



FONDAZIONE SALVATORE MAUGERI
CLINICA DEL LAVORO E DELLA RIABILITAZIONE
I.R.C.C.S.

La dimissione difficile: il modello FSM nel paziente pneumologico complesso

Michele Vitacca

**Divisione di Pneumologia Riabilitativa
IRCCS Fondazione Salvatore Maugeri -
Lumezzane (BS)**

Igiene

Posizione
seduta

Svezzamento
VM

fonazione

cammino

Autonomia
a casa

alimentazione

deglutizione

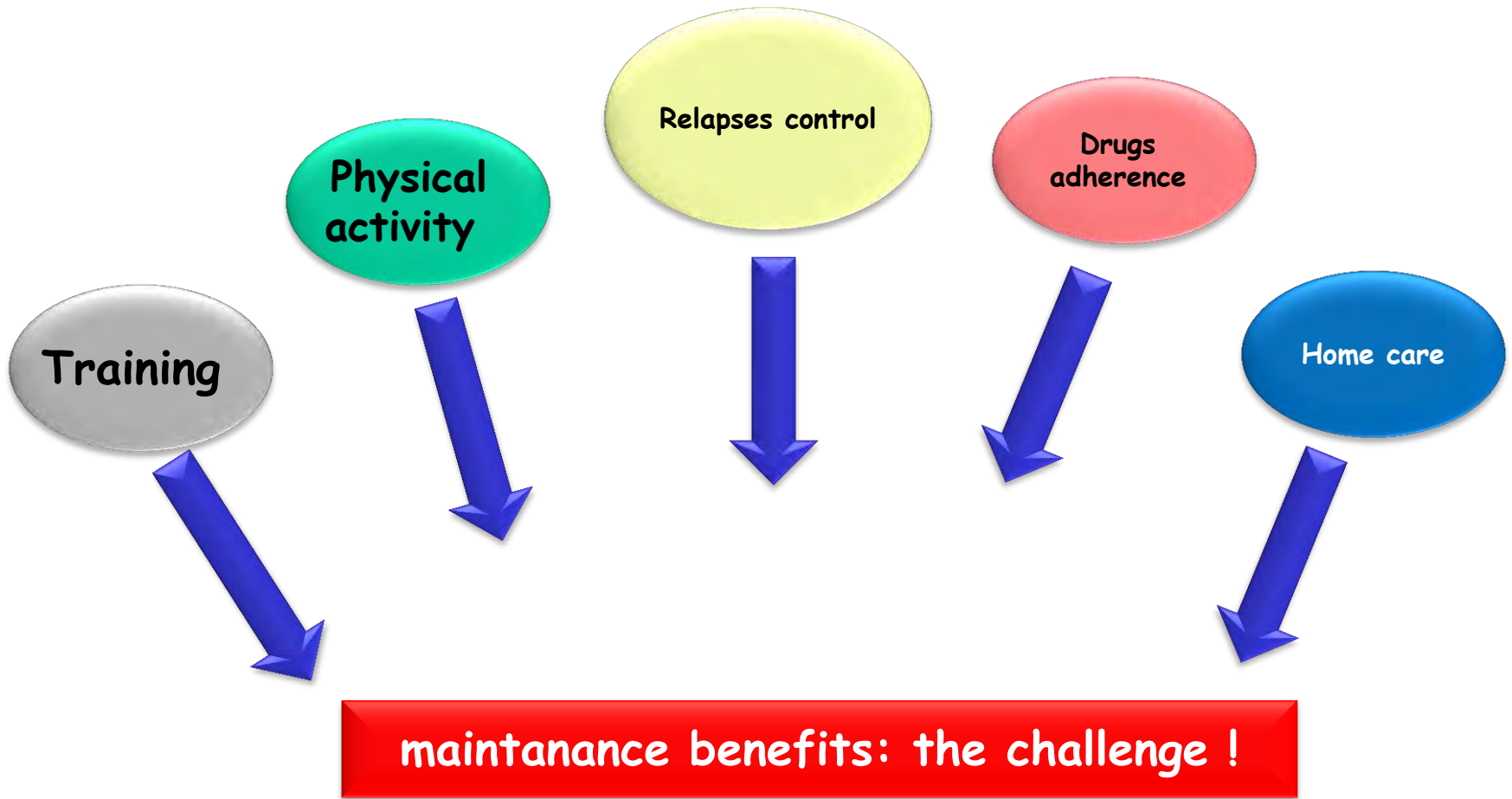
decannulazione

Stato neurologico

Svezzamento
Ossigeno

tosse

comunicazione



Home mechanical ventilation patients: a retrospective survey to identify level of burden in real life

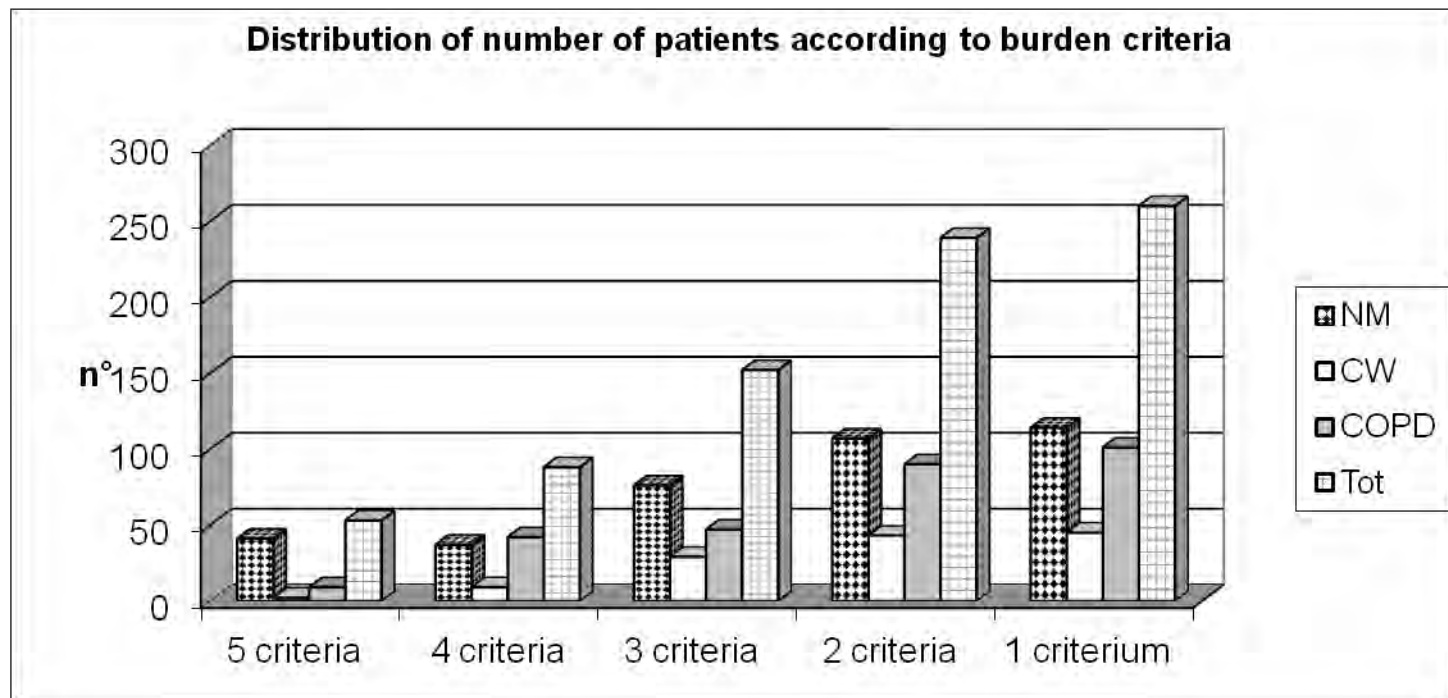
Monaldi Arch Chest Dis 2007; 67: 3, 0-00

