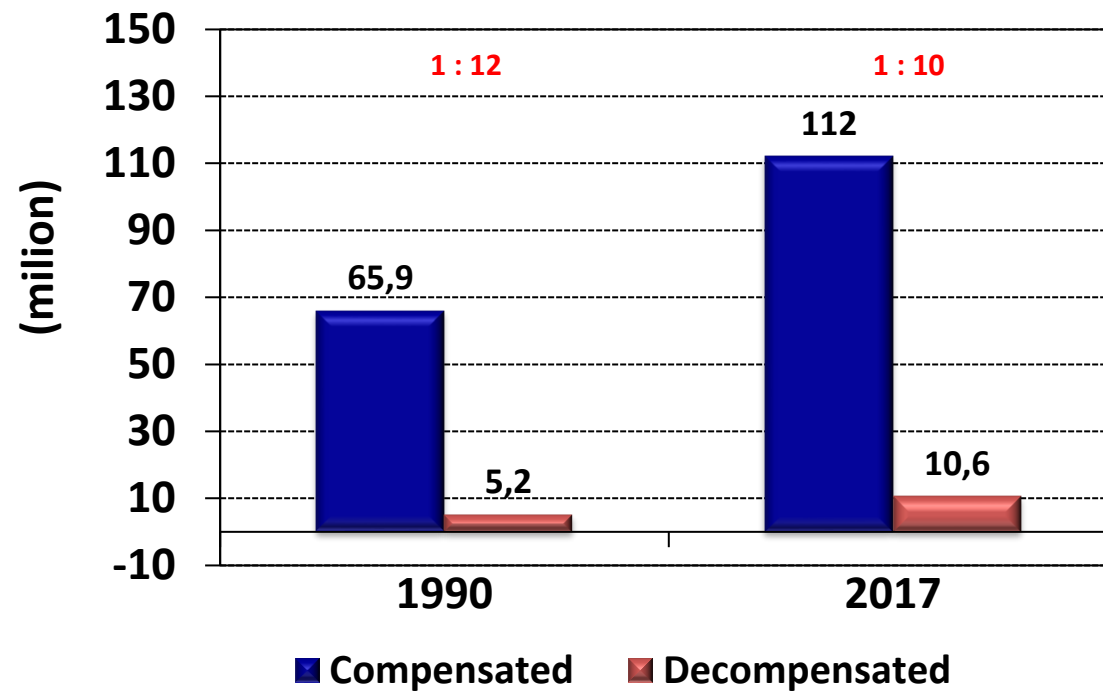
La rete epatologica regionale (REPAV)



Agenda

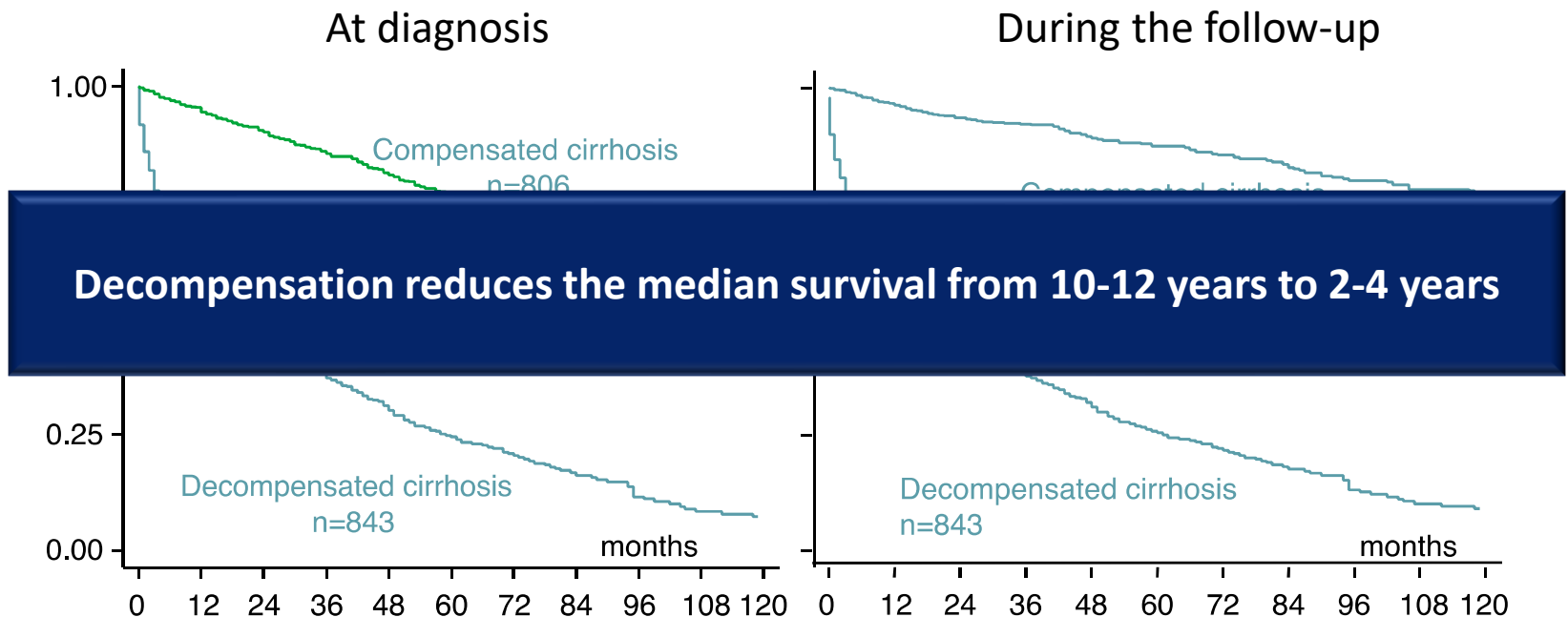
- The burden of liver diseases
- The model of care

Number of prevalent cases of compensated and decompensated cirrhosis in 1990 and 2017



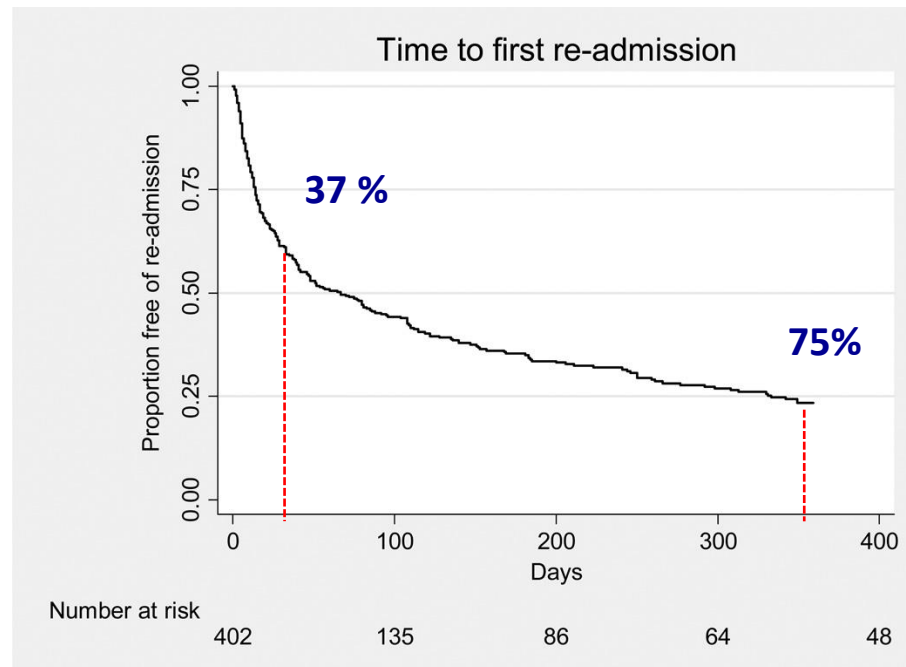
Lancet 2020 ; 5 : 245-266

Survival according to the main stage of cirrhosis



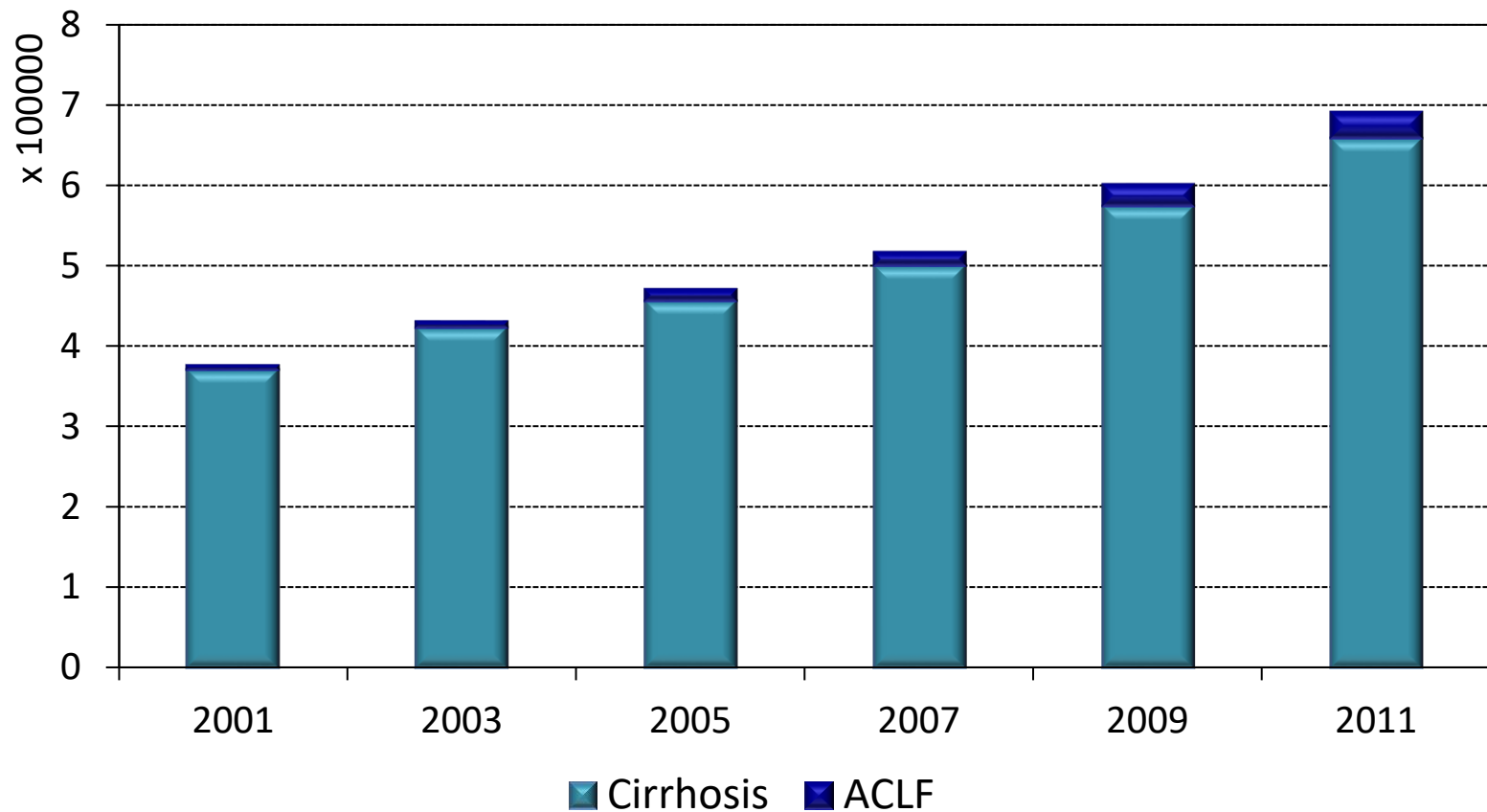
G. D'Amico et al. J. Hepatol. 2006 ; 44 : 217-231

Hospital readmission after discharge in patients with decompensated cirrhosis in U.S.



