EVIDENZE DALLA LETTERATURA SCIENTIFICA

Case management

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LA GESTIONE DEL PAZIENTE COMPLESSO NEL TERRITORIO:
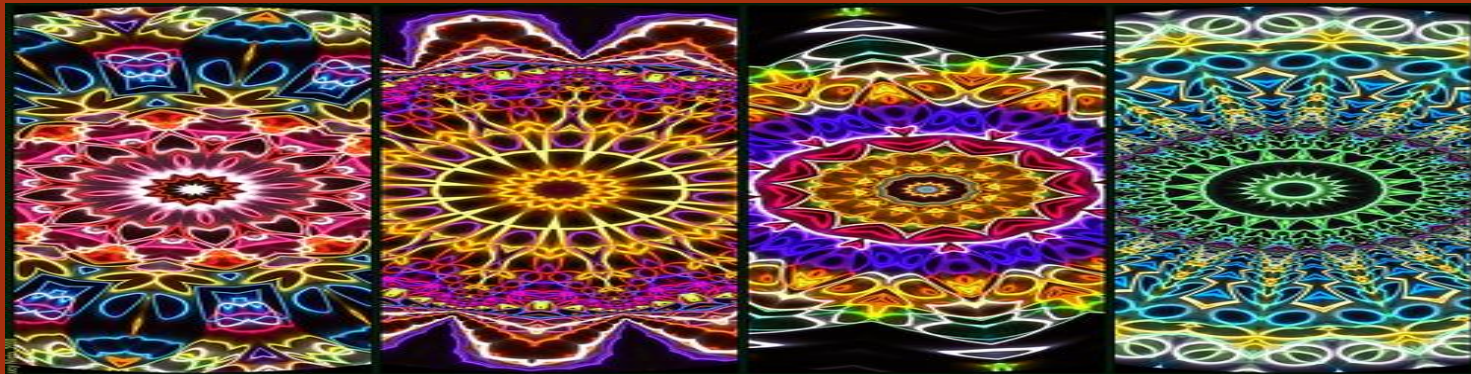un compendio di buone pratiche
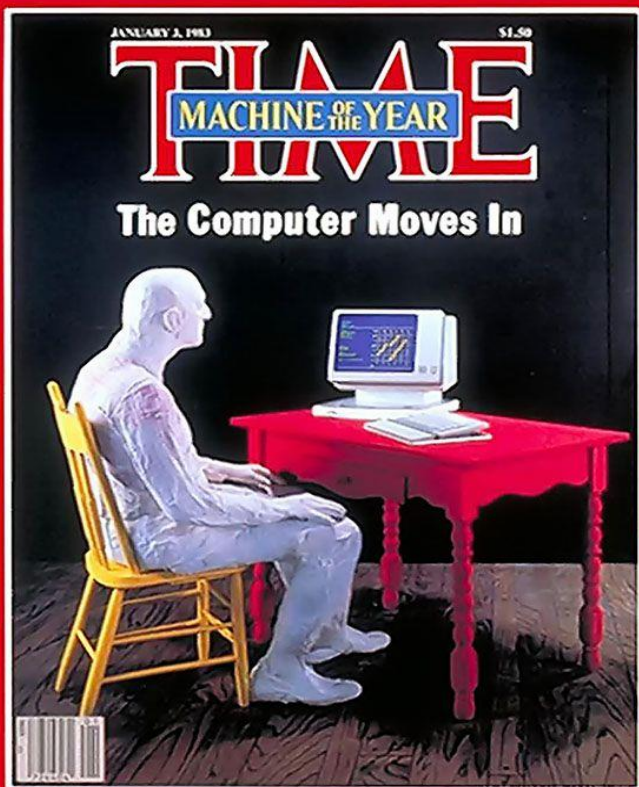
ROMA, 14 Marzo 2018

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- Metodi della *Umbrella review*
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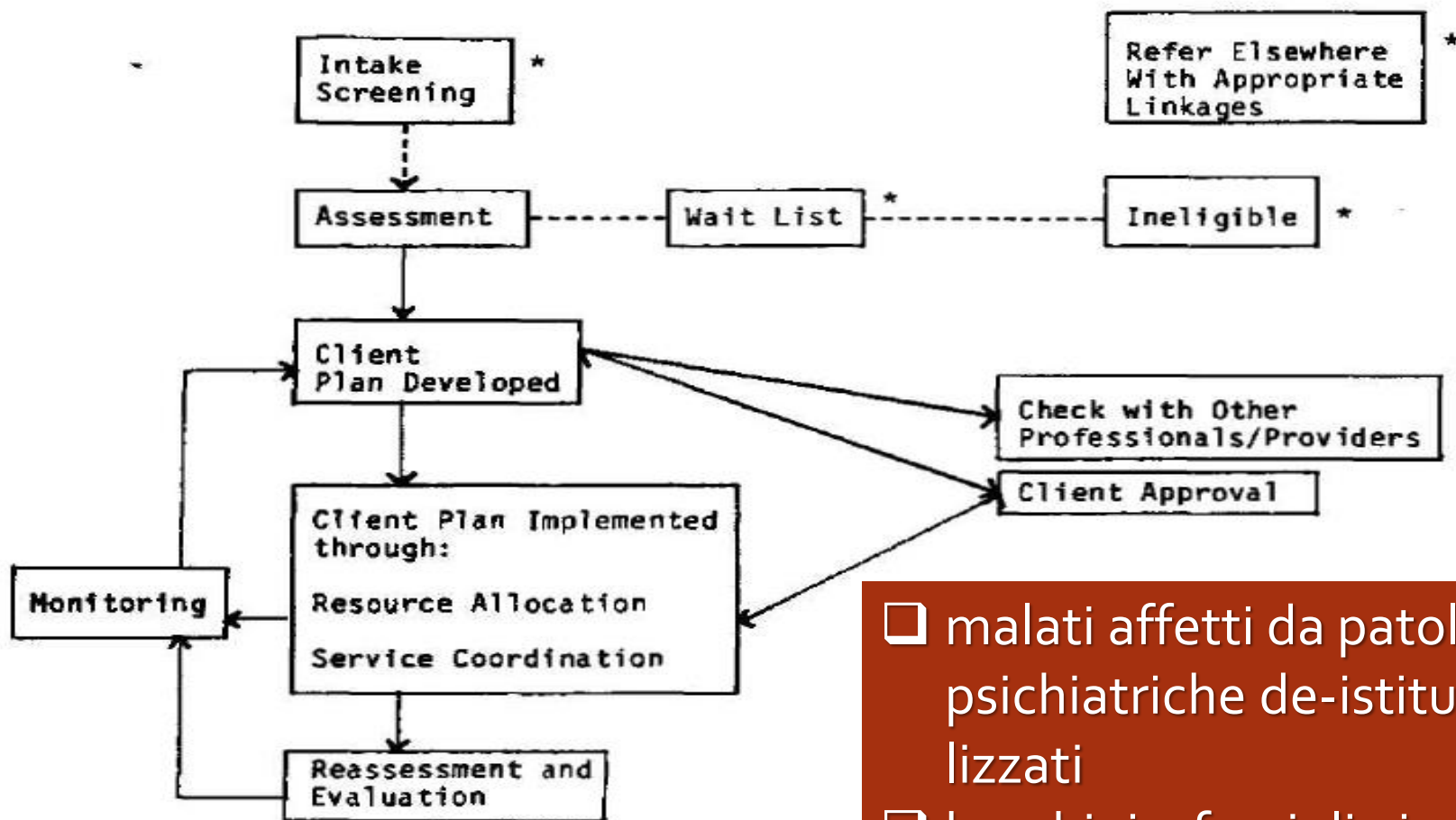- Pratical issue (letteratura grigia)

Premessa

COPERTINA TIME
Anno '82

INTEGRATED CASE MANAGEMENT MODEL

- malati affetti da patologie psichiatriche de-istituziona-lizzati
- bambini e famiglie indigenti
- tossicodipendenti
- senza tetto

*These items are not a part of case managem...

Adapted from a model presented in Planning Handbook
Community Based Long-Term Care, California Department
of Aging, Sacramento, California, December 1982.