M. Vitacca¹, J. Escarrabill², G. Galavotti³, A. Vianello³, E. Prats², R. Scala³,
A. Peratoner³, E. Guffanti³, L. Maggi³, L. Barbano¹, B. Balbi⁴

The criteria were:

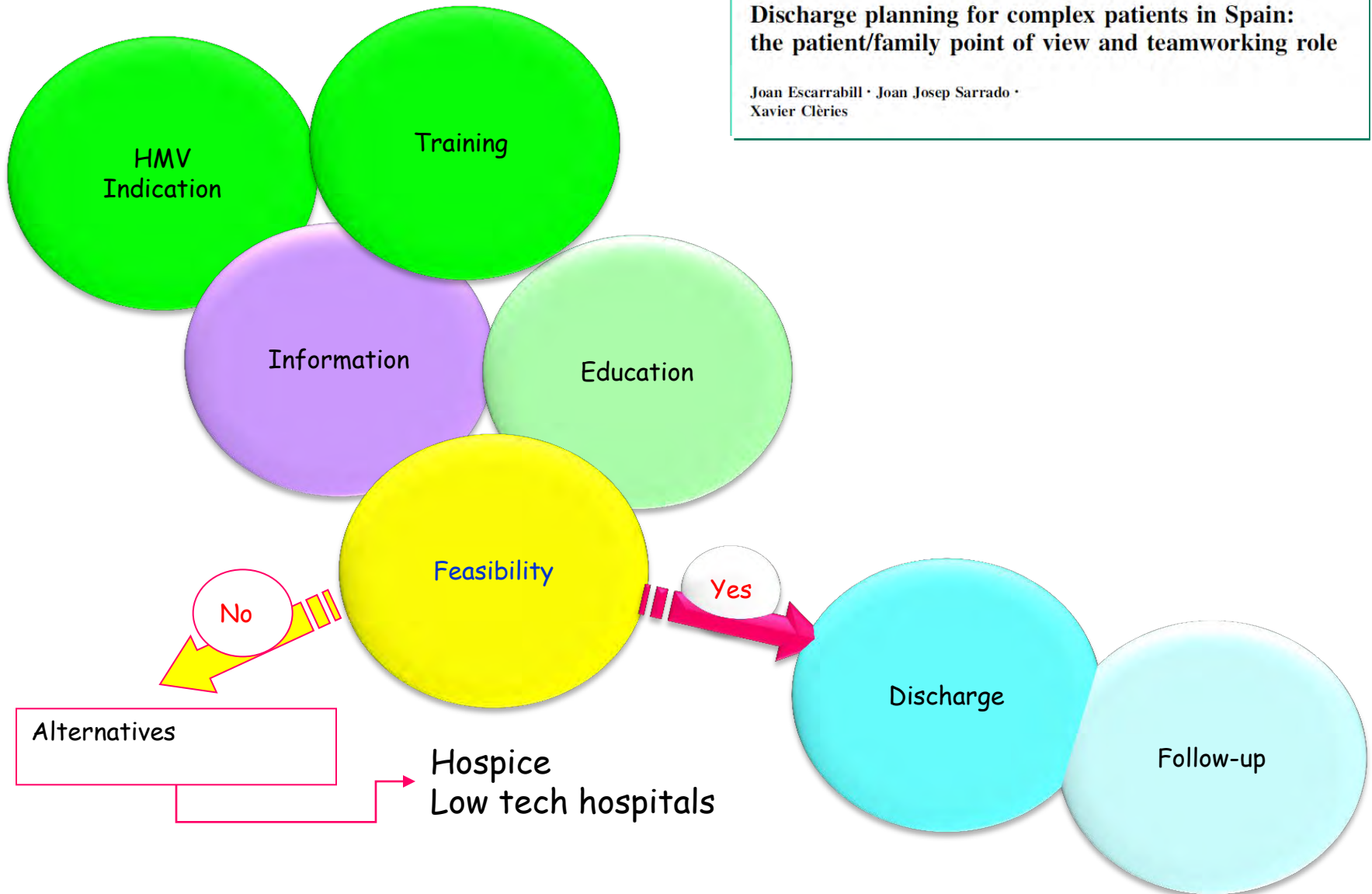
High dependency,
tracheostomy,
necessity of more than 12 hrs of MV,
distance from Hospital more than 30 km,
presence of frequent hospitalisations.

N 792 home ventilated pts



Discharge planning for complex patients in Spain: the patient/family point of view and teamworking role

Joan Escarrabill · Joan Josep Sarrado ·
Xavier Clèries



Discharge Checklist

- **Respiratory symptoms**
- **Transportable ventilator, battery powered**
- **Autonomy: environmental aids, NIV masks, ventilation compatible with wheelchair, anticipatory plan**
- **Suction machine**
- **Cough assist**
- **Home care strategy - outreach/community**
- **Risk management: ventilator breakdown, masks, filters tubing**
- **Daytime ventilation - mouthpiece, nasal interface**
- **Advanced planning**
- **Family support, travel**
- **Tech support**
- **Daily living activities**
- **Room setting**

Daily living activities plan

- Mobility
 - **Strollers.**
 - **Standard Wheelchairs.**
 - **Rigid Frame Wheelchairs.**
 - **No rigid Frame Wheelchairs.**
 - **Seating Systems.**
 - **Motorized Wheelchairs**
- Transfer and lifting systems
- Transportation

Risk management of the home ventilator dependent patient

A K Simonds

.....
Who is responsible for minimising risks to patients receiving ventilatory support in the home?

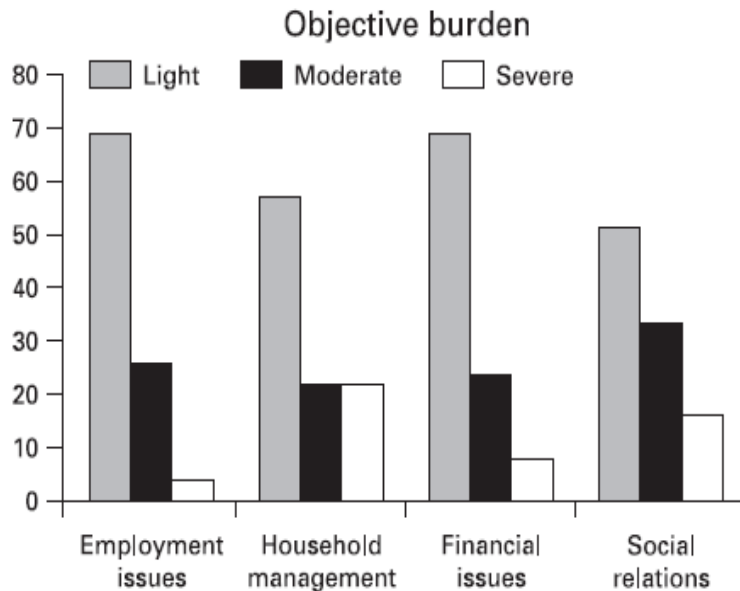
Thorax 2006;61:369-71

Power failure
Ventilator malfunction
Accidental disconnection
Circuit obstruction
Mask fit
Tracheotomy:
 Blocked
 Falls out
 Cannot be replaced after changing
Medical problems