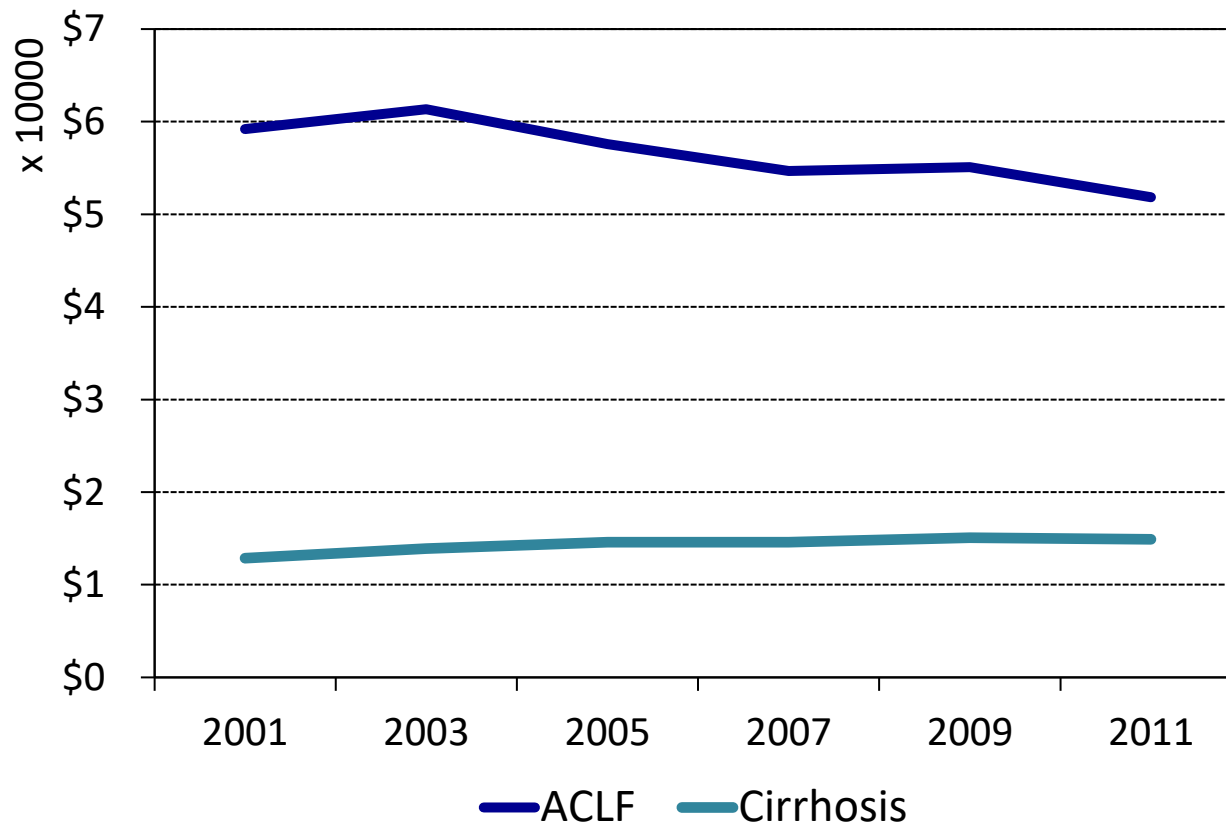
M. Volk et al. Am J Gastroenterol. 2012; 107: 247-252

Number of hospitalizations for cirrhosis and ACLF



AM. Allen et al. Hepatology 2016 ; 64 : 2165-2172

Mean cost per hospitalization for cirrhosis and ACLF



AM. Allen et al. Hepatology 2016 ; 64 : 2165-2172

Economic impact of cirrhosis and ACLF compared to the most common medical conditions requiring hospitalization in US in 2010

Chronic Disease	N° of hospitalization	Leght of hospital stay	Inpatient mortality	Mean cost per ospitalization
Cirrhosis	606,288	7	7.5%	\$ 15,732
ACLF	28,637	16	53.3%	\$ 54,727
Sepsis	808,000	9	16.3%	\$ 15,467
Pneumonia	1.1 milion	5	3.3%	\$ 7,581
Congestive heart disease	1 milion	5	3.0%	\$ 8,315
Cerebrovascular disease	1 milion	6	4.7%	\$ 8,117

AM. Allen et al. Hepatology 2016 ; 64 : 2165-2172

Agenda

- The burden of liver diseases
- The model of care

The document of the EASL- Lancet Commission

- The dissociation between primary and secondary care and the considerable heterogeneity across clinical pathways and inconsistent models of care cause delays in diagnosis of both rare and common liver diseases.
- We recommend that EASL and other medical specialist organization collaborate to develop an European wide syllabus for primary care hepatology with an emphasis on simplified patient-centered pathway and multimodality model of care accounting for the collaboration between hepatologists and primary care clinicians, nurses, peer educators and other medical specialists.

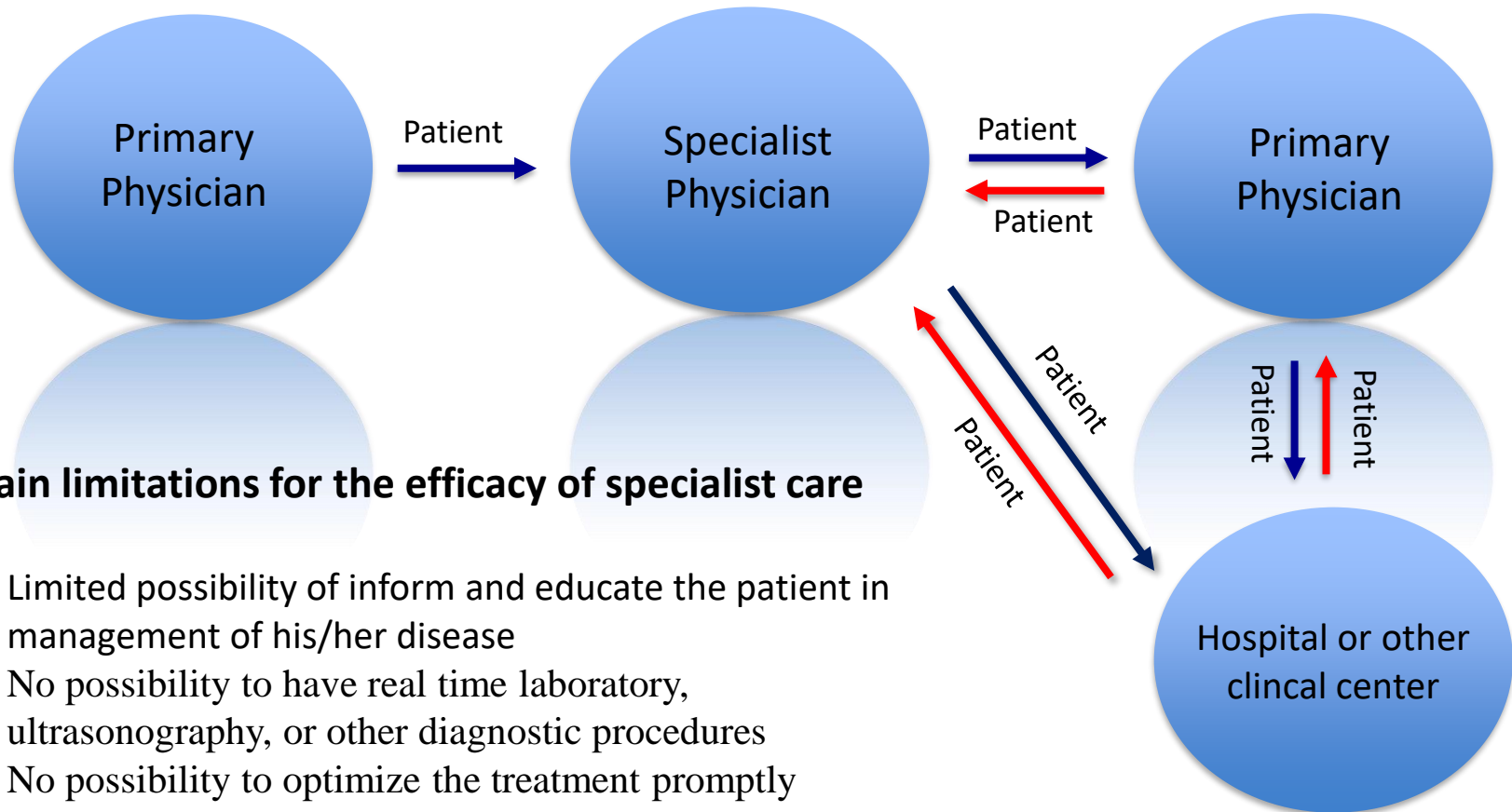
Lancet 2021

Complications and symptoms of cirrhosis

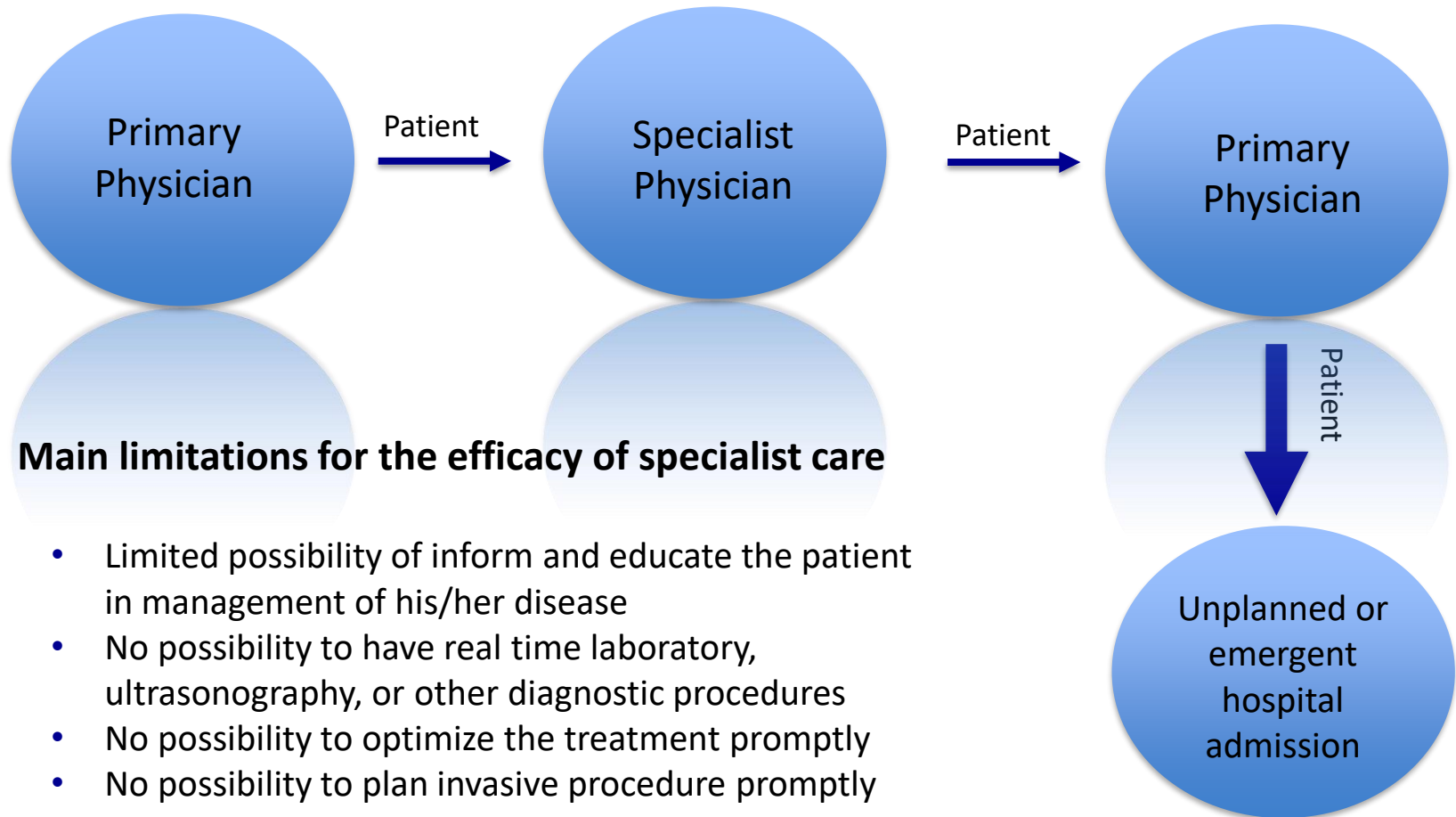
ACLF	Bacterial infections	AKI - Hepatorenal syndrome
Ascites		Portal hypertensive gastropathy
Hepatic Encephalopathy	<ul style="list-style-type: none">• Muscle cramps• Nausea and vomiting<ul style="list-style-type: none">• Pruritus• Gynecomastia• Dysgeusia	Portal vein thrombosis
Cirrhotic cardiomyopathy		Porto-pulmonary hypertension/Hepatic hydrothorax
Hepato-pulmonary syndrome	Hepatocellular carcinoma	Variceal hemorrhage