PIRAMIDE DELLA CRONICITÀ
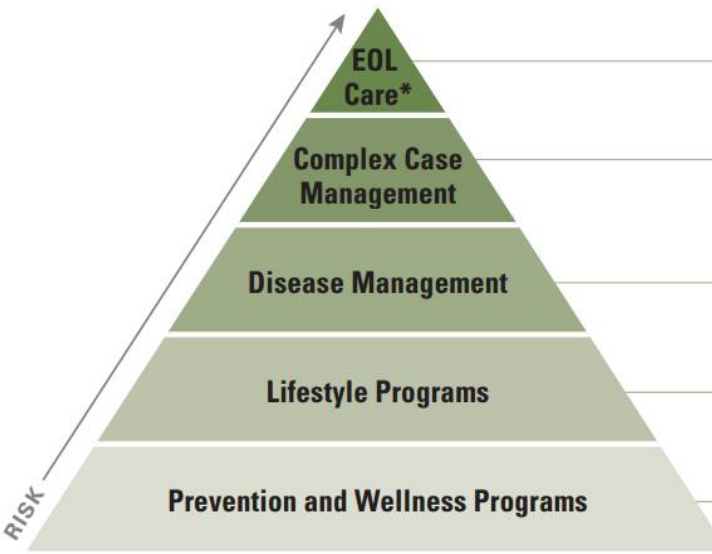
Framework per la presa in carico delle "*long-term conditions*" attraverso tre tipologie di approccio per migliorare la cura e l'assistenza:

- **case management**: piano di cura personalizzato, garantito al 3-5% della popolazione a maggior rischio di ricovero

- **disease management**: percorsi definiti secondo evidenza scientifica, monitoraggio e rivalutazione costante di quei pazienti che presentano sintomi clinici meno severi

- **supporto per il self-management**: per il 70% delle persone che convivono con condizioni patologiche croniche la cui sintomatologia è prevalentemente stabile

TIPOLOGIE DI CASE MANAGEMENT

Nome del Modello	Figura Centrale	Breve Descrizione	Punto di Forza
Brokerage Model	Care Manager	Una persona dedicata (care manager) fornisce un approccio imparziale e trasversale per lo sviluppo di un **piano di cure personalizzato, facilitando e favorendo il coordinamento e l'utilizzo appropriato dei diversi servizi**	Efficienza e contenimento dei costi
Self-Managed Care Model	Paziente	**Il case manager lavora per l'empowerment di quei pazienti che sono dotati di un sufficiente livello di conoscenza e autoconsapevolezza**, al fine di renderli PARTECIPI E RESPONSABILI di molti aspetti del loro percorso di cura. Tale empowerment permette il miglior utilizzo e coordinamento delle risorse disponibili in collaborazione con l'infermiere case manager	Umanizzazione delle cure e empowerment del paziente
Integrated Case Management Model	Professionista Sanitario "Team Leader"	**Combina il "case management" e il "care provision";** lavoro in team tra i diversi professionisti in un'ottica di coordinazione tra figure e servizi coinvolti nel percorso di cura: il professionista team leader designato è responsabile del coordinamento delle cure	Lavoro in team

Tutti questi modelli possono essere presenti da soli o combinati!

FRAMEWORK CASE-MANAGEMENT

Case manager

Pazienti con condizioni croniche e bisogni di salute complessi

MIGLIORAMENTO DI PROCESSI
- Aderenza/compliance alla terapia
- Visite programmate
- Self management del paziente
- Cambiamento negli stili di viva
- Processi specifici per la malattia (es: gestione delle crisi)

Esiti di salute:
- Mortalità
- Outcome clinici specifici di malattia
- Qualità di vita
- Stato funzionale
- Soddisfazione del cliente

Utilizzo di risorse:
- Cure primarie
- Accessi al PS
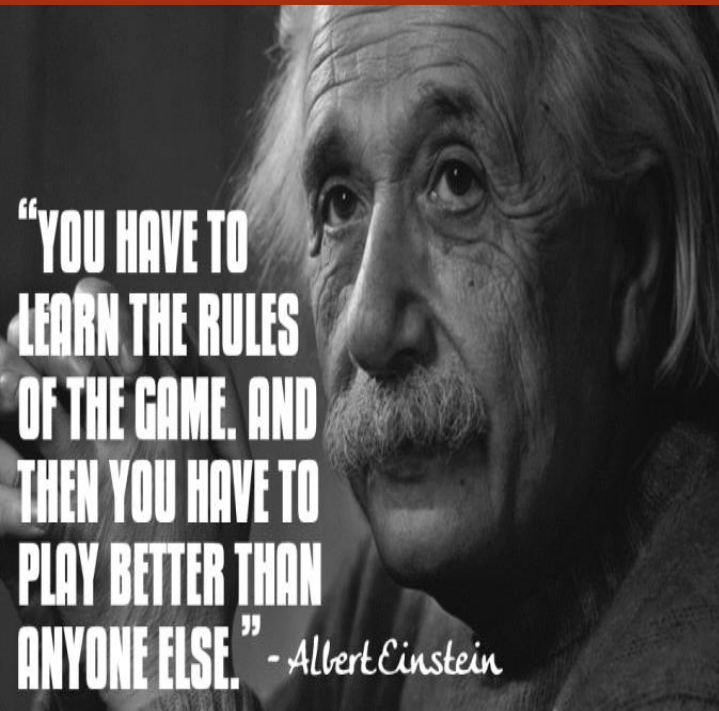- Ospedalizzazioni
- Re-ospedalizzazioni
- Costi

OBIETTIVI

❑ **Fornire un'evidenza scientifica per rispondere ai seguenti quesiti di ricerca**

I. Nei pazienti **adulti/anziani affetti con bisogni di salute complessi e/o ad a rischio di elevato consumo di risorse**, il CM è efficace nel migliorare:

1. *GLI ESITI DI SALUTE DEL PAZIENTE*, come ad esempio la mortalità, gli outcome clinici specifici delle diverse patologie, la salute mentale/depressione, la qualità di vita, lo stato funzionale, la soddisfazione per le cure e la percezione del proprio stato di salute da parte del paziente stesso?

2. *LA QUALITÀ DELLE CURE*, intesi come aderenza del percorso di cura alle evidenze scientifiche e la compliance dei pazienti all'assunzione della terapia?

3. *L'UTILIZZO DELLE RISORSE*, ossia l'utilizzo dei servizi delle cure primarie, gli accessi al PS, i tassi di ospedalizzazione, la durata della degenza e i costi?

II. L'efficacia del CM cambia in relazione alle caratteristiche dell'intervento, ad esempio la durata o le componenti adottate o il ruolo assunto dal case manager?

III. Qual è l'efficacia [come sopra descritta] del CM in pazienti selezionati per una specifica patologia cronica (demenza, diabete, tumore, scompenso cardiaco, patologie psichiatriche)?

❑ **Raccogliere i «consigli pratici» per la organizzazione e gestione del case management**

Metodi

METODI

- UMBRELLA REVIEW: Revisione sistematica della letteratura scientifica internazionale delle **fonti secondarie** (revisioni sistematiche, meta-analisi)

Evidence of efficacy or effectivness

- Revisione non sistematica della letteratura grigia

Pratical advice

UMBRELLA REVIEW

- ➢ Banche dati:

  PubMed, Cochrane Database of Systematic Reviews

- ➢ Ricerca parole chiave:

  «case manag*» OR «care manag*», filtro «review»