Technical service

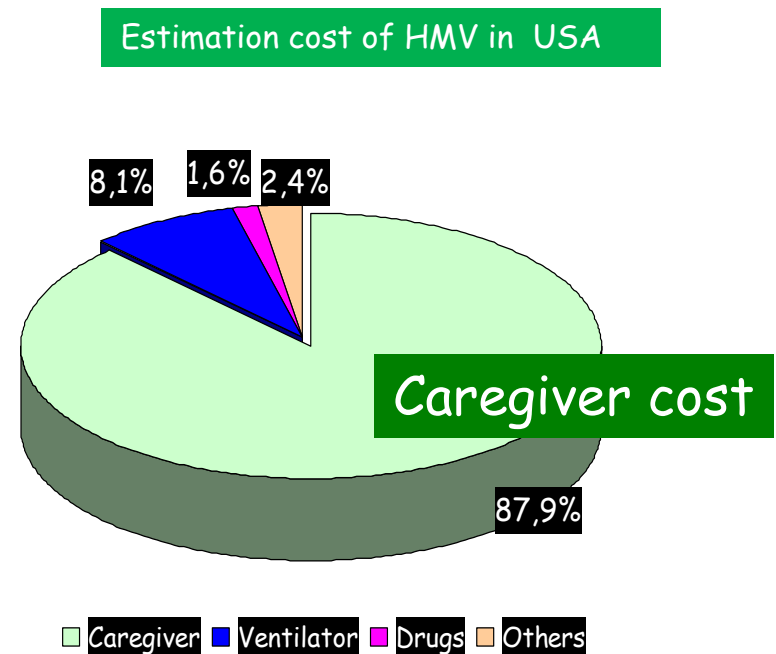
Training (patient and caregiver)

the caregiver burden !



50% of caregivers face problems in social relation

Tsara V. Respiration 2006;73:61-7



Bach J. Chest 1992;101:26-30.

Continuity of care

Public home care
Health Care
System

education

H: dedicated
office and
discharge
protocols

GP

teleassistance

Episodic
nurse visits

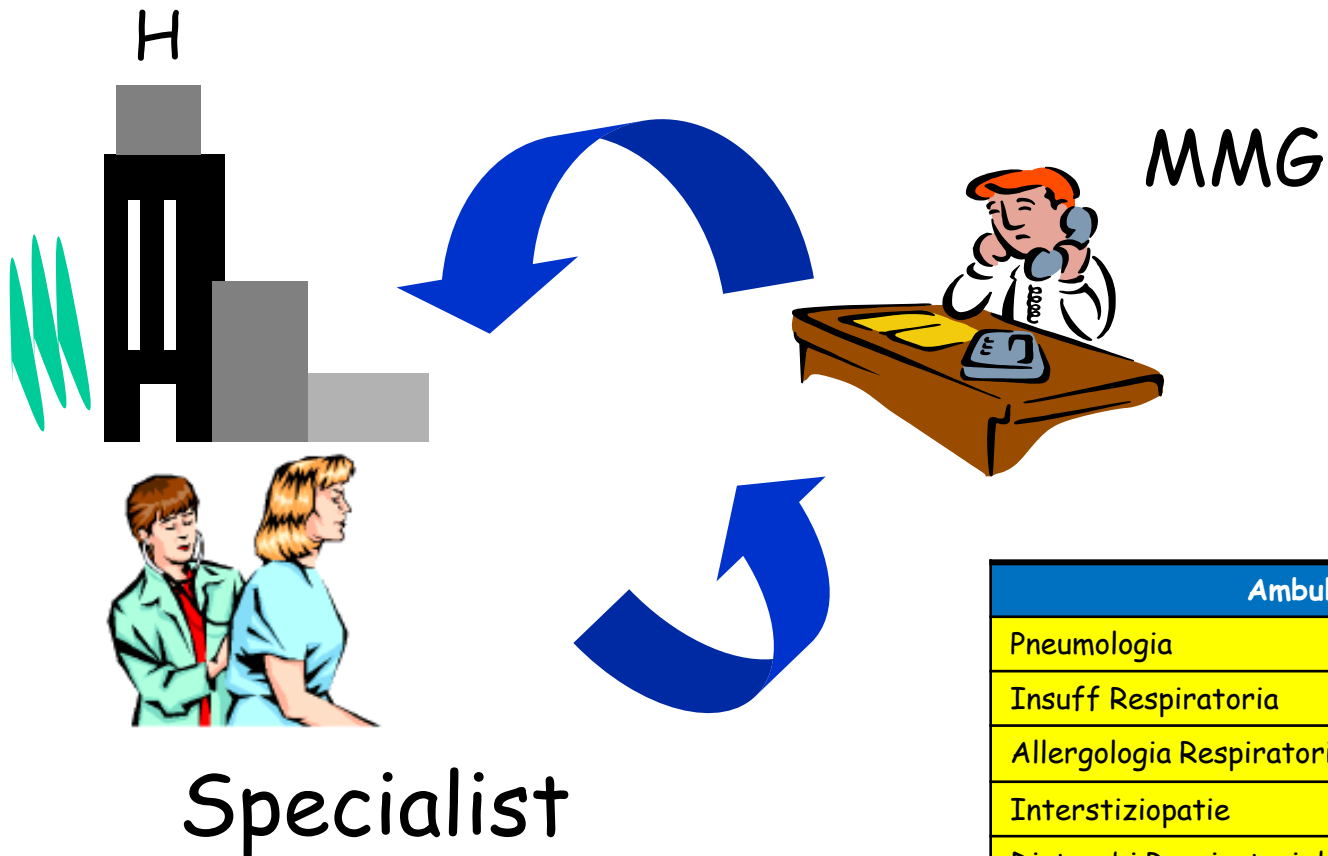
H at home

Palliation/en
d of life

Integrate care



Ambulatori dedicati



Ambulatori
Pneumologia
Insuff Respiratoria
Allergologia Respiratoria Asmologia
Interstiziopatie
Distrurbi Respiratori del sonno
Neuromuscolari

Feasibility and Effectiveness of an Educational Program in Italian COPD Patients Undergoing Rehabilitation

Mara Paneroni PT, Enrico Clini MD, Ernesto Crisafulli MD PhD, Enrico Guffanti MD, Alessia Fumagalli MD, Antonella Bernasconi MD, Antonella Cabiaglia PT, Antonello Nicolini MD, Stefania Brogi PT, Nicolino Ambrosino MD, Roberta Peroni PT, Luca Bianchi MD, and Michele Vitacca MD