adapted from PS. Ge et al. NEJM 2016 ; 375 : 767-777

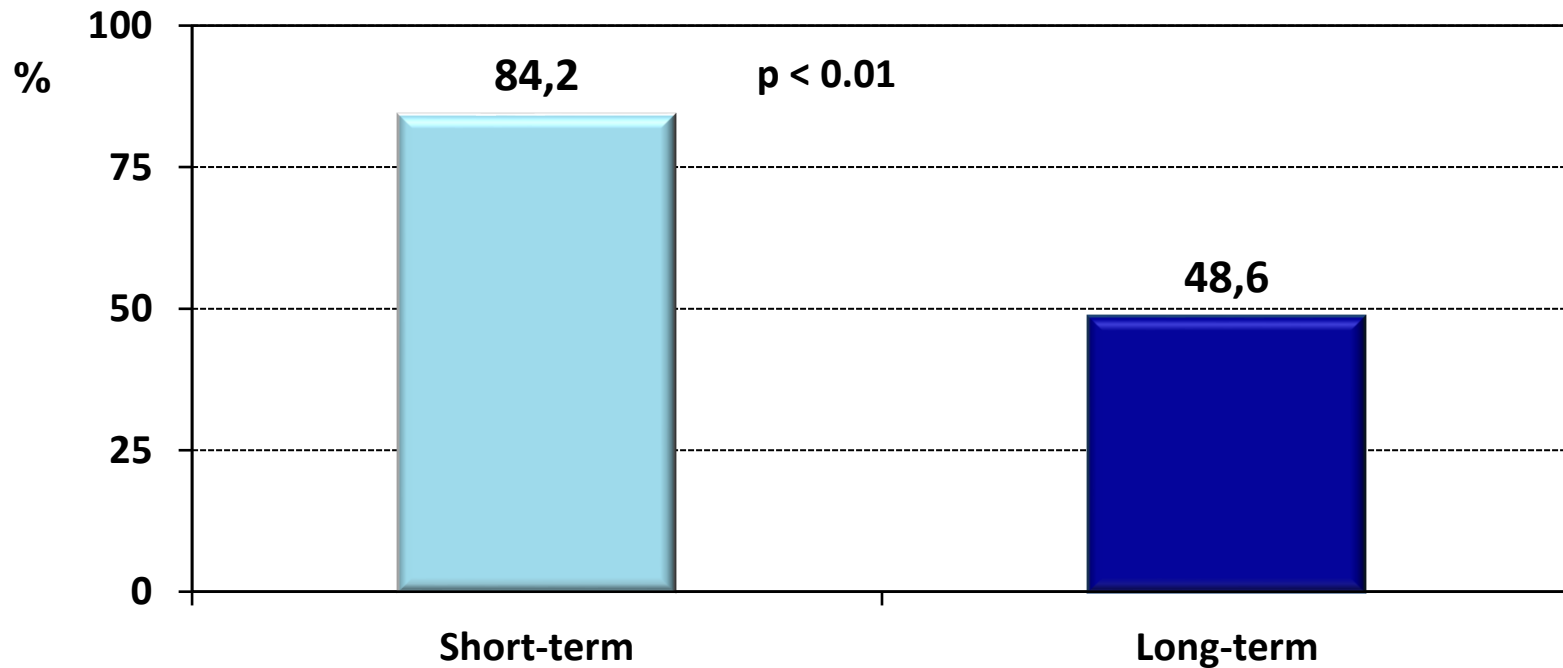
The standard model of specialist care in Italy



The standard model of specialist care in Italy



Adherence to clinical guidelines in the Short-term versus Long-term in patients with AMI

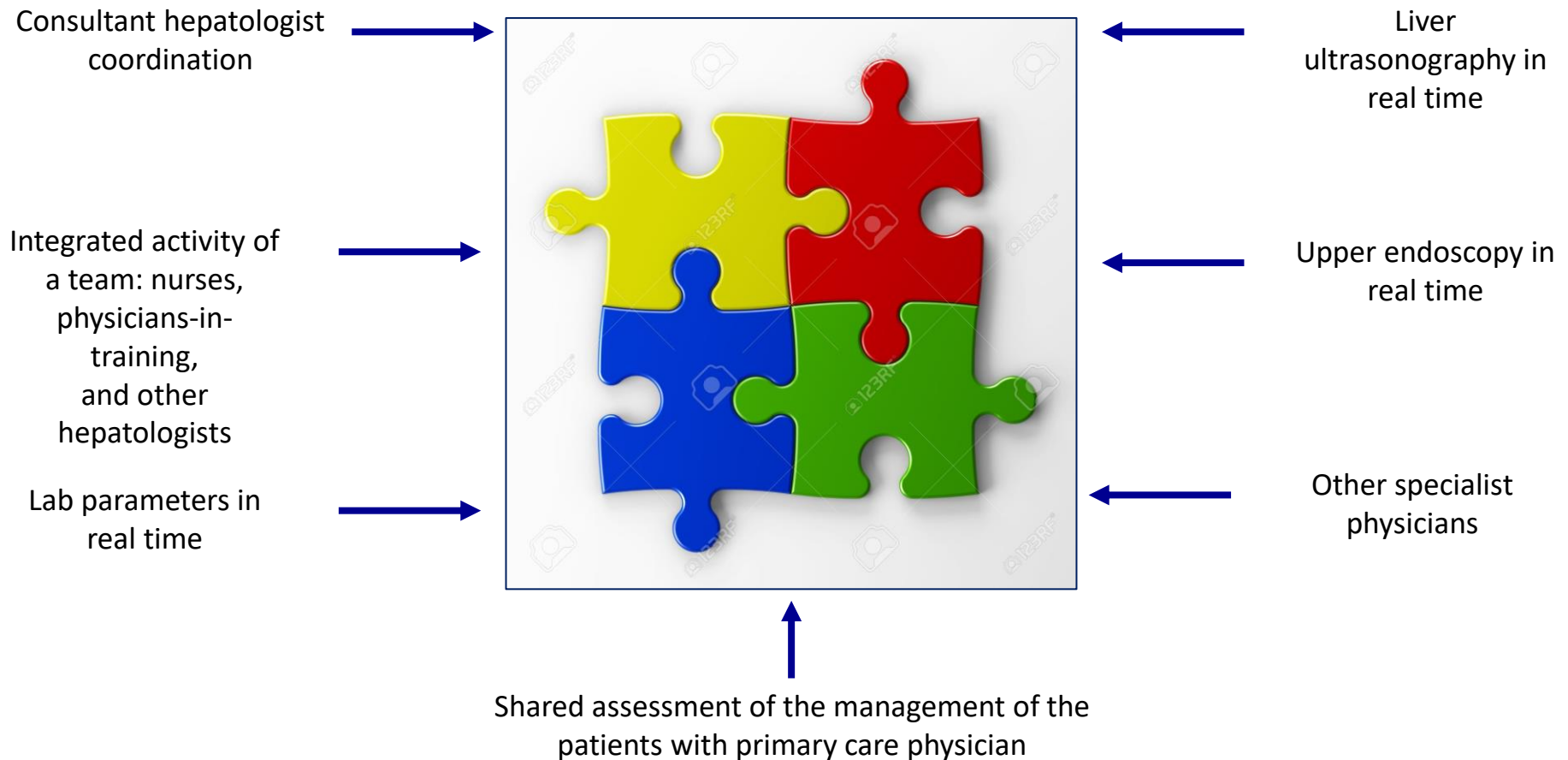


DJ Kumbhani et al. Am. J. Med. 2013 ; 126 : 74e.1-74e.9

F. Rodriguez et al. Clin. Cardiol. 2013 ; 36 : 721-727

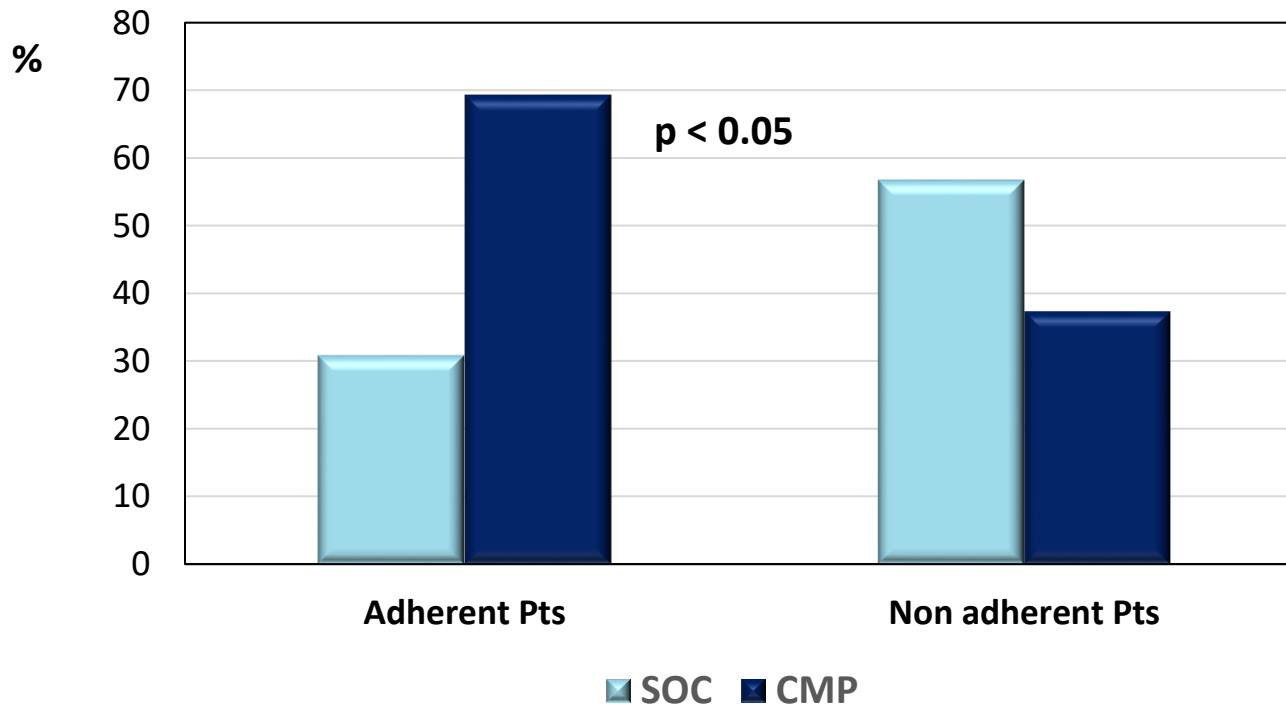


“A day management check up” for outpatients with advanced chronic liver disease



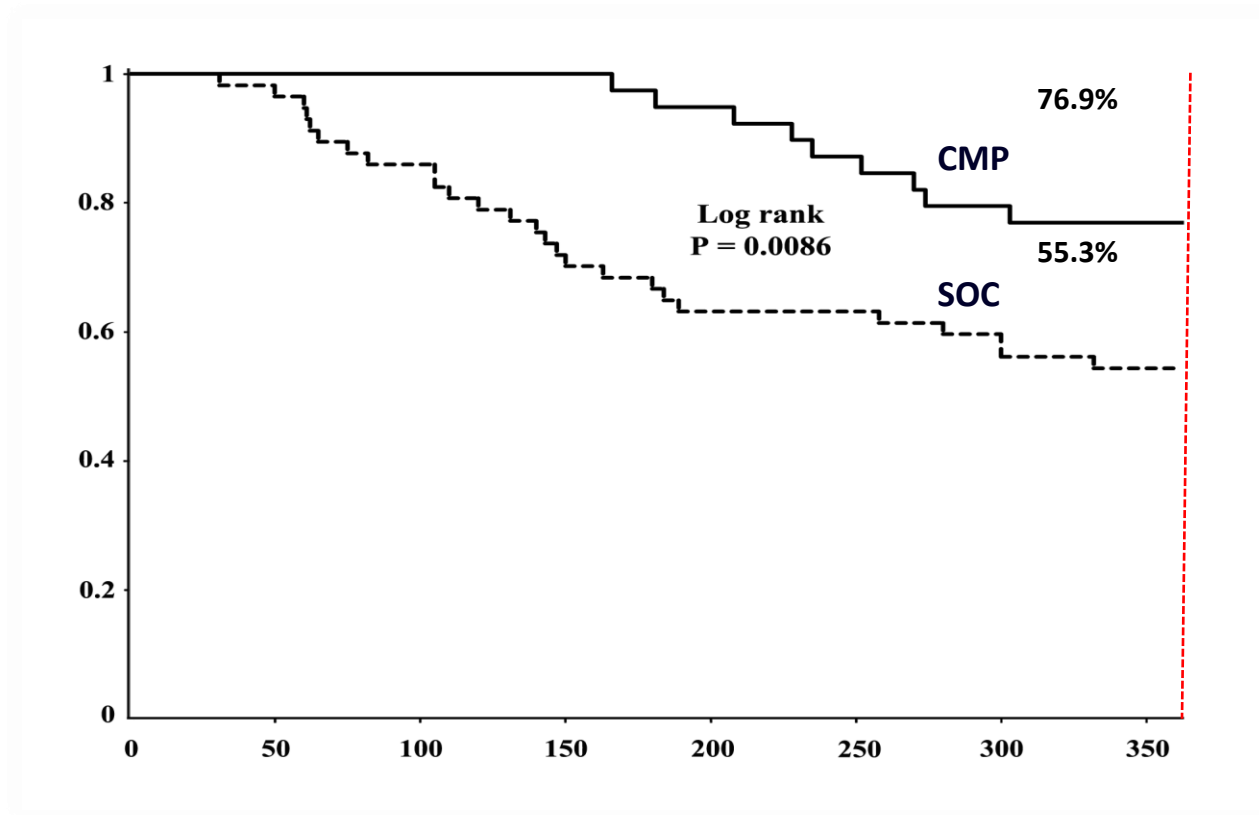
A day management check up + A one day hospital = Care management program (CMP)