- ➢ 2000 - 2017

- ➢ Lingua inglese

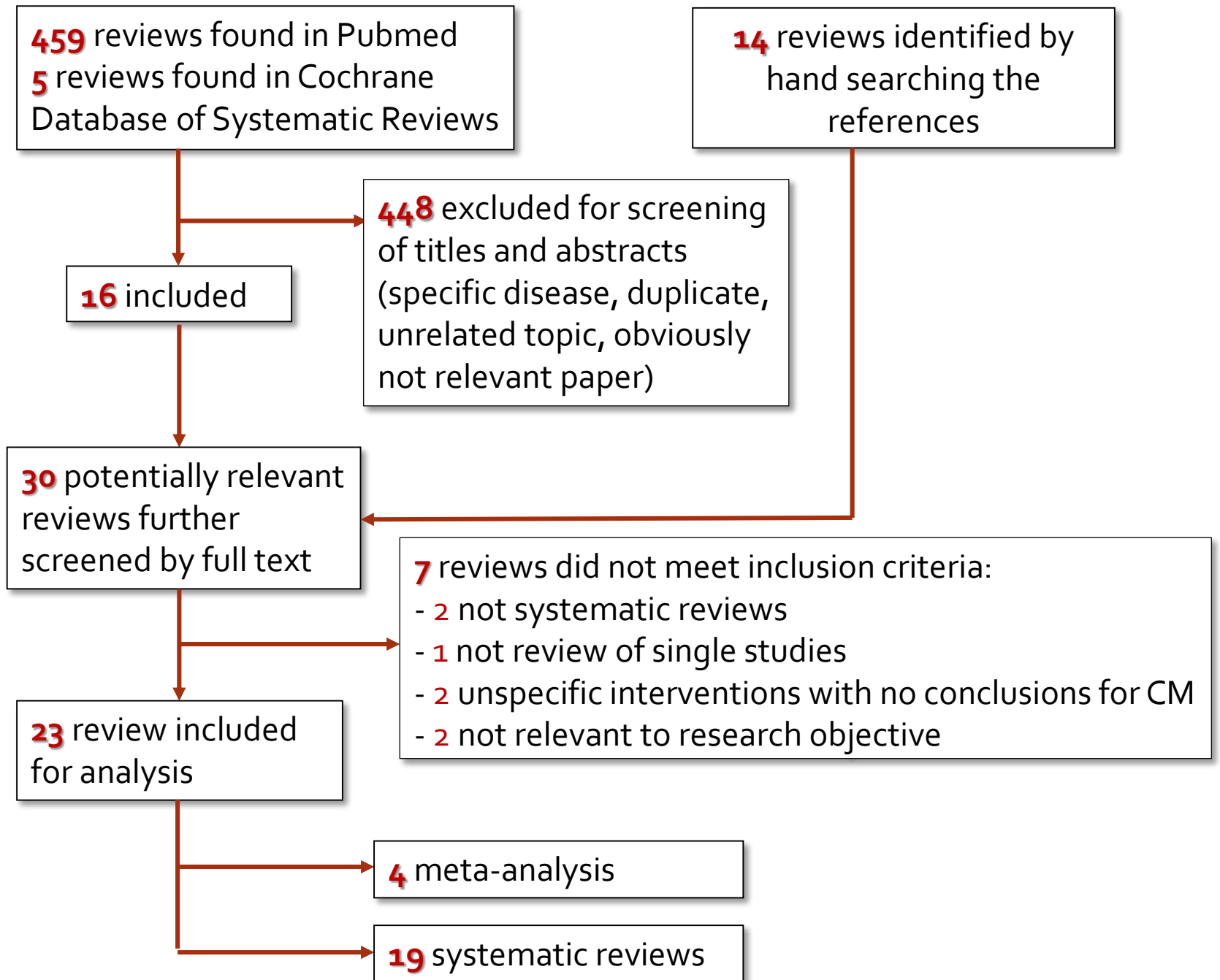- ➢ Consultate le citazioni bibliografiche degli articoli inclusi

CRITERI DI INCLUSIONE:

revisioni sistematiche,
meta-analisi;

CM destinati a malati
cronici con bisogni
complessi e/o rischio di alto
uso di risorse;

scritte in lingua inglese;

200-2018

459 reviews found in Pubmed
5 reviews found in Cochrane
Database of Systematic Reviews

14 reviews identified by
hand searching the
references

448 excluded for screening
of titles and abstracts
(specific disease, duplicate,
unrelated topic, obviously
not relevant paper)

16 included

30 potentially relevant
reviews further
screened by full text

7 reviews did not meet inclusion criteria:
- **2** not systematic reviews
- **1** not review of single studies
- **2** unspecific interventions with no conclusions for CM
- **2** not relevant to research objective

23 review included
for analysis

4 meta-analysis

19 systematic reviews

QUALITÀ DEGLI STUDI:

A= >80%

B= 60-80%

C= <60%

- **FORTE EVIDENZA**: tutte le revisioni definiscono concordemente l' efficacia/non efficacia del case management

- **MODERATA EVIDENZA**: la maggior parte delle revisioni concludono nel dimostrare efficacia/non efficacia del case management

- **CONTRASTANTE EVIDENZA**: bilancio tra le revisioni che concludono per una efficacia del case management e quelle che non la dimostrano

doi:10.1371/journal.pmed.1000097.t001

RISULTATI

QUESITO 1

EFFICACIA DEL CM NEI PAZIENTI CRONICI COMPLESSI

Quality	Source	Title	COMPLIANCE
M			...tion use and adherence with half the studies ...enefit. Proportions adherent to medication ...ants with ranges in absolute difference of 10% ...e data had small effect sizes.
A			...in medication management. 1/3 studies ...on management.
A	Agency for Healthcare Research and Quality, Hickam, 2013	Outpatient Case Management for Adults With Medical Illness and Complex Care Needs	Only 1 study assess this outcome in older adults with one or more chronic disease. It found no difference in self-management understanding and adherence.
C	Journal of Clinical Nursing, Sutherland, 2009	Structured review: evaluating the effectiveness of nurse case managers in improving health outcomes in three major chronic diseases	Whilst none of the studies reported differences in compliance with taking medications, 3 studies found that patients receiving case management interventions were more likely to be receiving recommended vasodilators and lipid lowering therapy in line with evidence based treatment guidelines
C	Journal of the American Geriatric Society	Successful Models of Comprehensive Care for Older Adults with Chronic Conditions: Evidence for the Institute of Medicine's	4/4 studies found positive results in a set of compliance measures (↑ use of appropriate meds; ↑ guideline adherence; ↑ care quality; ↑ self-care behaviour).

FORTE EVIDENZA che il case management aumenti la probabilità di PRESCRIZIONI secondo le linee guida basate sull'evidenza

CONTRASTANTE EVIDENZA che il case managment aumenti l'ADERENZA dei pazienti alle linee guida (monitoraggio e terapia)

Quality	Source	Title	QUALITY OF CARE (outcome intermedi)
M	Cochrane Database of Systematic Reviews, Smith, 2016	Interventions for improving outcomes in patients with multimorbidity in primary care and community (Review)	8 of the 18 organizational type studies reported clinical outcomes. These studies had a range of standardized effect sizes (SES) varying from 0.01 to 1.6. Interventions aimed at improving management of risk factors in comorbid conditions were more likely to have larger effect sizes. The glicemic control mean difference (MD) was 0.02 (95% CI –0.21 to 0.25). The blood pressure has MD was –3.10 (95% CI –7.26 to 1.06).
A	BMC Health Services Research, Low, 2011	A systematic review of different models of home and community care services for older persons	1/1 study found a reduction in pain among CM patients
A	Agency for Healthcare Research and Quality, Hickam, 2013	Outpatient Case Management for Adults With Medical Illness and Complex Care Needs	1 observational study having a pre-post design examined changes in physiological measures with 3 months of CM. Blood pressure, glucose, and cholesterol levels decreased moderately, compared with the pre-CM values. However, there was no non-CM comparison group in this study.

CONTRASTANTE EVIDENZA che il case management migliori la qualità delle cure (outcome intermedi)

Quality	Source	Title	PATIENT SATISFACTION
M	Plos one, Stokes, 2015	Effectiveness of Case Management for 'At Risk' Patients in Primary Care: A Systematic Review and Meta-Analysis	Patient satisfaction showed a statistically significant beneficial effect in the case management group in the short-term (0.26, 95% CI 0.16 to 0.36, I2 = 0.0%, p = 0.465, 8 studies), increasing in the long-term (0.35, 95% CI 0.04 to 0.66, I2 = 88.3%, p<0.001, 4 studies).
A	Agency for Healthcare Research and Quality, Hickam, 2013	Outpatient Case Management for Adults With Medical Illness and Complex Care Needs	CM programs that serve patients with one or more chronic diseases increase patients' perceptions that their care is better coordinated and of higher quality (strength of evidence: high).
A	Annals of Emergency Medicine, Althaus, 2011	Effectiveness of Interventions Targeting Frequent Users of Emergency Departments: A Systematic Review	Only 1 study assessed patient satisfaction. It reported no significant difference before and after the intervention
B	Nursing Research and Practice, Thomas, 2014	Examining End-of-Life Case Management: Systematic Review	In 1 study was found that palliative-educated case managers were able to improve both client and family satisfaction. Head et al. also found an increased client satisfaction with care one month after the onset of EOL case management. Similarly, Pfeifer et al. studied the added value of EOL case management and found that case-managed clients were very positive about the case management help they received

Quality	Source	Title	
B	Journal of Psychosomatic Research, Latour, 2007	Nurse-led case management for ambulatory complex patients in general health care: A systematic review	3 studies measured patient satisfaction. 2 studies, one of high quality and one of low quality, reported a positive result in favour of case management. The other study, which was of high quality, found no significant difference between the intervention and the control group.
B	Health and Social Care in ...	Outcomes of ...	...ater patient satisfaction among CM clients. 2/5 ...erence in patient satisfaction.
C	J... C... N... Hallberg, 2004	...ew of recent ...e management studies	No effect on patient satisfaction was reported (van Achterberg et al., 1996; Gagnon et al., 1999) as well as that the study group was more satisfied than the controls (Fick et al., 2000; Tappen et al., 2001) or a more satisfied control group (Marshall et al., 1999).
C	Journal of Clinical Nursing, Sutherland, 2009	Structured review: evaluating the effectiveness of nurse case managers in improving health outcomes in three major chronic diseases	The 3 studies that did measure levels of patient satisfaction reported higher levels of satisfaction among CM patients.
C	International Nursing Review, Joo, 2013	An integrative review of nurse-led community-based case management effectiveness	Overall, community-based CM done by nurse case managers enhanced patients' satisfaction.
C	Journal of Clinical Nursing, Lupari, 2011	'We're just not getting it right' – how should we provide care to the older person with multi-morbid chronic conditions?	High levels of satisfaction with the nurses and their delivery of the case management intervention for the complex patients is evident.