[Respir Care 2013;58(2):327–333. © 2013

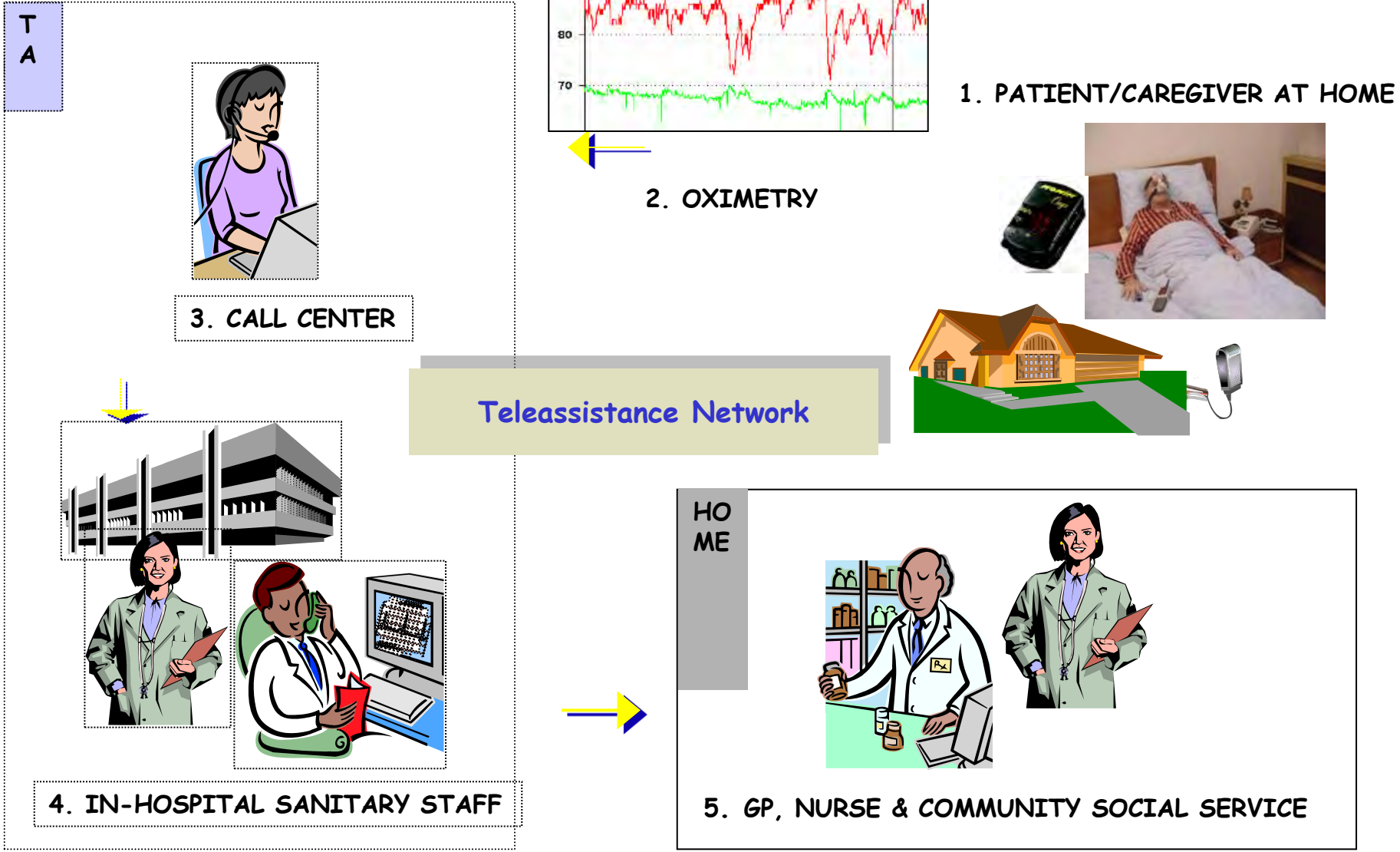
Table 2. Learning Questionnaire Scores*

Domain	Number of Questions	Learning Questionnaire Score, mean \pm SD		
		Pre	Post	<i>P</i> †
COPD knowledge	6	4.20 \pm 1.27	4.82 \pm 1.16	< .001
Rehabilitation	3	2.28 \pm 0.91	2.64 \pm 0.61	.005
Healthy lifestyles	6	4.56 \pm 1.50	5.22 \pm 1.16	< .001
Drugs	3	2.74 \pm 0.60	2.82 \pm 0.46	.19
Oxygen use	2	1.34 \pm 0.60	1.44 \pm 0.68	.09
Total (0–20)	20	15.2 \pm 3.49	16.94 \pm 2.99	< .001



Tele-assistance in chronic respiratory failure patients: a randomised clinical trial

M. Vitacca*, L. Bianchi*, A. Guerra*, C. Fracchia#, A. Spanevella*,
B. Balbi* and S. Scalvini#





Plan of Action

My name is: _____

Contact List

Service	Name	Phone Number
Respirologist		
Family Physician		
Resource Person		
Pharmacist		

I Feel Well

My Usual Symptoms

- I feel short of breath: _____
- I cough up sputum daily. No Yes, colour: _____
- I cough regularly. No Yes

My Actions

- I sleep and eat well, I do my usual activities and exercises

My Regular Treatment is:

Medication	Dose	Puffs/pills	Frequency

I Feel Worse

My Symptoms

- Changes in my sputum (colour, volume, consistency)
- More shortness of breath than usual

Note that these changes may happen after a cold or flu-like illness and/or sore throat.

My Actions

- I take the **additional treatment** prescribed by my doctor
- I avoid things that make my symptoms worse
- I use my breathing, relaxation and body position techniques
- I notify my contact person _____

CHANGES IN MY SPUTUM

MORE SHORTNESS OF BREATH THAN USUAL

My additional treatment is:

• I start my **ANTIBIOTIC** if my **SPUTUM** becomes _____

I check my sputum colour and volume (not only in the morning).
I do not wait more than 48 hours to start my antibiotic.

Antibiotic	Dose	Number of Pills	Frequency/days

Comments: _____

• I increase my **reliever (BRONCHODILATOR)** if I am **MORE SHORT OF BREATH** than usual.

Bronchodilator	Dose	Number of Puffs	Frequency/days

Comments: _____



• I start my **PREDNISONE** if the worsening of my **SHORTNESS OF BREATH** persists for 48 hours.
I have more difficulty doing my usual activities.

Prednisone	Dose	Number of Pills	Frequency/days

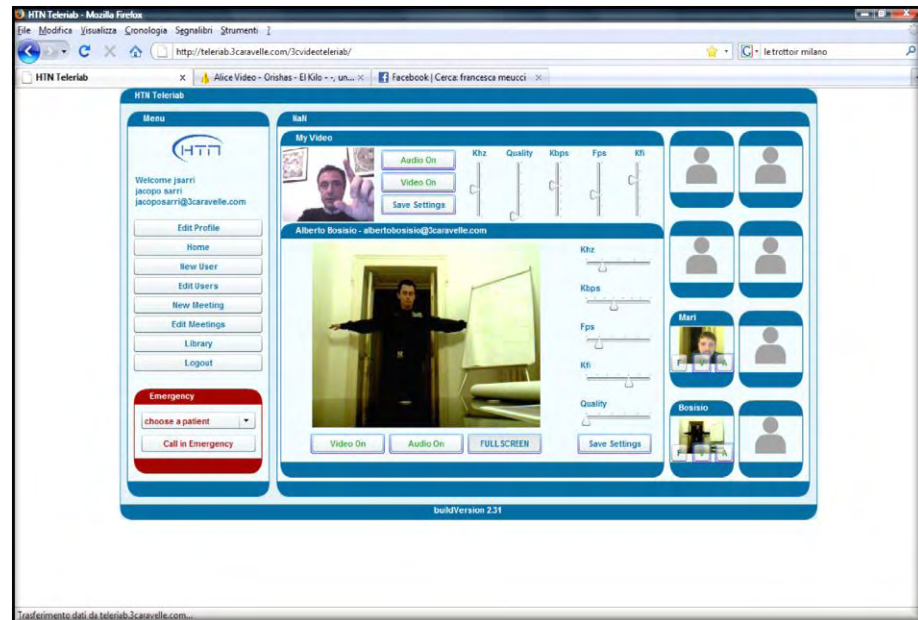
Comments: _____

Tecnologia in progress



*TeleRiab Video Solution:
Educazionale
Riallenamento allo sforzo
Programmi di rinforzo a casa*

**Clinical examination
Material checking
Ventilator, circuit,
interface
NIV Compliance
Alarms
patient-ventilator
interactions**

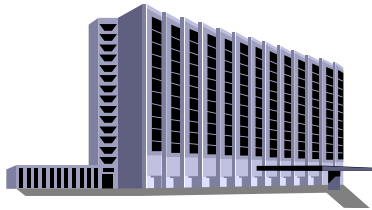


At Home and on Demand Mechanical Cough Assistance Program for Patients With Amyotrophic Lateral Sclerosis

ABSTRACT

Vitacca M, Paneroni M, Trainini D, Bianchi L, Assoni G, Saleri M, Gilè S, Winck JC, Gonçalves MR: At Home and on Demand Mechanical Cough Assistance Program for Patients With Amyotrophic Lateral Sclerosis. *Am J Phys Med Rehabil* 2010;89:000–000.