Adherence to a low-salt diet in patients with cirrhosis and ascites according to an attendance to the Care management program > 2 months

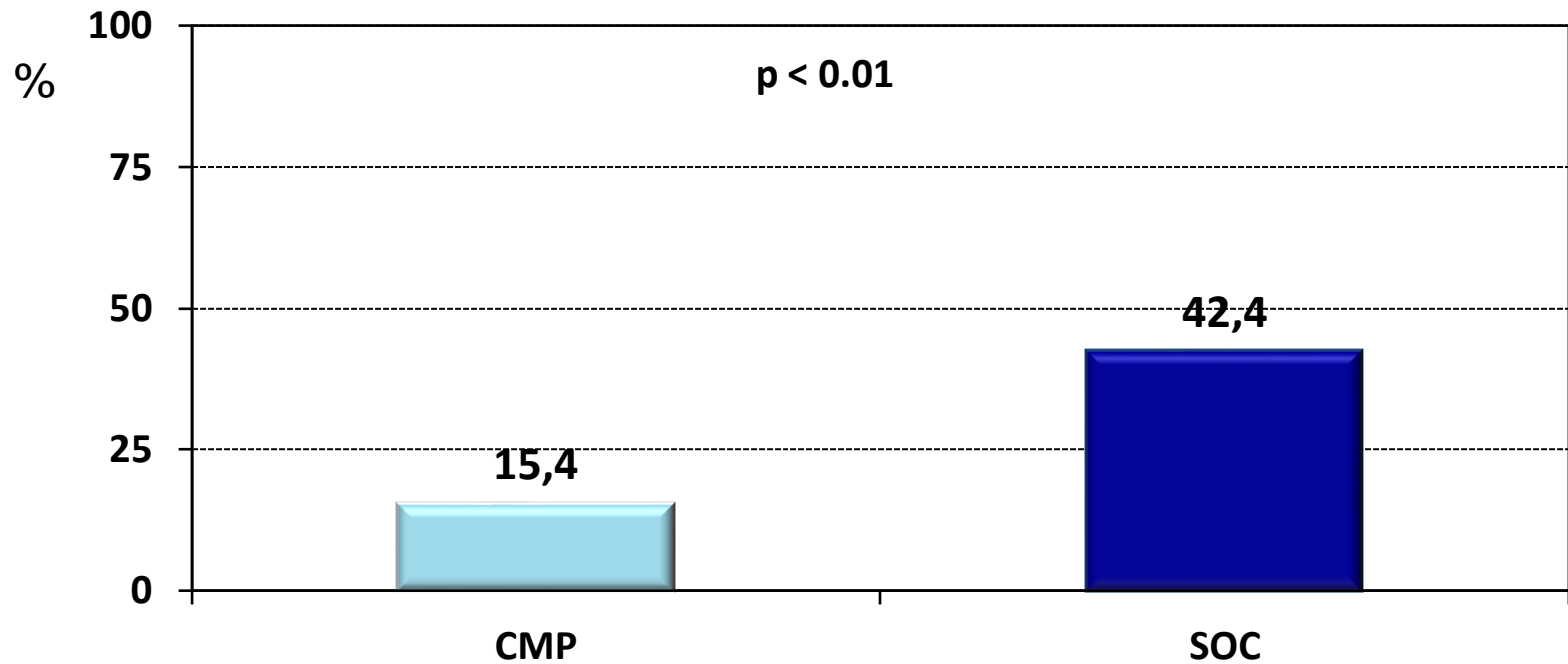


F. Morando et al. J Hepatol 2015 ; 35 : 1508-1515

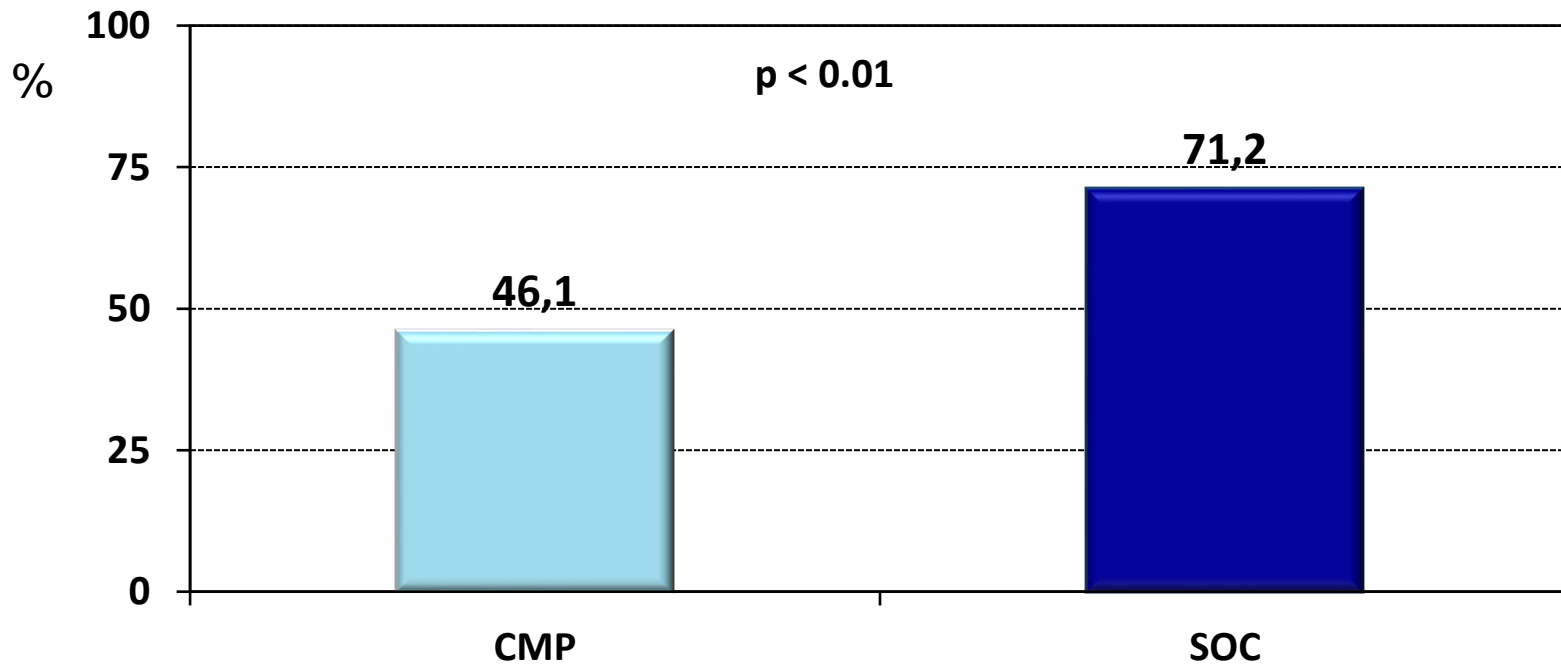
Probability of 1-year survival in the “Care management program” (CMP) group and to the “Standard outpatient care” group (SOC)



Rate of emergent readmission to the hospital within 30 days after the inclusion



Rate of total emergent readmission to the hospital within 1 year after the inclusion



Costs (Euros) of management in “Care management program” (CMP) group and in “Standard outpatient care” (SOC) group

Costs of management	CMP n° = 39	SOC n° = 59	P
- Costs of specialist care	78.39 ± 30.43	26.82 ± 35.65	< 0.001
- Costs of “A one day hospital”	54.01 ± 77.59	20.99 ± 41.35	< 0.025
- Costs of emergent hospitalization	1346.80 ± 2165.28	2768.31 ± 3856.94	< 0.05
- Global costs	1479.19 ± 2184.43	2816.13 ± 3893.03	< 0.05

Legend: data are expressed per patient month of life.

F. Morando et al. J Hepatol. 2013 ; 59 : 257-264

Rationale for Clinical Care Network (CCN)

- The CCN is based on the principle of equity and timeless in access to care.
- It's an organizational model that ensures patient care by relating, with formalized and coordinated methods, professionals, structures and services that provide health and social interventions of different types and levels in compliance with continuity of care and clinical and organizational appropriateness.



The regional Act of Establishment of the Hepatological Network (REPAV)

Bur n. 8 del 21/01/2022

(Codice interno: 466968)

DELIBERAZIONE DELLA GIUNTA REGIONALE n. 1862 del 29 dicembre 2021

Istituzione della Rete Epatologica Veneta e istituzione di un Centro regionale per lo sviluppo della ricerca traslazionale nell'ambito della chirurgia epatica oncologica.

[Sanità e igiene pubblica]

Note per la trasparenza:
Con il presente atto si procede all'istituzione della Rete Epatologica Veneta e all'istituzione del Centro regionale per lo sviluppo della ricerca traslazionale nell'ambito della chirurgia epatica oncologica, collocato presso l'Azienda Ospedale-Università di Padova.