FORTE-EVIDENZA che il case management migliori la soddisfazione nei pazienti

Quality	Source	Title	DEPRESSION
M	Cochrane Database of Systematic Reviews, Smith, 2016	Interventions for improving outcomes in patients with multimorbidity in primary care and community settings (Review)	There are improved depression-related outcomes in studies targeting comorbid conditions that include depression with a range of effect sizes from 0.09 to 2.24 with 4 of 7 studies having large effect sizes (> 0.5) . Standardised mean difference of (-0.63 to -0.20) was calculated from combining data from 6 studies.
A	Agency for Healthcare Research and Quality, Hickam, 2013	The Care Span: Care Management for Adults With Medical Illness and Complex Care Needs	The MCCD trial also examined psychological measures in the 10-month participant survey (older adults with one or more chronic disease): CM was not associated with better scores on a depression screen in any of the programs.
B	Health and Social Care in the Community, Eklund 2009	Outcomes of coordinated and integrated interventions targeting frail elderly people: a systematic review of randomised controlled trials	2/4 studies showed improvements in a range of depression measures. 2/4 studies reported no difference in depression outcomes.
C	Journal of Clinical Nursing, Sutherland, 2009	Structured review: evaluating the effectiveness of nurse case managers in improving health outcomes in three major chronic diseases	The studies included seem to be consistent in improve mental health and depression status.
C	Journal of the American Geriatric Society, Boult, 2009	Successful Models of Comprehensive Care for Older Adults with Chronic Conditions: Evidence for the Institute of Medicine's "Retooling for an Aging America" Report	The only 1 study that assessed this outcome found a reduction in depression status.

MODERATA EVIDENZA che il case management migliori lo stato di depressione nei pazienti

Quality	Source	Title	
A	Agency for Healthcare Research and Quality, Hickam, 2013	Outpatient Case Management for Adults With Medical Illness and Complex Care Needs	Only 1 study assess the quality of life in older adults with one or more chronic disease and it found no difference between the study and the control group.
B	International Nursing Review, Joo, 2017	Case management effectiveness in reducing hospital use: a systematic review	Latour et al. (2007) showed no difference in quality-of-life scores between the CM group and the control group after 6 months of CM implementation. In ___ after 2 years of nurse-led CM intervention with older adults with ___ nesses, Chow & Wong (2014) did find significant positive effects on ___-life for the intervention group (P = 0,005; P = 0.001). ___ measured quality of life. 3 of these studies presented insufficient data, one was of high and two were of low quality, but none found any difference between the intervention and the control group. The fourth study reported a significant difference in favour of the intervention group, but this study was considered to be of low quality.
B	Health and Social Care in the Community, Eklund, 2009	Outcomes of coordinated and integrated interventions targeting frail elderly people: a systematic review of randomised controlled trials	2/3 studies reported no difference in quality of life. 1/3 studies showed improvements in a quality of life.
C	Journal of Clinical Nursing, Sutherland, 2009	Structured review: evaluating the effectiveness of nurse case managers in improving health outcomes in three major chronic diseases	not all studies reported improvements in quality of life measures.
C	Journal of the American Geriatric Society, Boult, 2009	Successful Models of Comprehensive Care for Older Adults with Chronic Conditions: Evidence for the Institute of Medicine's "Retooling for an Aging America" Report	7/8 studies found positive results in a set of quality of life measures (less decline in SF-36 social function; ↑ Control of fatigue and mastery; ↑ SF-36, ↑ social support; ↑ SF-36; ↑ Minnesota Living with Heart Failure scores).
C	International Nursing Review, Joo, 2013	An integrative review of nurse-led community-based case management effectiveness	Overall, CBCM done by NCMs enhanced patients' quality of life

CONTRASTANTE EVIDENZA che il case management migliori la qualità di vita dei pazienti

FUNCTIONAL STATUS

Quality	Source	Title	
A	BMC Health Services Research, Low, 2011	A systematic review of different models of home and community care services for older persons	3/5 studies showed improvements in functional status (ADLs/IADLs) 2/5 studies reported no difference in functional status (ADLs/IADLs)
A	Agency for Healthca-re Research and Qua-lity, Hickam, 2013	Outpatient Case Management for Adults With Medical Illness and Complex Care Needs	CM programs that serve patients with one or more chronic diseases do not result in clinically important improvements in functional status (strength of evidence: high).
B	Journal of Psychosomatic Research, Latour, 2007	Nurse-led case management for ambulatory complex patients in general health ... systematic review	... ...asured functional status. One study, which was of high quality, presented ... ut did not find significant difference between intervention and control group. ... hich was of low quality, also found no significant difference.
B			... d no difference in functional status (ADL), 2/6 studies showed improvements ... status (ADL)
C		... ...ent studies	Fick et al. (2000) reported no effect on functional ability and Gagnon et al. (1999) found no effect on ADL, IADL. Bernabei et al. (1998) found less consistent changes in ADL and PADL in the study group than in the control group. Tappen et al. (2001) reported the study group to have higher ability to manage overall function and IADL. Marshall et al. (1999) found that the study group had less impairment in ADL and IADL functions than the control group after 2 y.
C	King's Fund, Hutt, 2004	Case-managing Long-term Conditions	6 RCTs reported functional ability as an outcome. 4 showed positive results for case management patients compared with patients not receiving case management, in terms of either reduced decline in functional ability or an improvement in function (one did not reach statistical significance). 2 studies revealed no differences between control and intervention. Of the non-RCTs reporting functional status, one before-and-after study showed a positive effect associated with case management.
C	Journal of the American Geriatric Society, Boult, 2009	Successful Models of Comprehensive Care for Older Adults with Chronic Conditions: Evidence for the Institute of Medicine's "Retooling for an Aging America" Report	Weak evidence demonstrated better functional autonomy (1/4 studies).
C	International Nursing Review, Joo, 2013	An integrative review of nurse-led community-based case management effectiveness	Hammer (2001) found that after 1 year of follow-up with community-dwelling elderly patients, ADL and IADL deteriorated in the control group while ADL and IADL for those in the intervention group increased. Brokel et al. (2012), however, could not find an improvement in ADL and IADL

CONTRASTANTE EVIDENZA che il case management migliori lo stato funzionale dei pazienti

Quality	Source	Title	SURVIVAL
M	Plos one, Stokes, 2015	Effectiveness of Case Management for 'At Risk' Patients in Primary Care: A Systematic Review and Meta-Analysis	No significant effect was found for mortality (short-term: 0.08, 95% CI -0.03 to 0.19, I2 = 63.6%, p = 0.001, 12 studies; long-term: 0.03, 95% CI -0.04 to 0.09, I2 = 40.0%, p = 0.067, 13 studies)
A	Agency for Healthcare Research and Quality, Hickam, 2013	Outpatient Case Management for Adults With Medical Illness and Complex Care Needs	CM programs that serve patients with multiple chronic diseases do not reduce overall mortality (strength of evidence: high). CM ... lity in frail elders (strength of evidence: low).
B	Health and ... Care ... Comm... Eklun...	...	...tion in the risk of mortality ... difference in the risk of mortality
C	Profes... Manag..., Chiu, 2007	... Review of Nurse-Assisted Case Management to Improve Hospital Discharge Transition Outcomes for the Elderly	Few trials explicitly state the death rates for the intervention groups and the control groups, but such rates could be calculated from the follow-up data. Doing this, we found that most trials had comparable death rates between the intervention subjects and the control subjects.
C	Journal of the American Geriatric Society, Boult, 2009	Successful Models of Comprehensive Care for Older Adults with Chronic Conditions: Evidence for the Institute of Medicine's "Retooling for an Aging America" Report	4/8 studies reported positive results for mortality.