Activation *on demand*
Cough assist device plus
RT home visits

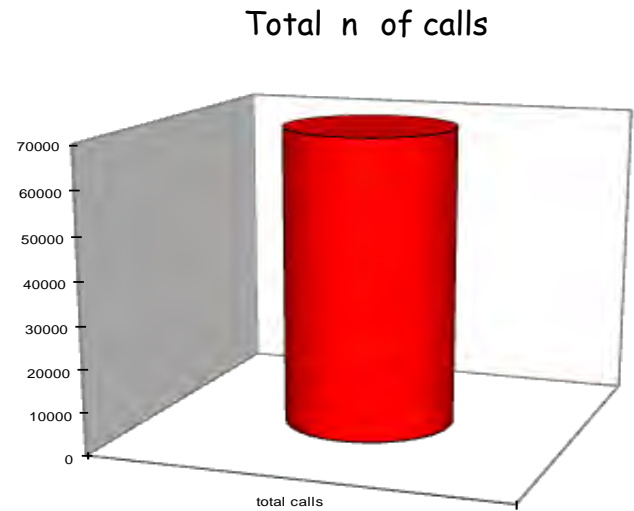
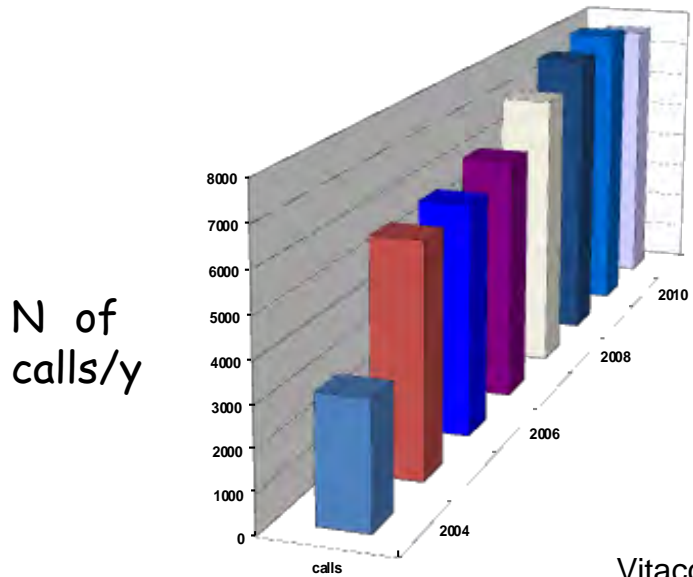
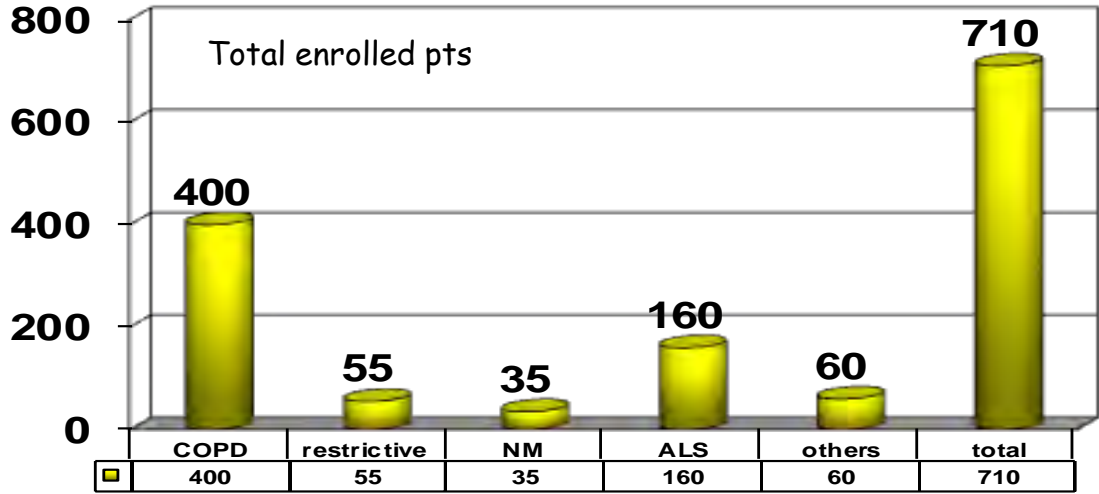


Educational
Hospital training

Telemedicine
with pSatO2



Update Maugeri Tele-support network from 2004-30/08/2013

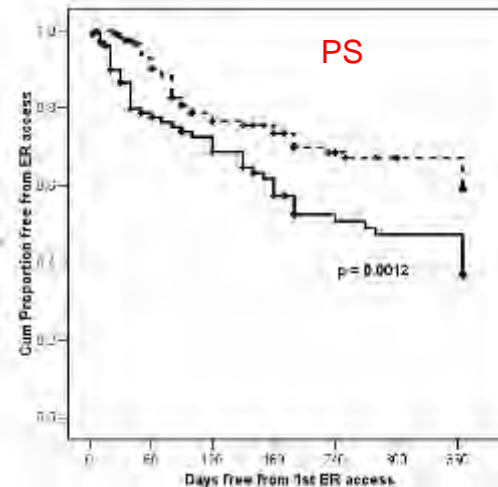
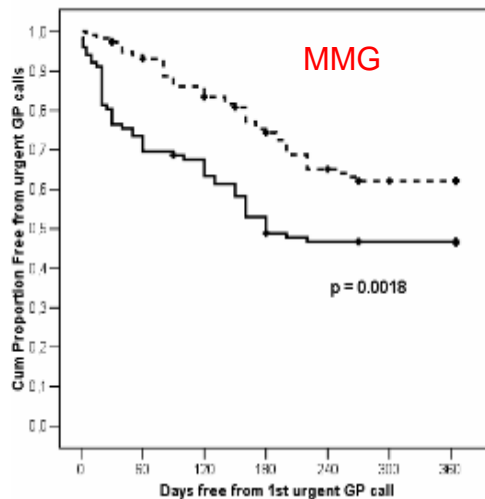
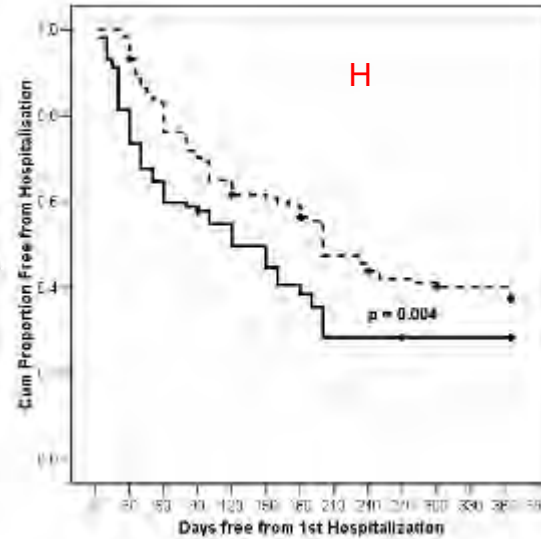
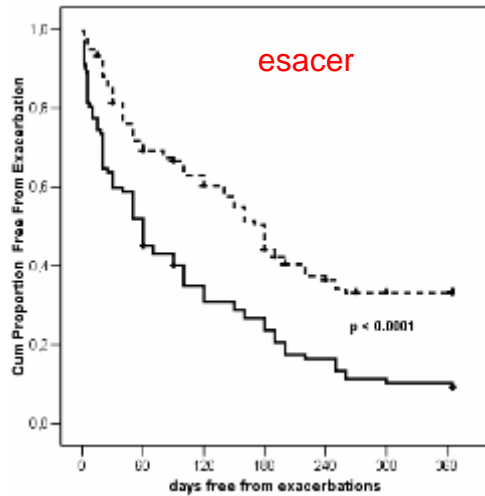


Vitacca M. 2013 unpublished data



Tele-assistance in chronic respiratory failure patients: a randomised clinical trial