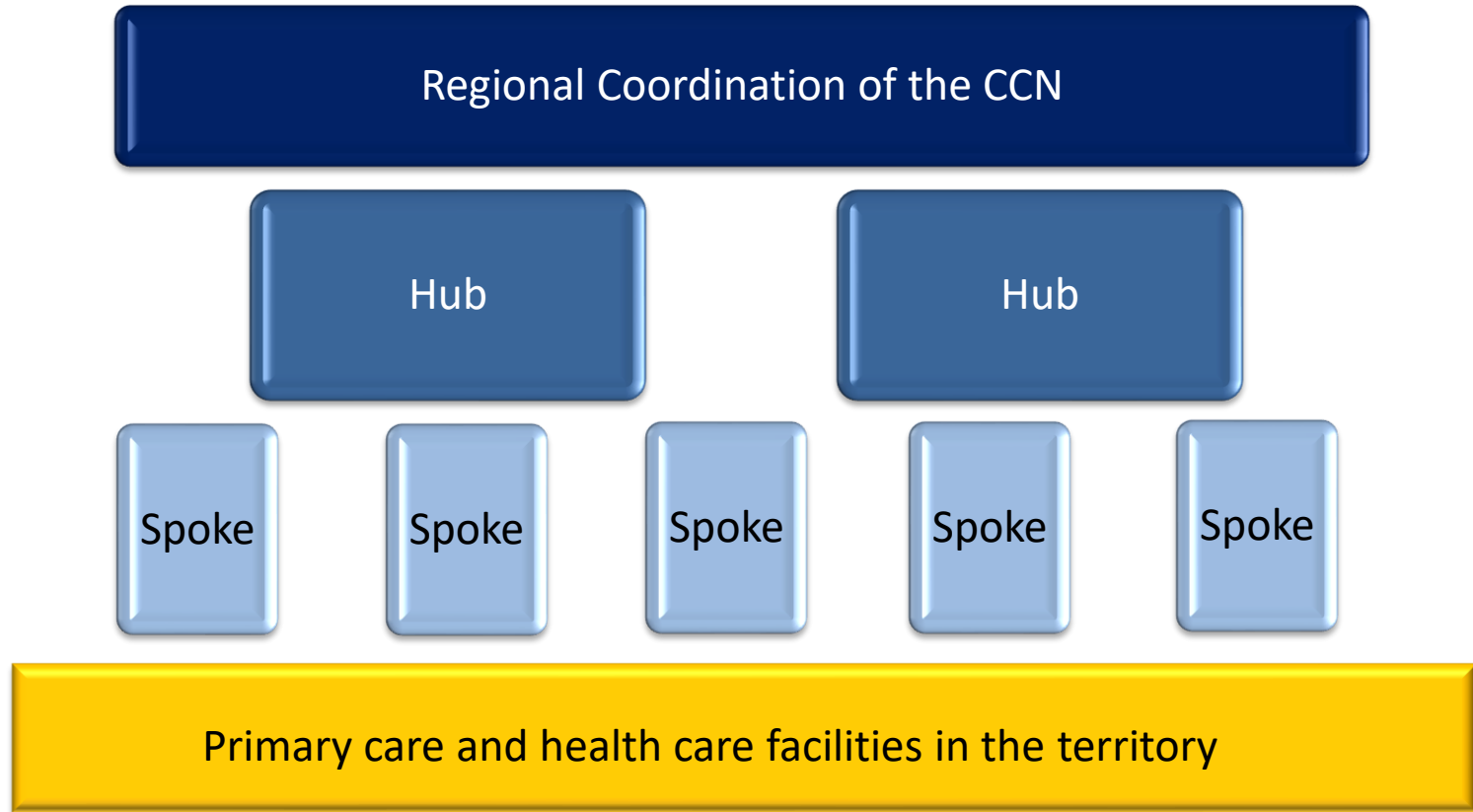


Regional Coordination of the CCN

- To define and organize the plan for the clinical network



Connection among the network nodes

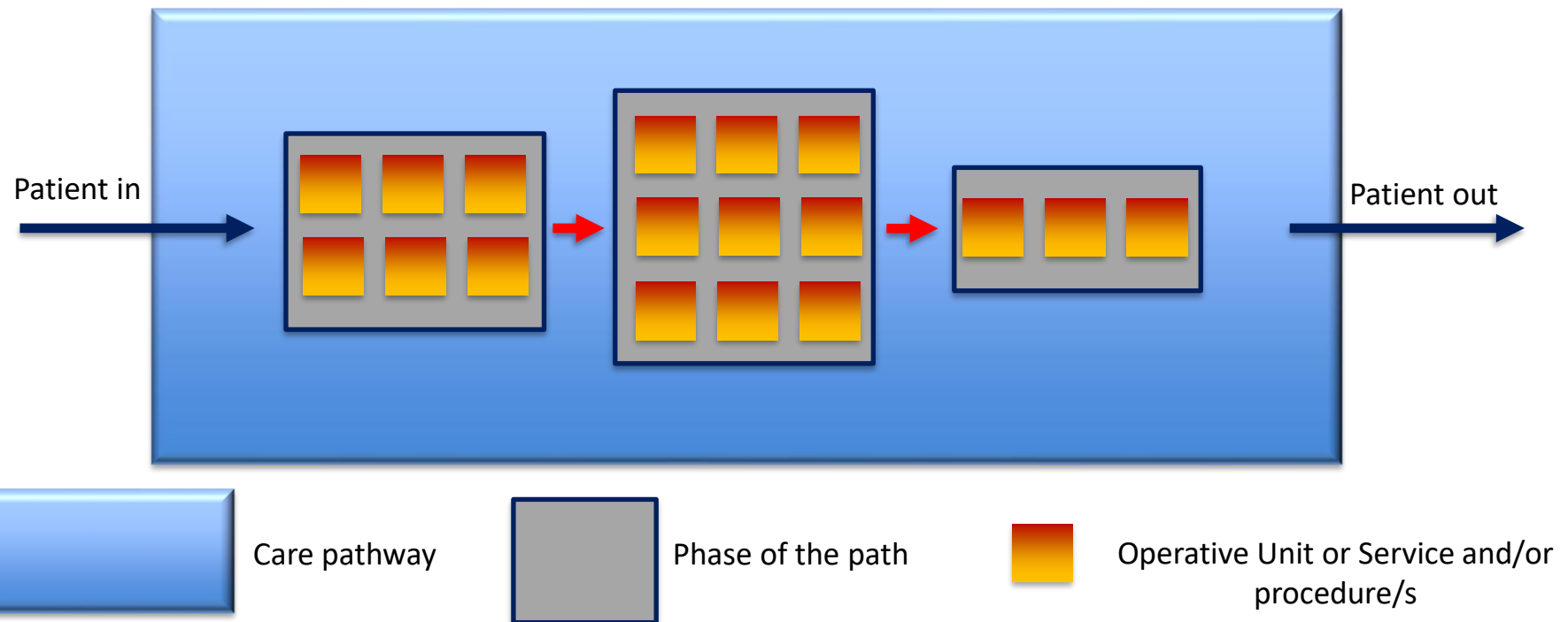


Regional Coordination of the CCN

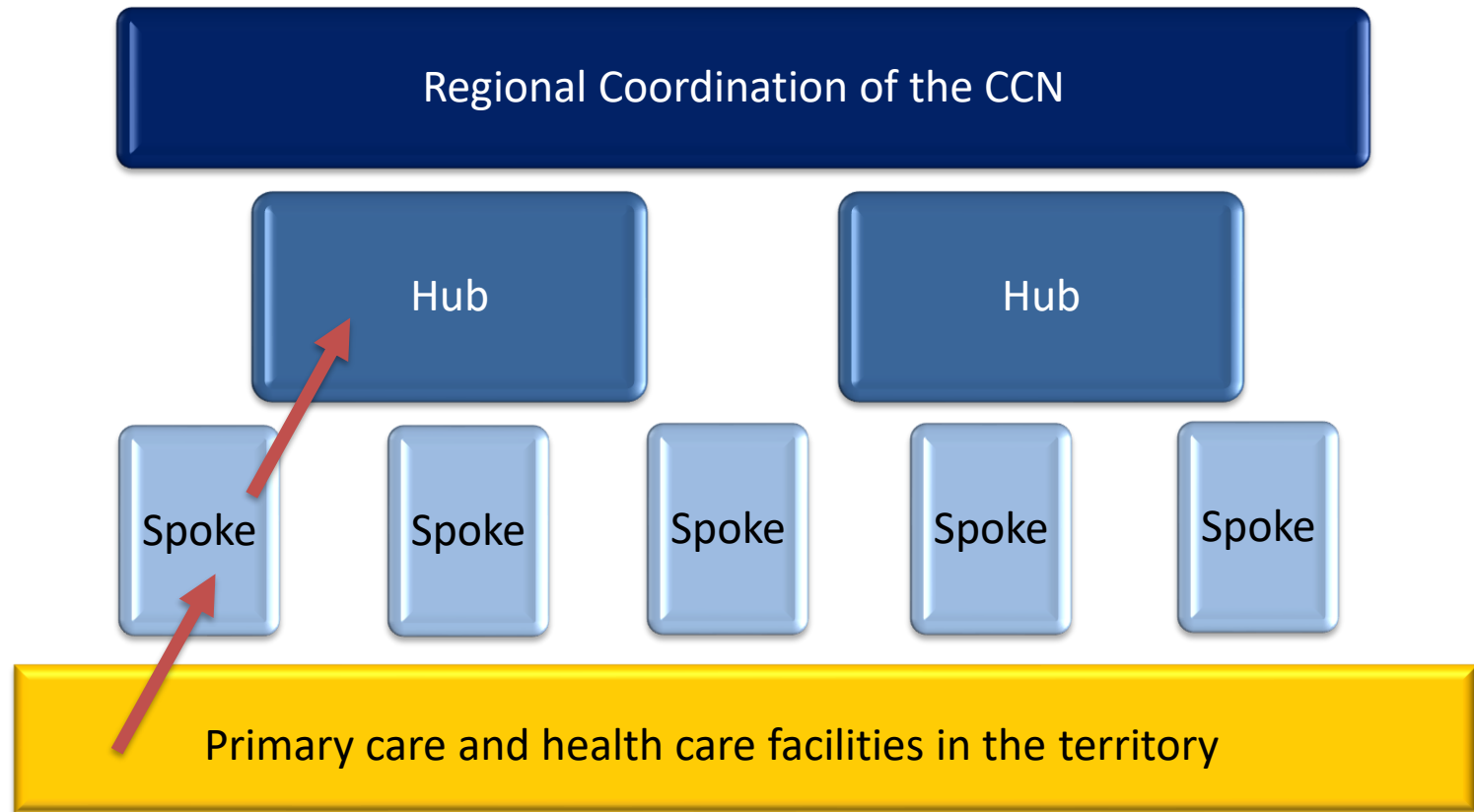
- To define and organize the plan for the clinical network plan
- To validate and to monitor the application of shared diagnostic-therapeutic paths (PDTA) for specific chronic disease



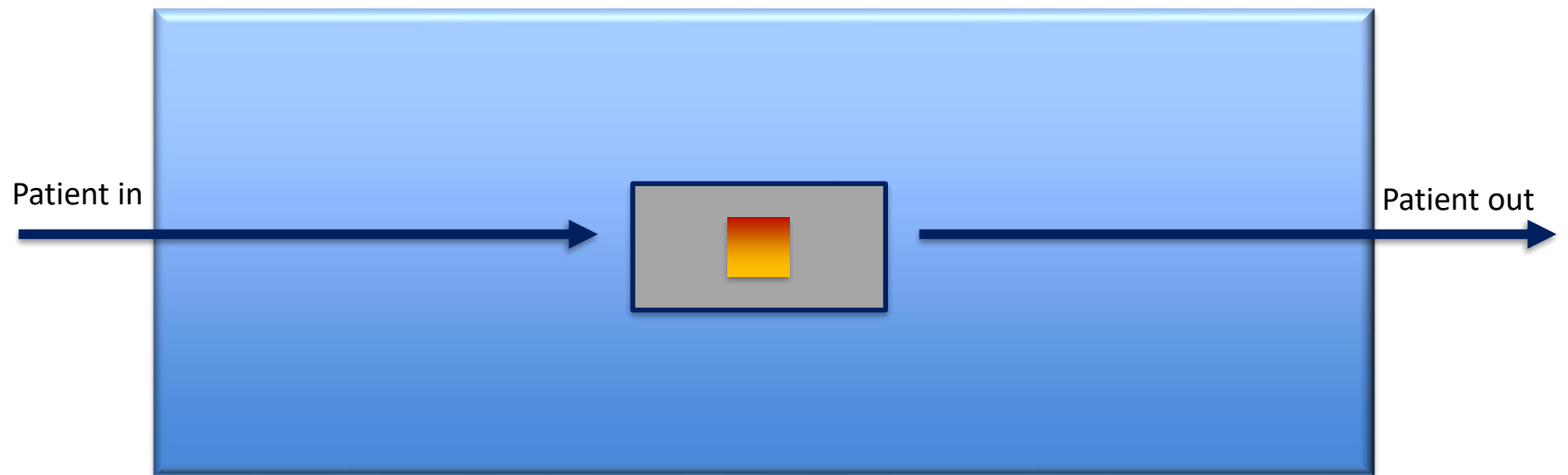
A care pathway (1)



Connection among the network nodes



A care pathway (2)