FORTE EVIDENZA che il case management NON migliori la sopravvivenza

Quality	Source	Title	
M	Plos one, Stokes, 2015	Effectiveness of Case Management for 'At Risk' Patients in Primary Care: A Systematic Review and Meta-Analysis	No effect on utilization of primary and non-specialist care was found (short-term: -0.08, 95% CI -0.22 to 0.05, I2 = 79.2%, p<0.001, 16 studies; long-term: -0.10, 95% CI -0.29 to 0.09, I2 = 78.6%, p<0.001, 7 studies).
A	Journal of Aging and Health, You, 2013	Case Managed Community Aged Care: What Is the Evidence for Effects on Service Use and Costs?	There is moderate evidence supporting the conclusion that Case Managed Community Aged Care interventions can significantly improve clients' use of some community care services (greater likelihood, higher intensity, higher frequency, and earlier use). We also found moderate evidence in regard to improving the use of case management services, delaying nursing home placement, reducing nursing home admission, and shortening the length of nursing home stay due to CMCAC interventions.
A	BMC Health Services Research, Low, 2011	A systematic review of different models of home and community care services for older persons	2/2 studies found an increased use of community services. 4/5 studied found a reduction in the risk of nursing home admission among CM patients, while the fifth study found no difference.
A	Agency for Health-care Research and Quality, Hickam, 2013	Outpatient Case Management for Adults With Medical Illness and Compl... Care Need...	CM does not d... ...ursing home admissions in the frail elderly (strength of evidence: low).
A	Annals of ...ing Research, Oeseburg, 2009	Effects of Case Management for Frail Older People or Those With Chronic Illness A Systematic Review	...was evaluated in 6 studies, but only 2 studies confirmed a benefit of the ...reported an increase in primary care (19%; P .003) and community care ...g...%, P .001), whereas another described a significant increase in the median number of medical outpatient visits (1; P .01) and a significant reduction in the number of patients lacking a primary care practitioner (-74%; P .01). Three studies (Bernabei et al., 1998; Eloniemi-Sulkava et al., 2001; Newcomer et al., 2004) reported results on nursing home admissions. None of the studies showed a change in the number of nursing home admissions.
B	Health and Social Care in the Community, Eklund, 2009	Outcomes of coordinated and integrated interventions targeting frail elderly people: a systematic review of randomised controlled trials	The use of home- and health-services showed results both in favour of the intervention (1/5 studies) and the control (2/5 studies). The remaining 2 studies found no difference in primary care utilization.

CONTRASTANTE EVIDENZA che il case management riduca o ritardi l'istituzionalizzazione dei pazienti

Quality	Source	Title	EMERGENCY DEPT. VISITS
A	Plos One, Soril, 2015	Reducing Frequent Visits to the Emergency Department: A Systematic Review of Interventions	Compared to the control groups, one RCT reported no change in the mean number of ED visits following CM, whereas the second RCT reported a minor decrease in median ED visits among those in the intervention group. Of the 10 comparative cohort studies evaluating a CM intervention, nine studies reported outcomes related to the change in ED visits: eight studies observed a decrease in the mean (between -0.66 and -37 ED visits) or median number of ED visits (between -2.28 and -20 ED visits) compared to the controls or before CM; and 1 study reported an increase of 2.79 median ED visits post-intervention.
A	Annals of Emergen-cy Medicine, Althaus, 2011	Effectiveness of Interventions Targeting Frequent Users of Emergency Departments: A Systematic Review	All 8 selected studies reported comparisons of ED use in the intervention and control groups (or before-and-after intervention); 5 studies showed a reduction in ED use, 1 demonstrated an increase in ED use and 2 revealed no significant changes. The magnitude of decrease or increase was documented in 5 studies; the effect of intervention on ED use was large in all these studies, with a decrease or increase in the mean or median number of ED visits, ranging from 28% to 75%.
B	Nursing Research, Oeseburg, 2009	Effects of Case Management for Frail Older People or Those With Chronic Illness A Systematic Review	Bernabei et al. (1998) reported a small but clinically relevant reduction in visits, whereas Schore et al. (1999) reported an increase in the number of emergency department visits in one of the three experimental groups.
B	International Nursing Review, Joo, 2017	Case management effectiveness in reducing hospital use: a systematic review	Six studies reported the number of ED visits as an outcome. Five studies found a statistically significant reduction in the number of ED visits in pre- and post-CM intervention analysis. Among low-income African Americans undergoing 2 years of CM intervention (n = 253), Gary et al. (2009) reported significant reductions in ED visits (P < 0.05) by 23%. After 18 months, Sadowski et al. (2009) identified 24% fewer ED visits in their CM group compared to the usual care group (P = 0.03). Sandberg et al. (2014) and Shumway et al. (2007) reported similar significant reductions in the number of ED visits (P = 0.03; P = 0.016; P < 0.01) for the intervention group. Shumway et al. (2007) applied CM to participants with chronic illnesses who were frequent ED users and also found reductions in the number of ED visits. Although the sixth study, Farris et al. (2014), found reductions in 30- or 90-day ED visit rates for the CM group over the control group, the results were not significant.

Quality	Source	Title	
B	Journal of Psychosomatic Research, Latour, 2007	Nurse-led case management for ambulatory complex patients in general health care: A systematic review	Of the four studies that measured the number of ED visits, two were of high quality and two were of low quality. None of these studies reported a positive effect on the number of ED visits
C	Journal of Emergency Medicine, K...	Effectiveness of case manage... strategies in red...	...s reporting ED use outcomes, eight reported reduction in ED use, two ...nificant reduction, and one study reported an increase in ED use.
C	...ng, Hallberg, 2004	...e of Frail Older p...: a review of recent case management studies	In some studies no effect on ED visits (Lim et al., 2003) were found. More ED visits in the study group was reported (Gagnon et al., 1999; Marshall et al., 1999) as well as fewer ED visits in the study group (Boyd et al., 1996; Bernabei et al., 1998).
C	King's Fund, Hutt, 2004	Case-managing Long-term Conditions	8 RCTs reported outcomes that included emergency department (ED) visits. Only one (Bernebei et al) reported a statistically significant decrease in the use of the ED following case-management intervention (relative risk of attendance 0.64, 95 per cent confidence interval 0.48 to 0.85). Six studies reported no difference or no statistically significant differences between study and control groups. A significant increase in ED use was reported in one RCT and in one of three intervention groups in the study by Schore et al. Of the non-RCT studies, the Evercare evaluation and one small RCT showed a statistically significant reduction in the number of visits in the intervention group. However, the lack of randomization makes interpretation of these findings problematic, given the number of well-designed RCTs that have failed to repeat them.
C	Journal of Clinical Nursing, Lupari, 2011	'We're just not getting it right' – how should we provide care to the older person with multi-morbid chronic conditions?	The more robust quantitative data does not demonstrate a significant impact on emergency admissions.
C	Professional Case Management, Chiu, 2007	A Systematic Review of Nurse-Assisted Case Management to Improve Hospital Discharge Transition Outcomes for the Elderly	11 trials collected data on ED use, but only 3 studies found significant reductions in presentations to an ED.