M. Vitacca*, L. Bianchi*, A. Guerra*, C. Fracchia#, A. Spanevello[†],
B. Balbi⁺ and S. Scalvini[§]



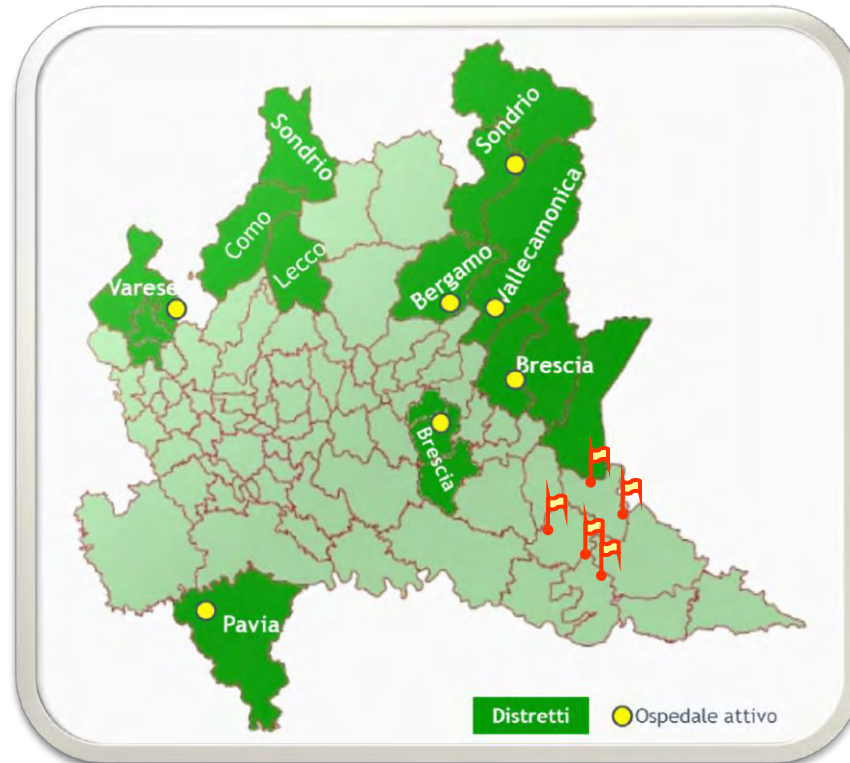
Il gruppo BPCO ha presentato il vantaggio maggiore

Al netto dei costi di TM

Il costo medio per ogni paziente

è stato il 33% inferiore rispetto al gruppo senza TM

2006 progetto TELEMACO 2010 Nuove Reti Sanitarie (30 UO) for transfer COPD from the hospital to the territory



Estimated 1500 patients enrolled in Lombardy

Episodic medical home interventions in severe bedridden Chronic Respiratory Failure patients: a 4 year retrospective study

L. Barbano, E. Bertella, M. Vitacca

Monaldi Arch Chest Dis 2009

years	2005	2006	2007	2008
COPD (%)	36%	31%	32%	23%
ALS (%)	12%	28%	37%	36%
NM (%)	0	3%	2%	5%
Others (%)	52%	38%	29%	36%

N° totale pz.	123
N° totale visite/prestazioni	231
M/F	41/46
Età anni	63 _± 17
Diagnosi	BPCO 35% SLA 28%
Tracheo %	60%
Distanza Km	35 _± 16

Prestazione eseguita	%
Sostituzione di tracheocannula	64 %
modifiche della prescrizione di O2	37 %
prescrizione di monitoraggio della spO2	24%
cambiamenti dei parametri della VM	4%
nuovo adattamento alla NIV	7%
Prescrizione nuovi presidi per O2-terapia e VM	36%
Indicazione ricovero ospedaliero in elezione	9%
Indicazione a programma di FKT domiciliare	6%



A I P O
ASSOCIAZIONE
ITALIANA
PNEUMOLOGI
OSPEDALIERI

Linee guida italiane e standard per l' Assistenza Domiciliare Respiratoria

Italian guidelines and standards for Respiratory Home Care

Rassegna Apparato Respiratorio 2010

Coordinatori

V. Galavotti (Mantova),
G. Idotta (Cittadella, Padova),
G. Garuti (Correggio, RE)

Commissione Operativa

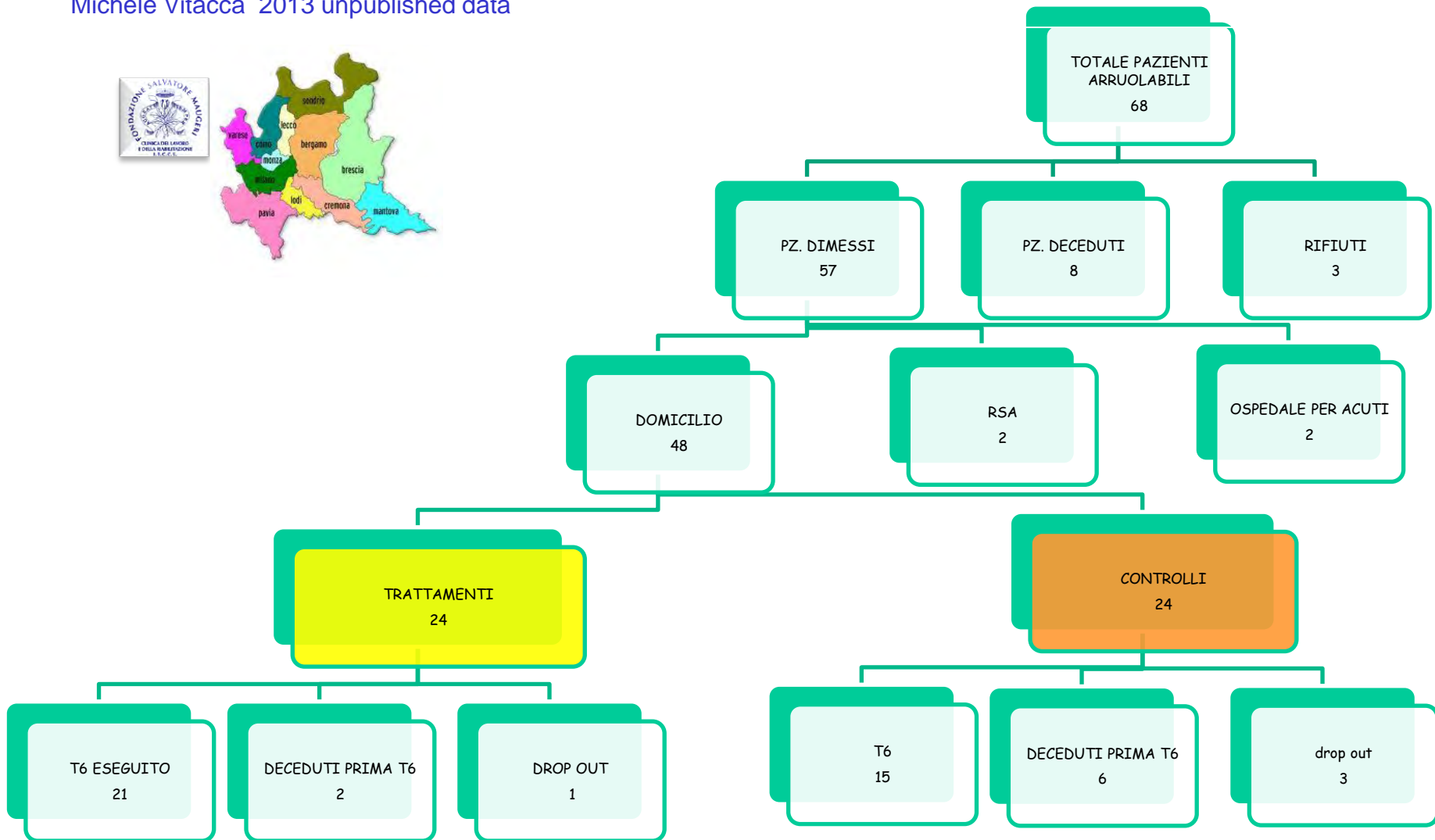
P. Berardinelli (Milano), G. Biscione (Roma), G. Busato (Bolzano), G. De Donno (Mantova)
E. Faccini (Treviso), D. Fiorenza (Lumezzane, BS), G. Fiorenzano, (Cava dei Tirreni),
M. Galetti (Mantova), F. Gigliotti (Firenze), G. Iuliano (Milano),), M. Lazzeri (Milano), A. Marcolongo
(Cittadella, PD), G. Riario Sforza (Milano), E. Sabato (Brindisi), C. Scarduelli, (Bozzolo, MN), S. Squasi
(Bassano del Grappa, TV), R. Tazza (Terni), G. Vezzani (Reggio Emilia)