Care pathway



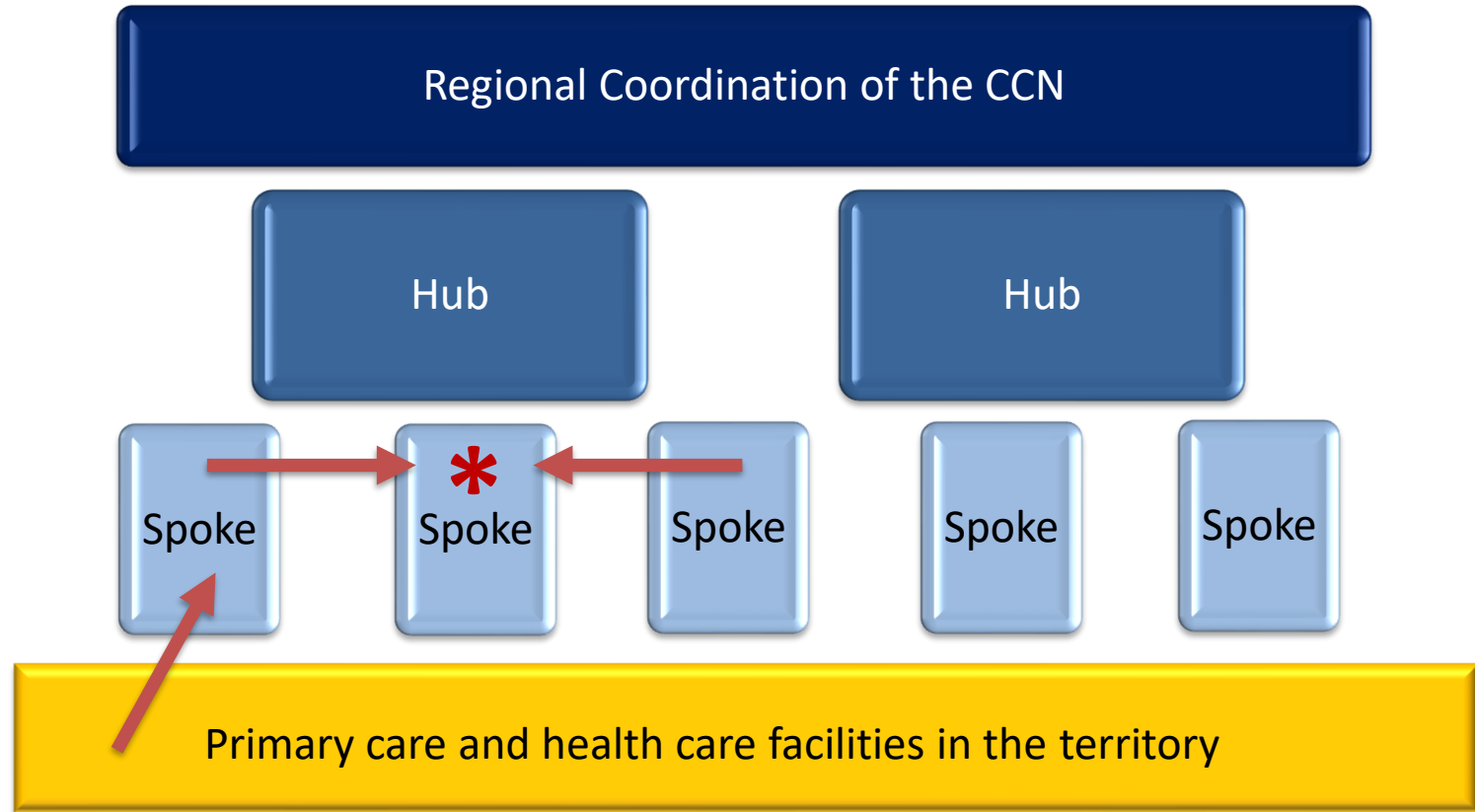
Phase of the path



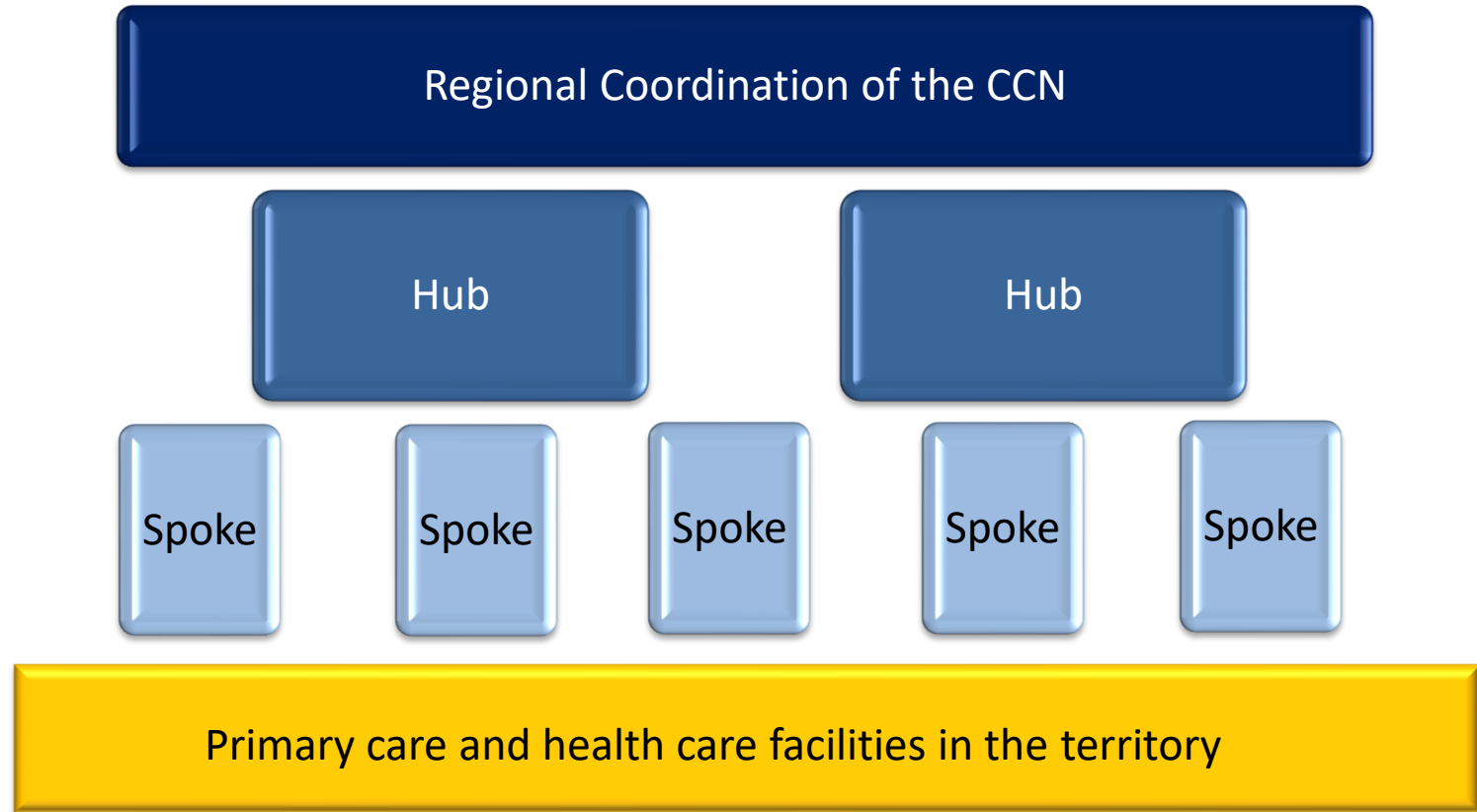
Operative Unit or Service and/or
procedure/s



Connection among the network nodes



Connection among the network nodes



The document of the EASL- Lancet Commission

- The dissociation between primary and secondary care and the considerable heterogeneity across clinical pathways and inconsistent models of care cause delays in diagnosis of both rare and common liver diseases.
- We recommend that EASL and other medical specialist organization collaborate to develop an European wide syllabus for primary care hepatology with an emphasis on simplified patient-centered pathway and multimodality model of care accounting for the collaboration between hepatologists and primary care clinicians, nurses, peer educators and other medical specialists.

Lancet 2021

Hospital Care

Transitional Care

Home Care



For most of the chronic diseases, they cannot presume from the development of the hospital-territory integration otherwise they would not be able to guarantee continuity of assistance and thus an effective individual assistance plan.

- Observation
- Semi-intensive Units
- Regular wards
- Long-term care Units
- One day hospital
- Week Hospital
- Outpatient clinics

- Healthcare Residences
- Integrated nursing care
- Department of Mental Health
- Public addiction service
- Palliative care service
- Social services
- Private facilities



Innovation Tecnology

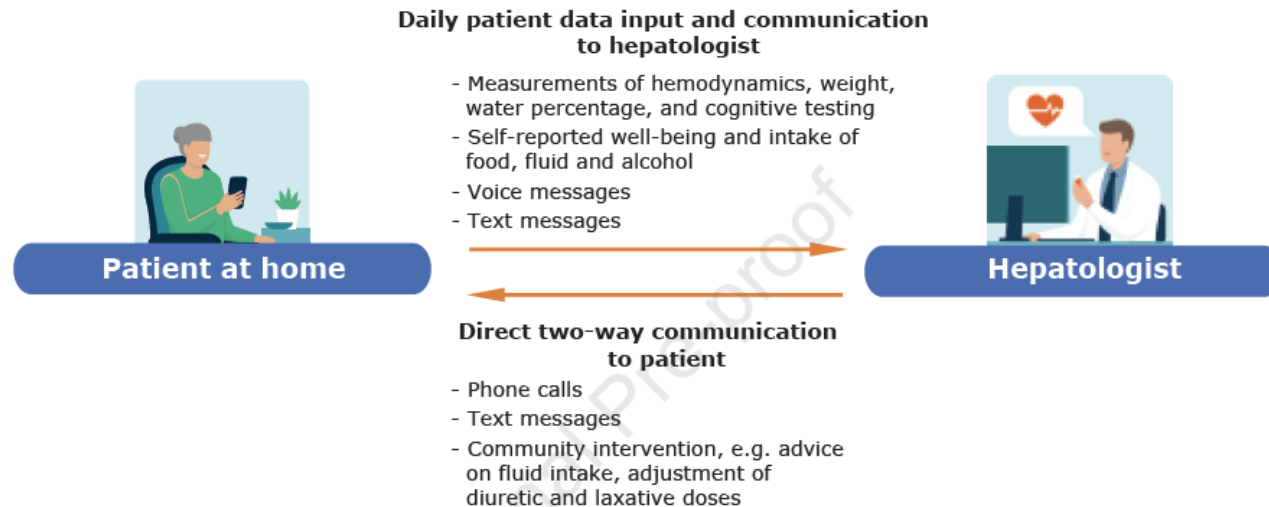
The technological equipment of the structures must be consistent with their function within the CCN.

- Technological equipment includes information technologies (ICT) that make up the network infrastructure, which is an efficient and widespread system for transmitting data and images between the nodes of the network
- Provide for verification of use and state of obsolescence also on the basis of tools and methods implemented by the National HTA Program and the Complementary Plan of PNRR ((D.L. n. 59/2021).

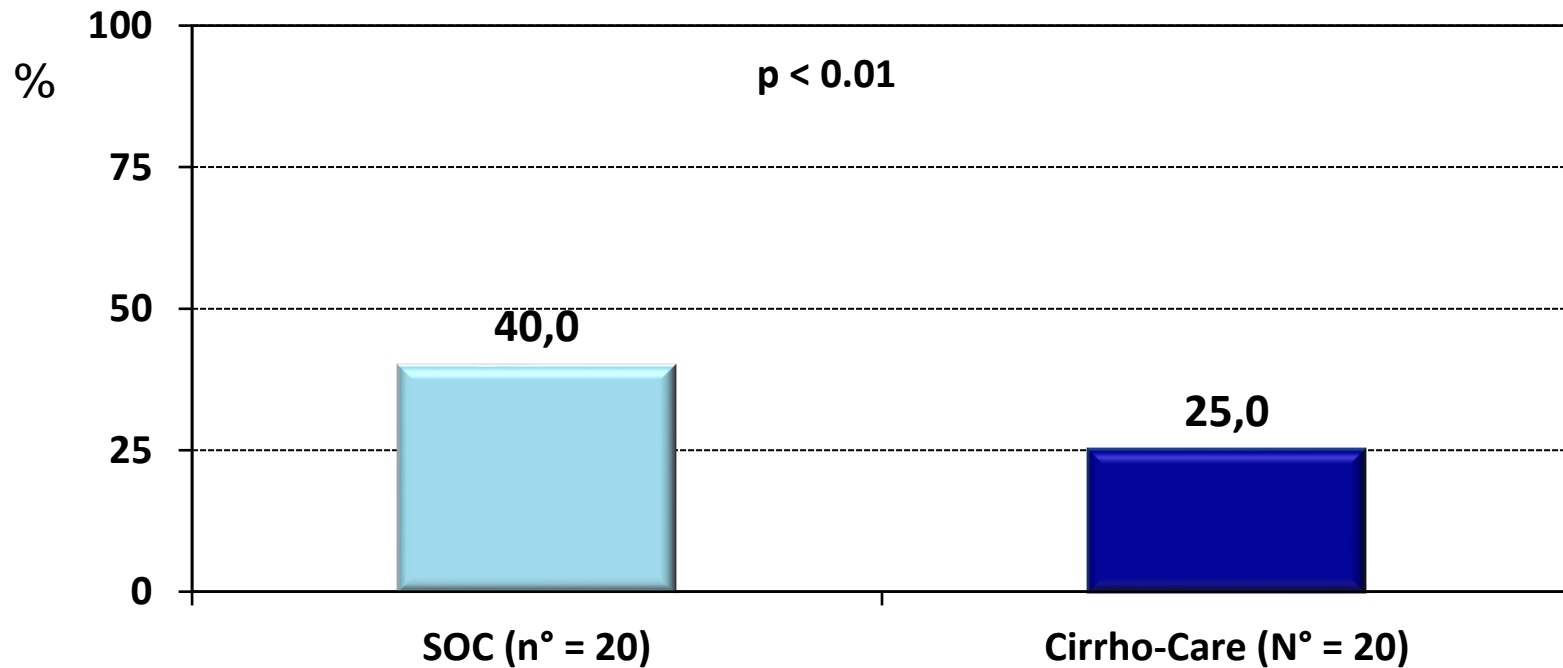


The Cirro-Care program for patients with decompensated cirrhosis

Novel digital-health system to diagnose and treat early new decompensation events in advanced cirrhosis