CONTRASTANTE EVIDENZA che il case management riduca l'accesso al PS

Quality	Source	Title	HOSPITAL ADMISSIONS
M	Family Practice, Huntley, 2013	Is case management effective in reducing the risk of unplanned hospital admissions for older people? A systematic review and meta-analysis	9 of the 11 RCTs showed no significant benefit in terms of reduction of unplanned hospital admissions with case management compared with usual care. The Naylor study, which showed a signification reduction in hospital readmissions, recruited >50% electively admitted patients. These are likely to have been a different patient group from the other studies and this, possibly in combination with high-intensity care during the 4 weeks of case management, may have affected the rate of readmission. Case management initiated in hospital (or on discharge) versus usual care in the older population: relative rate of readmissions = 0,71(95%IC 0,49-1,03) Heterogeneity: Tau2 = 0,08; Chi2=7,13; df=2 (P=0,03); I2= 72%. n studies=3 Case management initiated in the community versus usual care in the older population: mean difference in admissions 0,05 (-0,04 + 0,15) Heterogeneity: Chi2=1,44; df=2 (P=0,49); I2=0%. n studies=3
M	Plos one, Stokes, 2015	Effectiveness of Case Management for 'At Risk' Patients in Primary Care: A Systematic Review and Meta-Analysis	No effect on secondary care was found (short-term: 0.04, 95% CI -0.02 to 0.10, I2 = 39.6%, p = 0.027, 23 studies; long-term: -0.02, 95% CI -0.08 to 0.04, I2 = 22.8%, p = 0.194, 16 studies)
M	Nursing Research, Kim, 2015	A Meta-Analysis of the Effect of Hospital-Based Case Management on Hospital Length-of-Stay and Readmission	The overall OR for readmission for 10 studies was 0.87 with a 95% CI of 0.69 to 1.04. It can be concluded that the effect of CM on decreasing readmissions is not statistically significant at the 5% level. In terms of a Binominal Effect Size Display (Cooper & Hedges, 1994), the effect size can be interpreted as a 6% decrease in readmission for patients who received a CM intervention. No evidence of heterogeneity was found among the studies (QT=13.24, df=8, p>0.10)

Quality	Source	Title	HOSPITAL ADMISSIONS
M	Cochrane Database of Systematic Reviews, Smith, 2016	Interventions for improving outcomes in patients with multimorbidity in primary care and community settings (Review)	Sommers (2000) reported improvements for intervention group participants across a variety of measures relating to hospital admissions, whereas Boult (2011), Hogg (2009), Katon (2010) and Krska (2001) found no difference in admission-related outcomes, although numbers of admissions in most of these studies were very small.
A	Funded by National Institute for Health Research, Purdy, 2012	Interventions to reduce unplanned hospital admission: a series of systematic reviews	Case management initiated in hospital or on discharge versus usual care in the older population: relative rate of readmissions 0,71 (95%IC 0.49;1,03). There were 2 RCTs describing case management initiated in hospital, one demonstrated a reduction of readmission and another no reduction There were 4 RCTs that evaluated case management initiated on discharge from hospital of which three showed no significant difference in unplanned hospital admissions between case management and usual care {Avlund 2002} {Lim 2003} {Melin1992} and one showed a reduction in admissions. {Caplan 2004};

Case management initiated in the community versus usual care in the older population: mean difference in admissions 0.05 (95%IC -0,04;0,15) There were 5 RCTs which described case management initiated in the community versus usual care for the reduction of unplanned hospital admissions. 4 of these RCTs showed no advantage of case management over usual care. The remaining one RCT described case management compared with usual care for 200 home dwelling people (mean age 81 yrs) who after an initial assessment were visited every 2 months for one year led by GP and supported by a multi-disciplinary team. This study showed a small non-significant reduction in relative rate of unplanned hospital admissions at 12 months with GP led case management compared with usual care;

COPD: None of the four RCTs showed any effect on unplanned hospital admissions or readmissions compared to usual care. |

Quality	Source	Title	HOSPITAL ADMISSIONS
A	Journal of Aging and Health, You, 2013	Case Managed Community Aged Care: What Is the Evidence for Effects on Service Use and Costs?	We did not find evidence showing that CMCAC interventions can significantly influence clients' use of hospital care.
A	BMC Health Services Research, Low, 2011	A systematic review of different models of home and community care services for older persons	2/3 studies found a reduction in the risk of hospital admission among CM patients, while the third study found no difference.
A	Agency for Healthcare Research and Quality, Hickam, 2013	Outpatient Case Management for Adults With Medical Illness and Complex Care Needs	• CM programs that serve patients with one or more chronic diseases do not reduce overall rates of hospitalization (strength of evidence: moderate). • **CM is more effective for reducing hospitalization rates among patients with greater disease burden** (strength of evidence: low). • **CM is more effective for preventing hospitalizations when case managers have greater personal contact with patients and physicians** (strength of evidence: low). • CM does not decrease acute hospitalizations in the frail elderly (strength of evidence: low)
A	Annals of Emergency Medicine, Althaus, 2011	Effectiveness of Interventions Targeting Frequent Users of Emergency Departments: A Systematic Review	None of the 4 studies assessing hospitalization identified significant differences among the study and the control group.
B	Nursing Research, Oeseburg, 2009	Effects of Case Management for Frail Older People or Those With Chronic Illness A Systematic Review	Bernabei et al. (1998) performed a study of good methodological quality and reported a small but clinically relevant decrease in hospital admissions in favor of the intervention group, whereas one of the three projects (project H) in the study by Schore et al. (1999), a study with weak methodological quality, showed a trivial increase in hospital admissions in the experimental group
B	Journal of Psychosomatic Research, Latour, 2007	Nurse-led case management for ambulatory complex patients in general health care: A systematic review	3 studies, all of relatively high quality and one study of low quality, reported a positive result in favour of the intervention group. However, 4 studies two which were of high quality, could not demonstrate significantly better outcomes for case management.

HOSPITAL ADMISSIONS

Quality	Source	Title	
B	International Nursing Review, Joo, 2017	Case management effectiveness in reducing hospital use: a systematic review	3 studies reported statistically significant reductions in hospital readmissions. In Melton et al. (2012) a nurse-led CM intervention group demonstrated lower 30-day and 60-day hospital readmission rates among participants with multiple chronic illnesses than among participants in the control group (P < 0.05; P = 0.01). Sadowski et al. (2009) found a 29% reduction in readmission rates for participants with chronic conditions in the intervention group over the usual care group (P = 0.005) by the end of the 18-month follow-up. Chow & Wong (2014), which was a nurse-led CM focused on older adults with chronic illnesses in China, demonstrated a significant reduction in hospital readmission rates in the intervention group over the control group (P = 0.018). 3 other studies (Gary et al. 2009; Meisinger et al. 2013; Shumway et al. 2007) reported reduced readmissions but no statistically significant results. The remaining studies (Farris et al. 2014; Latour et al. 2007; Reinius et al. 2013; Sandberg et al. 2014) reported no effect on readmission rates. 2 studies reported the total number of hospital visits for each participant. Compared to the usual care group in Reinius et al. (2013), the CM group was 20% less likely to visit the hospital (RR 0.80; 95% CI 0.75–0.84). Similarly, Sandberg et al. (2014) found reductions in the number of hospital visits were statistically significant for the intervention group over the control group 6–12 months from the beginning of the study (P = 0.047).
B	Nursing Research and Practice, Thomas, 2014	Examining End-of-Life Case Management: Systematic Review	Naylor et al. found that seniors who received EOL case management for four weeks following hospital discharge were less likely to be hospitalized in the subsequent six month study period as compared to a control group. In contrast, Long and Marshall's study found that case-managed elderly persons were more likely to be hospitalized and to use other health services during the last month of life as compared to those who did not receive EOL case management. Furthermore, Twyman and Libbus found no difference in hospital use between persons diagnosed with AIDS who had or had not received EOL case management over the last six months of life.

Quality	Source	Title	
C	Journal of Emergency Medicine, Kumar, 2013	Effectiveness of case management strategies in reducing emergency department visits in frequent...	Studies show disappointing results in regards to the effect of CM on hospital admission rates. In a large rando...
C			
C			...of the effectiveness of case management in preventing ...patients. Of the studies reviewed, 5 (only two of which were ...uctions in admissions, 7 found no difference, and 4 found ...t reach statistical significance. 2 showed non-significant
C	Pr... Cas... Ma... Chiu... ...ge Transition Outcomes for the Elderly		...spital readmissions. For 7 trials, there were no significant ...between treatment and comparison groups in unplanned readmissions at the 3-month follow-up (Harrison et al., 2002; Hermiz et al., 2002), 6-month follow-up (Lim et al., 2003), 28-day and 6-month follow-up (Kwok, 2004), 9-month followup (Jaarsma et al., 1999), and 1-year follow-up (Debusk et al., 2004; Naylor et al., 2004). Statistically significant differences were observed in the remaining 8 trials. Here the intervention cases showed differences of at least one-third fewer readmissions than the control cases.

SE CONSIDERIAMO SOLO METANALISI E REVISIONI SISTEMATICHE DI QUALITA' A

FORTE EVIDENZA che il case management NON riduca i ricoveri ospedalieri,

anche se l'efficacia sembra maggiore quando vengono arruolati pazienti ad alto rischio di ospedalizzazione e quando il case manager abbia più frequenti contati con i pazienti e con i medici

SE CONSIDERIAMO TUTTE LE METANALISI E REVISIONI SISTEMATICHE

MODERATA EVIDENZA che il case management NON riduca i ricoveri ospedalieri.