Expected benefits

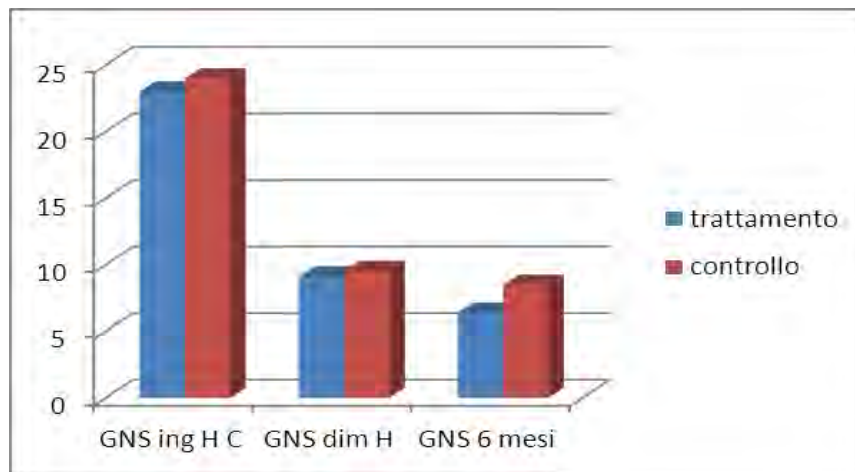
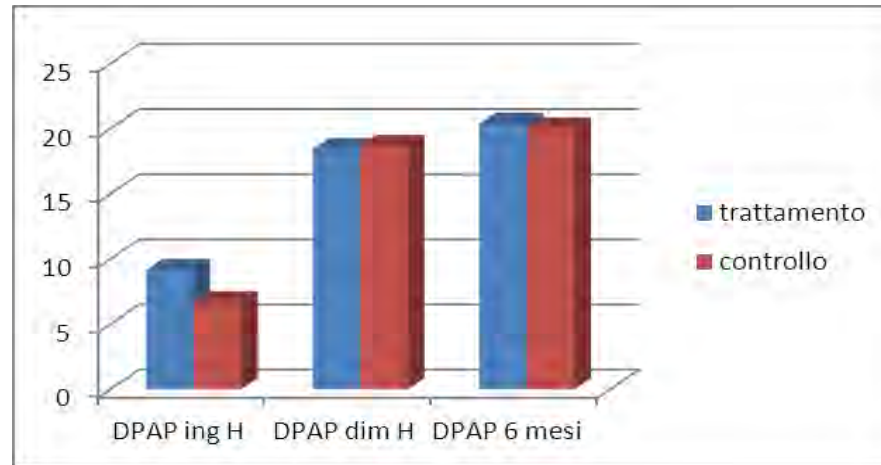
- Reduction in the length of hospital stay
- No inappropriately increased rate of H readmissions
- Reduced utilization of hospital resources
- Support for therapeutic measures and devices
- Involvement and training of family to promote independence
- Intervention during episodes of acute exacerbations
- Maintenance and development of "activities of daily living"
- Uncertain effects in critically ill survivors

EFFECTS OF 6 MONTHS HOME REHABILITATION PROGRAM IN PATIENTS RECOVERING FROM ACUTE RESPIRATORY FAILURE AND DISCHARGED FROM A WEANING CENTER

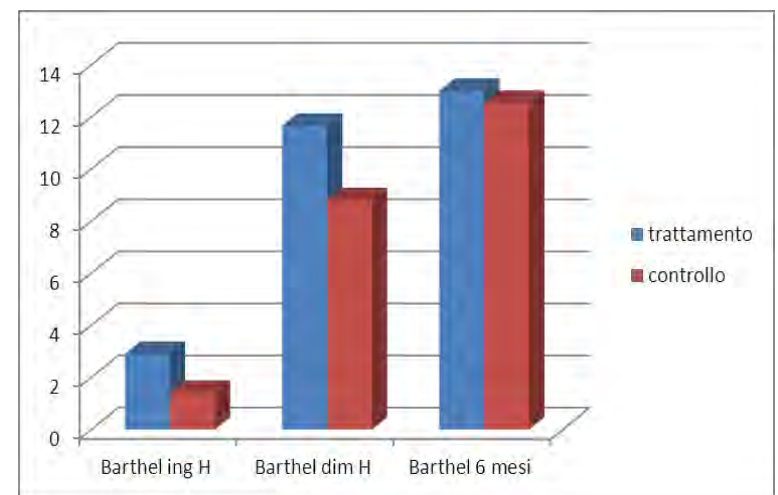
Michele Vitacca 2013 unpublished data



Autonomia

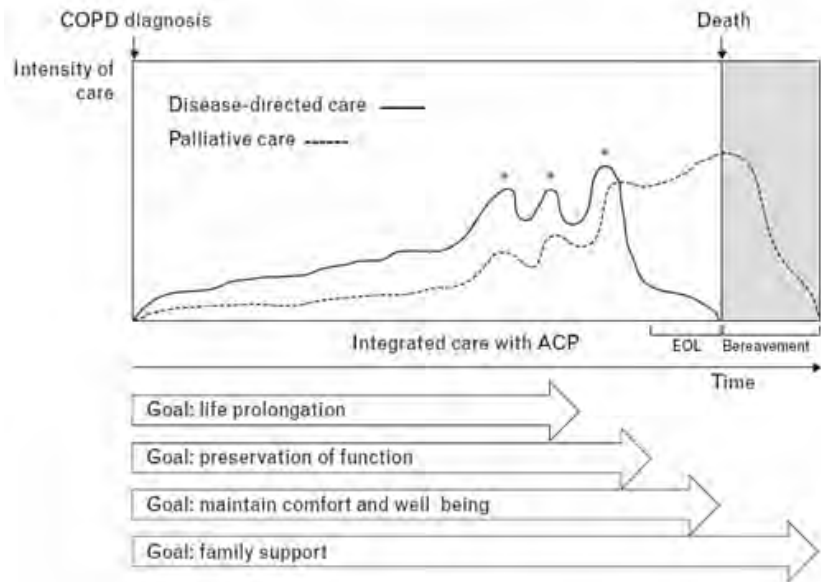


Dipendenze IP



Disabilità

Advanced Care planning



SIMULTANEOUS CARE

Documento / Official Statement



Cure palliative dei pazienti con patologie respiratorie croniche avanzate non oncologiche
Position paper dell'Associazione Italiana Pneumologi Ospedalieri, con la collaborazione di SIAARTI e ARIR