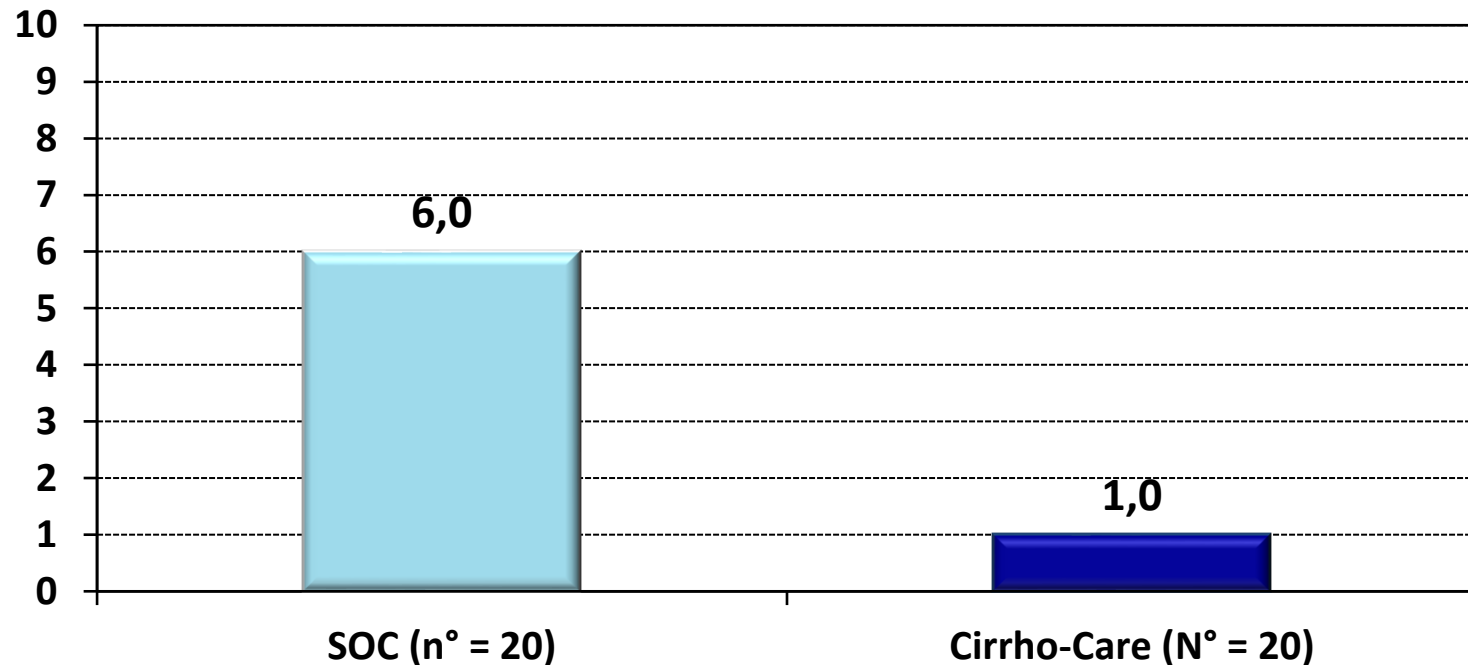


Number of patients with readmission to the hospital



K. Kazankov et al. J. Hepatol. 2022 ; doi: 10.1016 (Online ahead of print)

Number of unplanned large volume paracentesis



K. Kazankov et al. J. Hepatol. 2022 ; doi: 10.1016 (Online ahead of print)

Regional Coordination of the CCN

- To define and organize the plan for the clinical network plan
- To validate and to monitor the application of shared diagnostic-therapeutic paths (PDTA) for specific chronic disease
- To verify compliance with temporal, organizational, clinical assistance parameters and the appropriateness of the services provided
- To verify the achievement of the objectives

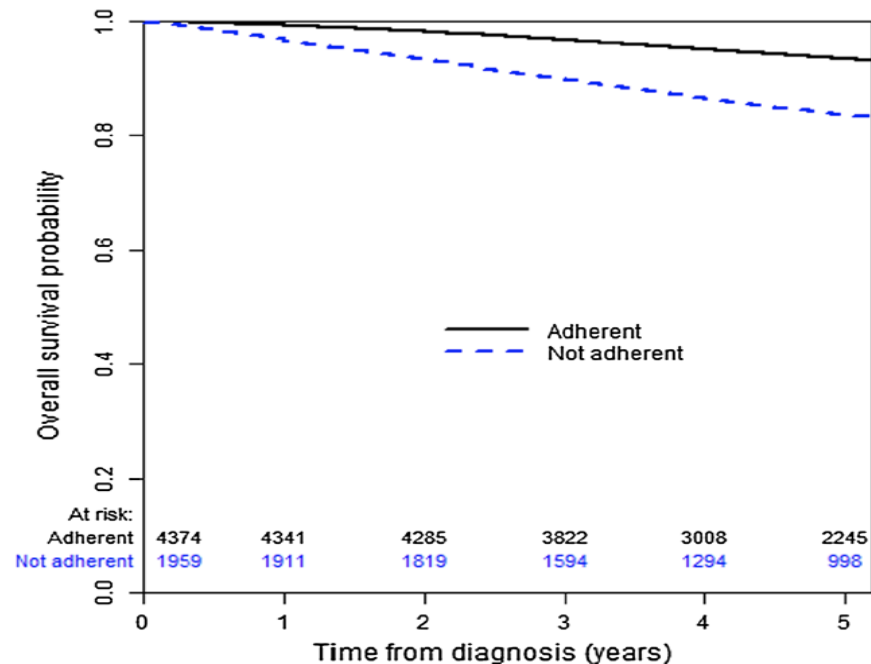


Monitoring

- The CCN must first be equipped, from its formal constitution, with a suitable data collection system aimed at the correct evaluation and monitoring of the levels of efficiency, effectiveness, quality and safety of the activities carried out.



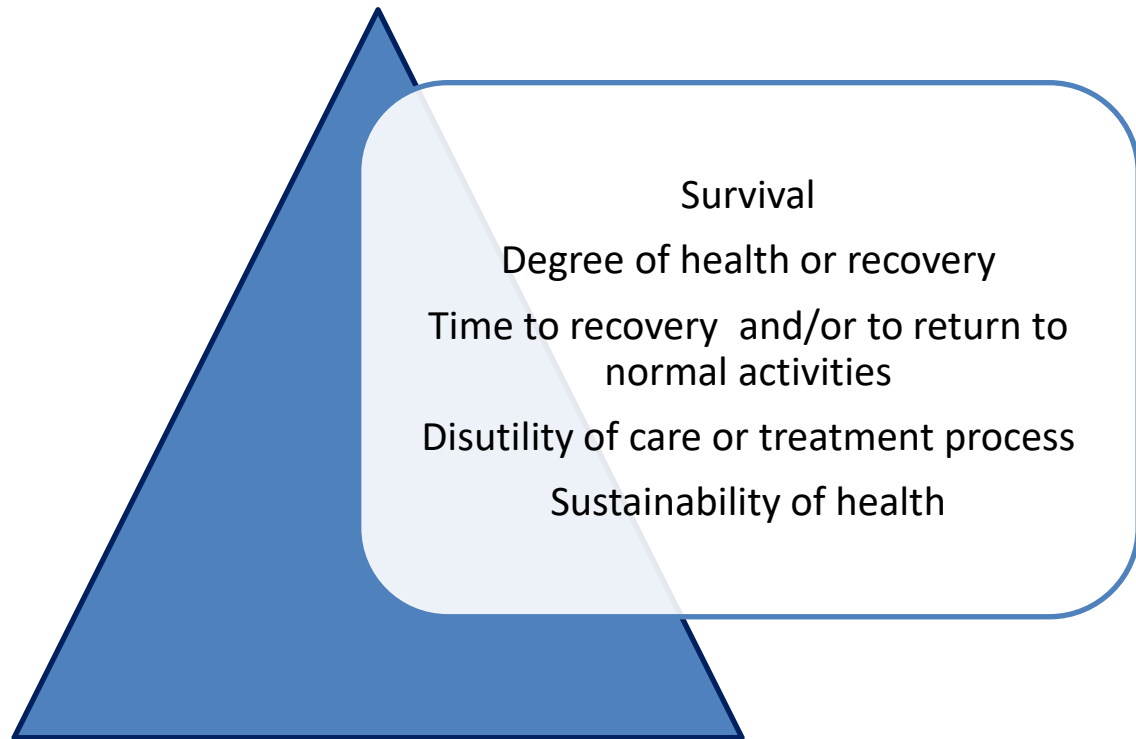
Survival curves of adherent versus nonadherent patients to a care pathway for with breast cancer



A. Andreano et al. Breast cancer Res Treat. 2017 ; 164 : 119-131



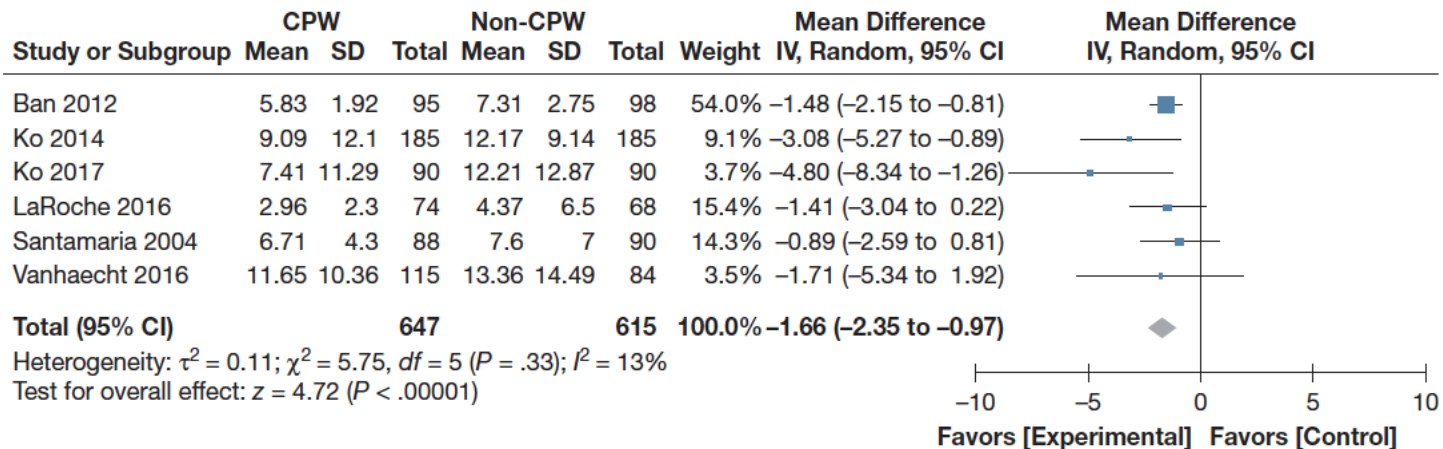
The outcome measures hierarchy



M.E. Porter NEJM ; 2010 ; 363 : 2477-2481



Impact of a clinical pathway on the length of hospital stay in patients with COPD



C.T. Plishka et al. Chest ; 2019 ; 156 : 864-877



Monitoring

- The CCN must first be equipped, from its formal constitution, with a suitable data collection system aimed at the correct evaluation and monitoring of the levels of efficiency, effectiveness, quality and safety of the activities carried out.
- In particular, in dependent time networks, it is necessary to closely monitor the timing of the transition to the care setting and / or the execution of certain procedures.