Quality	Source	Title	LENGTH OF STAY
M	Nursing Research, Kim, 2005	A Meta-Analysis of the Effect of Hospital-Based Case Management on Hospital Length-of-Stay and Readmission	The overall average weighted effect size (AWES) of LOS for 10 studies was 0.094 (Z 1.46, p .07) based on N 2,666 with a 95% CI of –0.032 to 0.220. This result indicates that the CM intervention across the 10 studies was not effective in reducing hospital LOS. The AWES for the frail elder was 0.126 (Z 1.242, p .11) with a 95% CI of –0.073 to 0.324. The AWES for the stroke group was –0.226 (Z –1.404, p .08) with a 95% CI of –0.542 to 0.089.
A	Journal of Aging and Health, You, 2013	Case Managed Community Aged Care: What Is the Evidence for Effects on Service Use and Costs?	We did not find evidence showing that Case Managed Community Aged Care interventions can significantly influence clients' use of hospital care.
A	Funded by National Institute for Health Research, Purdy, 2012	Interventions to reduce unplanned hospital admission: a series of systematic reviews	Case management initiated in hospital or on discharge (n=6): it is important to point out that 3 of 6 RCTs significantly reduced length of stay during the study period. {Naylor 1999} {Nikolaus 1999}{Lim 2003} The remaining three did not give these data although one study showed a significant increase in the number of days before first readmission with case management compared to usual care. {Caplan 2004}
B	Nursing Research, Oeseburg, 2009	Effects of Case Management for Frail Older People or Those With Chronic Illness A Systematic Review	Effectiveness of case management regarding hospital length of stay was reported in 5 studies (Bernabei et al., 1998; Fordyce et al., 1997; Gagnon et al., 1999; Long, 2002; Newcomer et al., 2004). Among them, only Bernabei et al. (1998) reported a trivial reduction in number of days per year spent in a hospital in the intervention group.
B	Health and Social Care in the Community, Eklund, 2009	Outcomes of coordinated and integrated interventions targeting frail elderly people: a systematic review of randomised controlled trials	4/7 studies showed a reduction in hospital/institution days between CM-patients and non-CM-patients. 3/7 studies reported no difference in hospital/institution days between the two groups.

Quality	Source	Title	LENGTH OF STAY
B	Nursing Research, Oeseburg, 2009	Effects of Case Management for Frail Older People or Those With Chronic Illness A Systematic Review	Effectiveness of case management regarding hospital length of stay was reported in 5 studies (Bernabei et al., 1998; Fordyce et al., 1997; Gagnon et al., 1999; Long, 2002; Newcomer et al., 2004). Among them, only Bernabei et al. (1998) reported a trivial reduction in number of days per year spent in a hospital in the intervention group.
C	Journal of Clinical Nursing, Hallberg, 2004	Preventive home care of frail older people: a review of recent case management studies	In some studies no effect on length of stay, number of hospital days (Gagnon et al., 1999; Marshall et al., 1999) were found. In other studies the intervention group was reported to have shorter lengths of stay (Bernabei et al., 1998; Allen, 1999; Landi et al., 1999, 2001; Schifalacqua et al., 2000).
C	King's Fund, Hutt, 2004	Case-managing Long-term Conditions	10 RCTs assessed lengths of stay in hospital or number of hospital days used following the implementation of case management. 2 RCT studies evidenced a reduction of LoS, The remaining 8 RCTs found no statistically significant effects on overall length of stay associated with case management. Of the non-randomised studies, Kane et al demonstrated a significant difference in mean length of hospital stay (5.5 days in case-managed patients and 6.7 days in controls). The overall combined hospital and intensive nursing days used by Evercare patients was 45 per cent lower than in controls, owing to lower hospital admission rates. Landi et al also showed an overall reduction of ten hospital days per person and four days per admission in the six months after case management compared with the previous six months. 4 other non- RCTs did not find any significant differences associated with case management.

Quality	Source	Title	LENGTH OF STAY
C	Journal of Emergency Medicine, Kumar, 2013	Effectiveness of case management strategies in reducing emergency department visits in frequent user patient populations: a systematic review	No significant reduction in medical inpatient days or psychiatric inpatient days was noted with CM intervention
C	International Nursing Review, Joo, 2013	An integrative review of nurse-led community-based case management effectiveness	Duke (2005) observed that LOS decreased by 22% after 1 year of community-based CM intervention with frail elderly patients. Hammer (2001) also reported positive outcomes [commu]nity-based CM programme in rural areas. Compared with the previous non-[intervent]ed year, LOS dropped by 9% after 12 months of CM. Lim et al. (2003) [hos]pital bed-days between intervention and control groups. Participants who [received] services had statistically significantly fewer hospital bed-days than control groups.
C	[Nursing], Lupari, 2011	['getting it right' – how] should we provide care to the older person with multi-morbid chronic conditions?	The more robust quantitative data does not demonstrate a significant impact on bed days.
C	Professional Case Management, Chiu, 2007	A Systematic Review of Nurse-Assisted Case Management to Improve Hospital Discharge Transition Outcomes for the Elderly	9 trials collected data on hospital days of care following a readmission. In most studies, this was compiled by length of stay (LOS) within a single hospitalization, but a few studies totaled all hospital days within the observation period (e.g., 6 months). 7 of these studies showed statistically significant reductions in the number of hospital readmission days or (LOS). The differences in mean LOS days were in the magnitude of at least 2 days (ranging up to 4 days), and reflective of a difference of at least a one-third fewer days by treatment cases. Significant effects were observed among the range of target groups and settings.

CONTRASTANTE EVIDENZA che il case management riduca i giorni di ospedalizzazione

Quality	Source	Title	COST
M	Family Practice, Huntley, 2013	Is case managemnt effective in reducing the risk of unpluanned hospital admissions for older people? A systematic review and meta-analysis	5 of the 11 RCTs (Table 1) presented cost–outcome descriptions (partial evaluations) as opposed to full economic evaluations. The Naylor study that showed significantly reduced admissions with case management reported cost data showing that the intervention significantly reduces costs, in addition to significantly reducing per-patient imputed reimbursements. **The remaining four RCTs also reported favorable cost–outcome descriptions for case management compared with usual care**.
M	Plos one, Stokes, 2015	Effectiveness of Case Management for 'At Risk' Patients in Primary Care: A Systematic Review and Meta-Analysis	No significant effect was found for total cost of services (short-term: -0.00, 95% CI -0.07 to 0.06, I2 = 0.0%, p = 0.784, 8 studies; long-term: -0.03, 95% CI -0.16 to 0.10, I2 = 46.0%, p = 0.116, 5 studies)
A	Journal of Aging and Health, You, 2013	Case Managed Community Aged Care: What Is the Evidence for Effects on Service Use and Costs?	We did not find evidence indicating that CM Community Aged Care interventions could significantly change costs.
A	Funded by National Institute for Health Research, Purdy, 2017	Interventions to reduce unplanned hospital admission: a series of systematic reviews	The one RCT that showed significantly reduced admissions with case management compared to usual care reported cost data showing the case management intervention significantly reducing costs as well as significantly reducing per patient imputed reimbursements. **The remaining four RCTs also reported favourable cost-outcome descriptions for case management compared with usual care.**
A	Agency for Healthcare Research and Quality, Hickam, 2013	Outpatient Case Management for Adults With Medical Illness and Complex Care Needs	CM programs that serve patients with one or more chronic diseases do not reduce Medicare expenditures (strength of evidence: high).