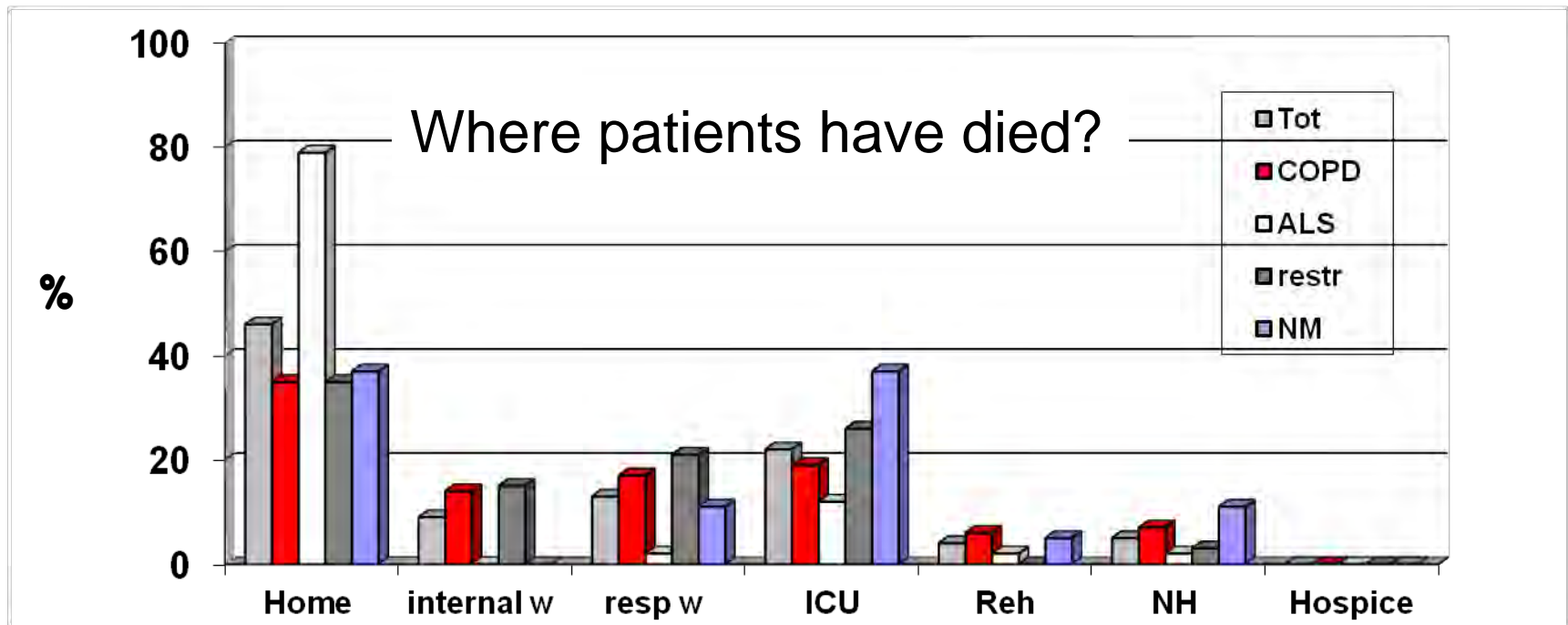


Si ringrazia per il contributo:
AISLA - Associazione Italiana Sclerosi Laterale Amiotrofica

Last 3 months of life in home-ventilated patients: the family perception

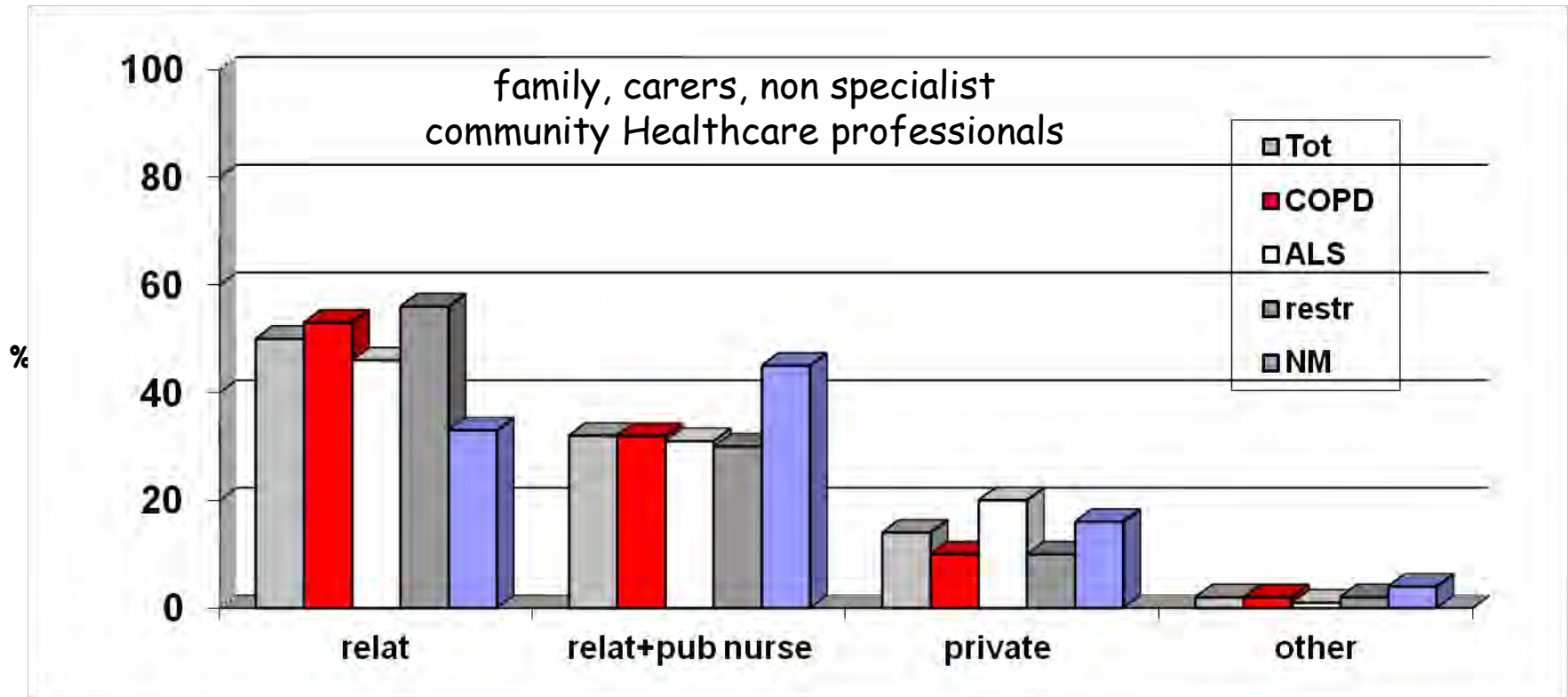
M. Vitacca*, M. Grassi[#], L. Barbano*, G. Galavotti[†], C. Sturani[†], A. Vianello[‡],
E. Zanotti[§], L. Ballerin^{||}, A. Potena^{||}, R. Scala^{**}, A. Peratoner^{##}, P. Ceriana^{††}, L. Di
Buono^{**}, E. Clini^{§§}, N. Ambrosino^{|||}, N. Hill^{***} and S. Nava^{††}

Survey su 180 pts



Last 3 months of life in home-ventilated patients: the family perception

M. Vitacca*, M. Grassi[#], L. Barbano*, G. Galavotti*, C. Sturani*, A. Vianello*,
E. Zanotti[§], L. Ballerin^{||}, A. Potena^{||}, R. Scala**, A. Peratoner^{##}, P. Ceriana^{††}, L. Di
Buono**, E. Clini^{§§}, N. Ambrosino^{||}, N. Hill*** and S. Nava^{†††}





I modello FSM di continuità
assistenziale proposto in campo PN:

Migliora l'accesso

Migliora la qualità

Sembra ridurre il costo dell'assistenza

Migliora il ns lavoro quotidiano

Il ns sforzo è orientato verso una
continuità assistenziale:

- Preventiva
- Predittiva
- Personalizzata
- Sostenibile
- Integrata
- Tecnologica

Ma soprattutto **PARTECIPATA**

(pazienti meno passeggeri e più conduttori
della loro salute)