Clinical Impact of timelines of Fibrinolysis or PPCI in patients with ST-elevation Acute Miocardial Infarction (AMI)

Mortality	Time to intervention \leq recommended one N° (%)	Time to intervention $>$ recommended one N° (%)	ORa (95% CI)
Mortality at 30th day	20 (3.3)	71 (6.6)	2.14 (1.21-3.93)
Mortality at 1 year	31 (5.2)	100 (9.3)	1.61 (1.00-2.66)
Mortality, CHF, AMI at 1 year	55v (9.2)	162 (15.0)	1.57 (1.06-2.30)

L. Lambert et al JAMA 2010 ; 303 : 2148-2155



Analysis of performance

The results of the activities carried out by the Network must be monitored to verify:

- efficiency and effectiveness of the CNN
- perception of the quality of the service provided to citizens.

The monitoring and measurement of results must make it possible to detect any critical areas, to which improvement activities must be addressed, to be periodically subjected to verification and monitoring.

The analysis should include:

- health mobility
- patient experience
- degree of care humanization



Monitoring

- The CCN must first be equipped, from its formal constitution, with a suitable data collection system aimed at the correct evaluation and monitoring of the levels of efficiency, effectiveness, quality and safety of the activities carried out.
- In particular, in dependent time networks, it is necessary to closely monitor the timing of the transition to the care setting and / or the execution of certain procedures.
- The indicators and related reference standards, as well as the checklists for the evaluation of specific diagnostic-therapeutic path (PDTA), must involve all hospital and territorial components of the Network.



Regional Coordination of the CCN

- To define and organize the plan for the clinical network plan
- To validate and to monitor the application of shared diagnostic-therapeutic paths (PDTA) for specific chronic disease
- To verify compliance with temporal, organizational, clinical assistance parameters and the appropriateness of the services provided
- To verify the achievement of the objectives
- To draw up, on the basis of the results of the monitoring, an annual report on the functioning of PDTA in the context of the CCN.

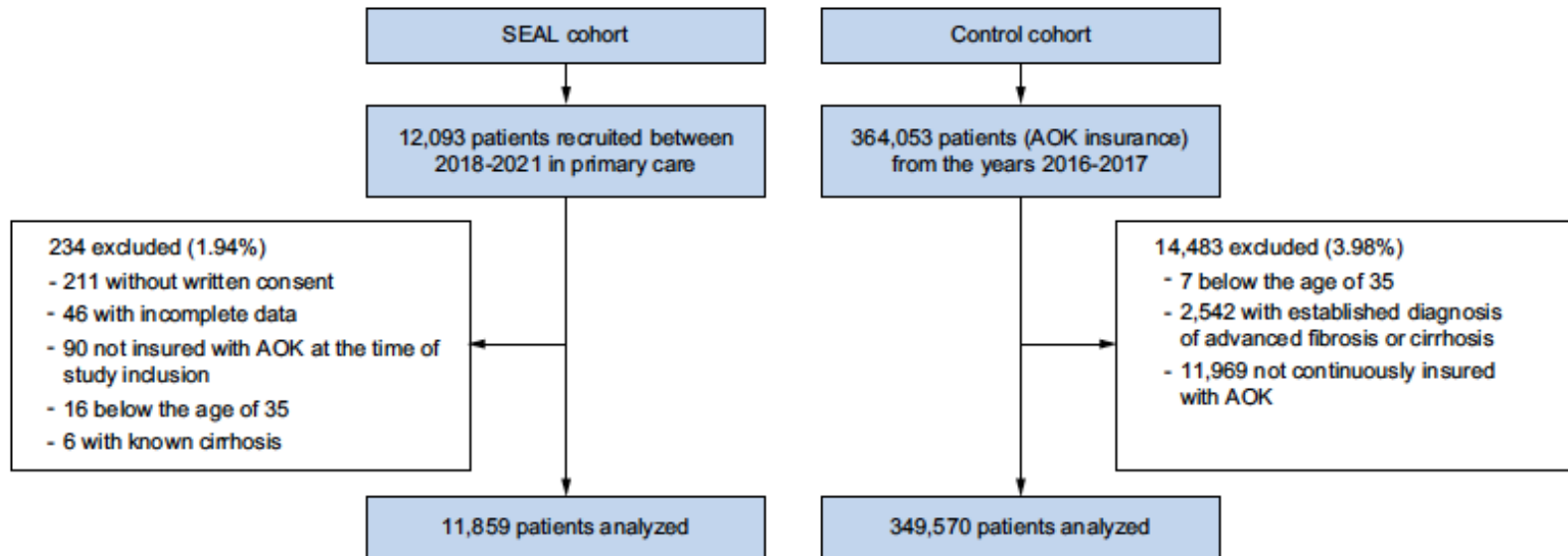


Communication and information to citizens

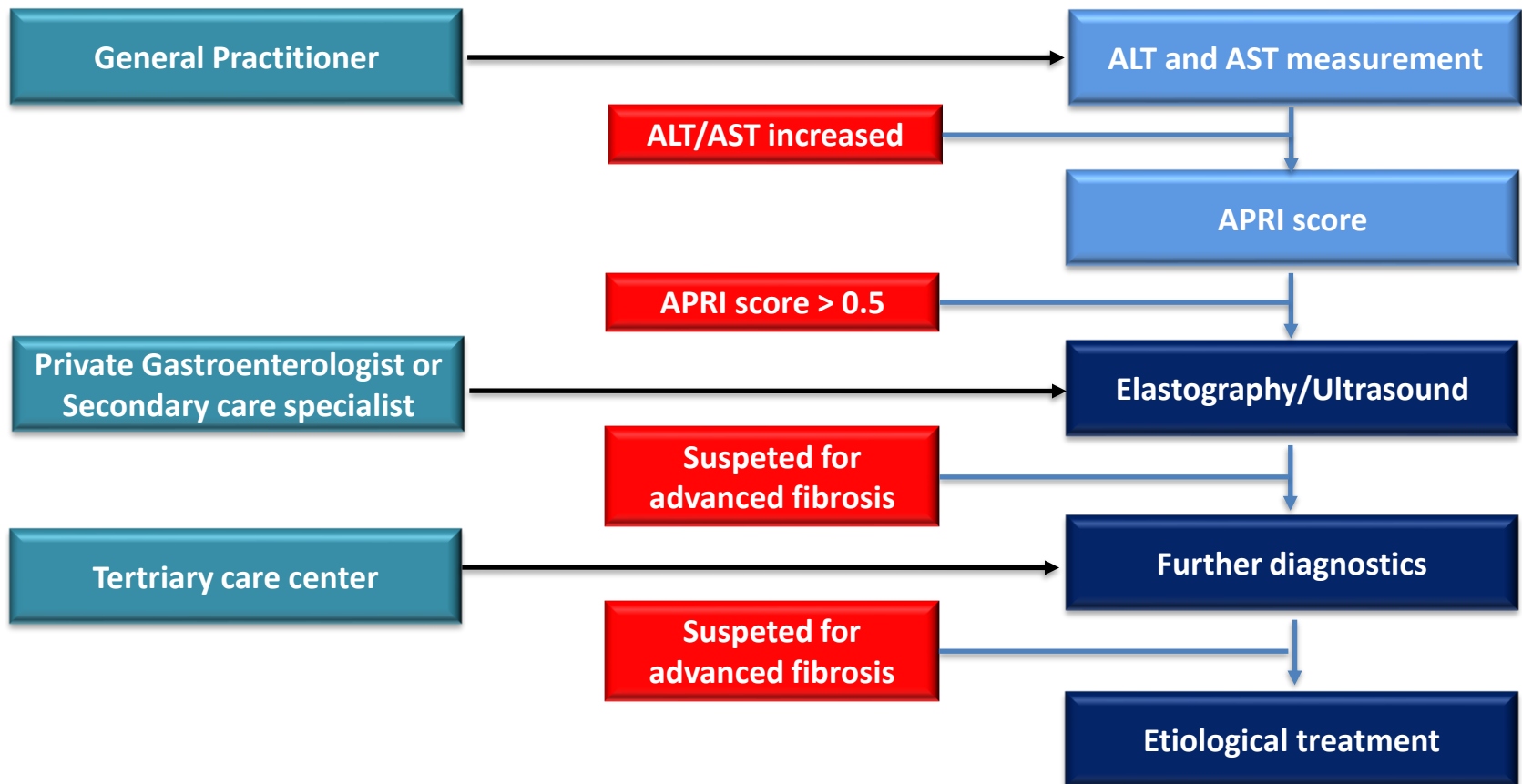
- To ensure Internal communication between nodes and professionals involved in CCN activities
- To ensure full information to citizens.
- To share models and procedures for a smooth and correct internal and external communication ensuring full compliance with transparency obligations
- To aim continuous improvement of the ways of involving citizens in the diagnostic-therapeutic path
- To publish on the Region's website the annual report on the functioning of the network, by the CNN Regional Coordination



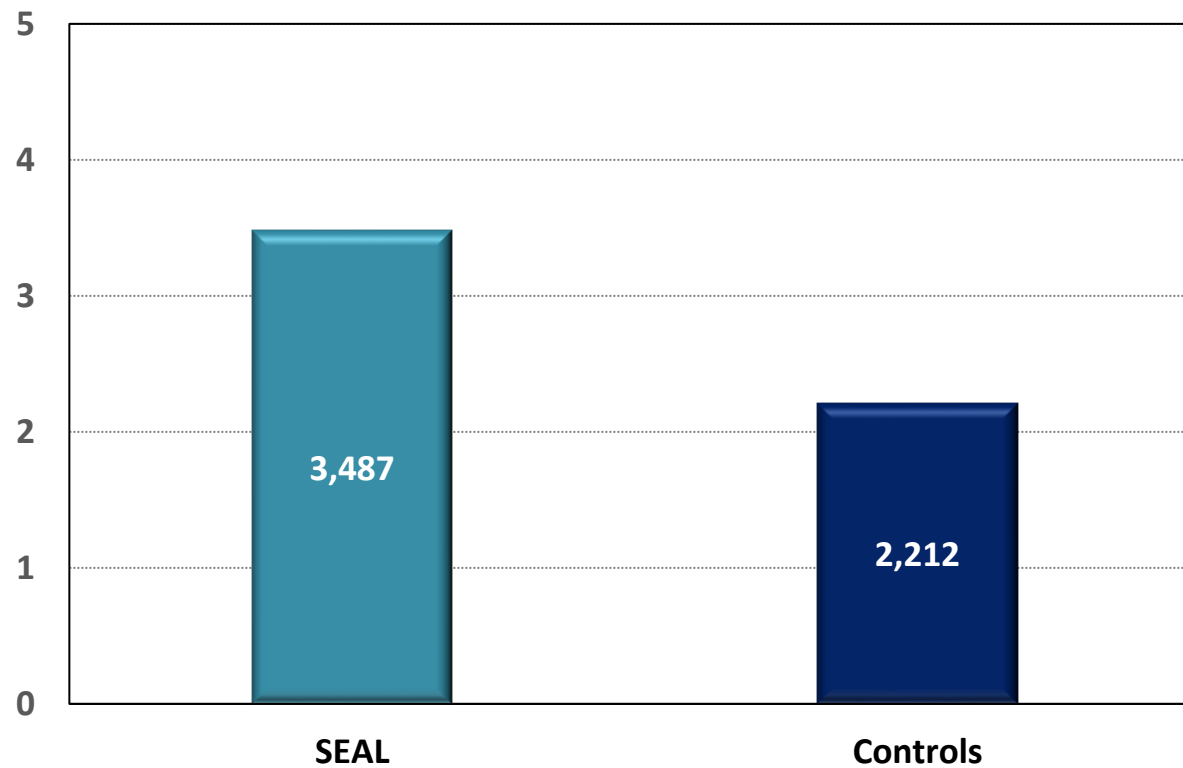
Study flow-chart of the SEAL and control cohorts



SEAL diagnostic for the detection of patients with advanced fibrosis or cirrhosis



Incidence rate of advanced fibrosis or cirrhosis: post hoc analysis



F. Lammert et al. J. Hepatol. 2022 ; 77 : 695-701



**Il miglior modo di predire
il futuro è crearlo**

Abramo Lincoln (1809-1865)