Quality	Source	Title	COST
A	Plos One, Soril, 2015	Reducing Frequent Visits to the Emergency Department: A Systematic Review of Interventions	The 2 RCTs specifically assessed the costs of CM programs from a health system perspective. Shumway et al. reported increases in the cost of care for all participants in the 12-month follow-up period. This increase in cost, however, was significantly less among those exposed to the CM intervention compared to those in the control group (CM: $3116 added costs per-patient vs. control: $6659 added costs per-patient; p<0.01). The specific cost of the CM intervention was also reported as $606,711, or $3,633 per-patient. The RCT conducted by Reinius et al. only reported the health system costs following a telephone-based CM intervention (i.e. direct cost of implementing the CM intervention was not reported). The total costs per-patient were reported as €6,355 for the intervention group and €19,044 for the control group; this estimated 45% decrease in cost was found to be statistically significant (p = 0.004). 4 comparative cohort studies also evaluated the cost of CM from a health system perspective. Broadly, all 4 studies reported reduced hospital costs (i.e. ED and in-patient charges) per patient in the 12-months following a CM intervention. The Shah et al. study reported a modest decrease of $671 in hospital charges per patient. Whereas the greatest reduction in median per-patient hospital costs was $7,473, reported by the Okin et al. study; this resulted in a cost savings of $429,464 in the hospital charges for the entire intervention group (n = 53). This study also reported a net cost savings (i.e. the cost of the intervention was subtracted from the savings due to the intervention) of $132,726. Lastly, costs specifically related to the implementation of the CM programmes were reported by 4 studies (1 RCT; 3 comparative cohort studies) and ranged from $66,000 (or $1,833 per patient) to $606,711 ($3,633 per patient) for CM.

Quality	Source	Title	COST
A	Annals of Emergency Medicine, Althaus, 2011	Effectiveness of Interventions Targeting Frequent Users of Emergency Departments: A Systematic Review	Cost analysis was performed in 3 studies; all 3 evaluations were based on the perspective of the hospital and showed a reduction in ED costs either in the intervention group or after intervention for the 2 non-controlled before-and-after studies. Case management was the tested intervention in all 3 studies and cost of the intervention was not included in ED costs. **In the randomized controlled trial conducted by Shumway et al, total hospital costs were similar in the case management and the usual care groups when the costs of the intervention were considered**. Compared with usual care, case management was described as more cost-effective because it brought an improvement in clinical and social outcomes without additional costs overall. In 2 before-and-after studies, the reduction in hospital costs was larger than the cost of the case management team; the intervention was therefore described as cost saving from the hospital perspective. Okin et al reported a median reduction per patient of US $2,406 (95% confidence interval –$6,361 to –$430; P .06) after intervention (from $21,022 to $14,910) for all hospital services costs and a median reduction in ED costs per patient of US $1,938 (95% confidence interval –$2,459 to –$1,013; P .01), from $4,124 to $2,195. The magnitude of effect was evaluated in only 1 study, with the potential cost savings at US $10 million per year for the 157 patients enrolled for 2 years.

Quality	Source	Title	COST
B	Nursing Research, Oeseburg, 2009	Effects of Case Management for Frail Older People or Those With Chronic Illness A Systematic Review	Healthcare costs were calculated in three studies (Bernabei et al., 1998; Long, 2002; Newcomer et al., 1999). Newcomer et al. (1999) performed an extensive study with a good methodological quality and found statistically significant but trivial savings in the first year of the case management intervention and over the total intervention period of 3 years. Bernabei et al. (1998) found extensive savings mainly from a substantial decrease in nursing home (j48%) and hospital expenses (j34%) but also for community health services costs (j19%); however, data were insufficient to calculate a p value or ES. Long (2002) and Long and Marshall (2000) performed a study with a good methodological quality and found that the average total costs per person were higher for the case-managed group, but this difference was not statistically significant.
B	International Nursing Review, Joo, 2017	Case management effectiveness in reducing hospital use: a systematic review	Cost analysis was reported by two studies. Reinius et al. (2013) reported significant reductions in the total healthcare costs – costs were 45% less per person (P = 0.004) – for the intervention group. On the other hand, Shumway et al. (2007) demonstrated mixed results in cost analysis. The cost of ED services decreased for the CM intervention group over the control group (P < 0.01); however, the total hospital costs showed no difference between two groups.
B	Nursing Research and Practice, Thomas, 2014	Examining End-of-Life Case Management: Systematic Review	The findings from these studies are contradictory; four studies found economic benefit while two did not.
B	Health and Social Care in the Community, Eklund, 2009	Outcomes of coordinated and integrated interventions targeting frail elderly people: a systematic review of randomized controlled trials	1/4 studies showed a reduction in costs among CM clients. 3/4 studies reported no difference in cost between the study and the control group.

Quality	Source	Title	COST
C	Journal of Emergency Medicine, Kumar, 2013	Effectiveness of case management strategies in reducing emergency department visits in frequent user patient populations: a systematic...	Of the four studies that reported cost outcomes, all cited a reduction in ED cost [for] patients enrolled in CM interventions. In three pre- and post-intervention [signific]ant reductions in ED costs were noted.
C	Journal of Clinical... N...		...eviewed here does suggest that nurses working in a 'case ...tyle with LTC are value for money as well as clinically effective.
			...howed the impact of community-based CM and its cost ...lendenning-Napoli et al. (2012) found that post-intervention ...ts were reduced compared to pre-intervention costs (P = 0.004). Reducing hospital utilization with significant reductions in readmissions and hospitalizations my result in total healthcare cost effectiveness (Glendenning-Napoli et al. 2012). Lim et al. (2003) found that there were no differences in community services costs between groups; however, the intervention group's hospitalization costs were significantly lower than the control group. Therefore, CM produced total cost effectiveness.
C	Professional Case Management, Chiu, 2007	A Systematic Review of Nurse-Assisted Case Management to Improve Hospital Discharge Transition Outcomes for the Elderly	Healthcare expenditure comparisons were included in 6 of the case management studies. All of these studies showed lower expenditures in the intervention group. In most studies, comparisons were for hospital expenditures, but a few included community service expenditures (e.g., home health nursing, personal care, and Meals on Wheels) and the cost of the intervention.
C	Journal of the American Geriatric Society, Boult, 2009	Successful Models of Comprehensive Care for Older Adults with Chronic Conditions: Evidence for the Institute of Medicine's "Retooling for an Aging America" Report	1/3 studies found that CM was less expensive than usual care. 2/3 studies reported no difference in cost between CM and usual care.

Sono disponibili analisi economiche parziali che hanno prodotto CONTRASTANTE EVIDENZA sul fatto che il case management determini una riduzione dei costi

QUALITÀ DELLE CURE	FORZA DELLE EVIDENZE
Aderenza alle linee-guida	**FORTI** evidenze che il CM aumenti la probabilità del paziente di essere trattato in linea con le migliori evidenze scientifiche
Compliance dei pazienti	**CONTRASTANTI** evidenze che il CM migliori la compliance dei pazienti

ESITI DI SALUTE	FORZA DELLE EVIDENZE
Soddisfazione del paziente	**FORTI** evidenze che il CM aumenti la soddisfazione dei pazienti
Depressione	**MODERATE** evidenze che il CM riduca la depressione dei pazienti
Qualità di vita	**CONTRASTANTI** evidenze che il CM migliori la qualità di vita dei pazienti
Outcome intermedi	**CONTRASTANTI** evidenze che il CM migliori gli outcome intermedi dei pazienti
Stato funzionale	**CONTRASTANTI** evidenze che il CM migliori lo stato funzionale dei pazienti
Sopravvivenza	**FORTI** evidenze che il CM **NON** aumenti la sopravvivenza dei pazienti

UTILIZZO DI RISORSE	FORZA DELLE EVIDENZE
Cure primarie (istituzionalizzazione)	**CONTRASTANTI** evidenze che il CM modifichi o ritardi l'istituzionalizzazione dei pazienti
Accessi al PS	**CONTRASTANTI** evidenze che il CM riduca gli accessi al PS
Durata della degenza	**CONTRASTANTI** evidenze che il CM riduca i giorni di ospedalizzazione
Costi	**CONTRASTANTI** evidenze che il CM riduca i costi
Ospedalizzazione	**FORTI** evidenze che il CM **NON** riduca i ricoveri ospedalieri (maggiore efficacia se vengono selezionati pazienti ad alto rischio e se l'intervento è più intenso)

RISULTATI

Quesito 2)

L'EFFICACIA DEL CM CAMBIA IN FUNZIONE DELLE CARATTERISTICHE DELL'INTERVENTO?

	MDT/ Single case manager	Low/ Intermediate high PHC	Judge-ment/ Modelling	Social worker included/ Not included
Mortality (short-term)	👍	👉	👍	👍
Mortality (long-term)	👉	👍	👉	👉
Self-rated health (short-term)	👍	👍	−	👍
Utilisation of primary care (short-term)	👉	👉	−	👉
Utilisation of secondary care (short-term)	👍	👉	👎	👍
Utilisation of secondary care (long-term)	👉	👉	👉	👉

👉 Uguale
👍 A favore del case managment
👎 A favore dell' 'usual care'

CARATTERISTICHE DEGLI INTERVENTI	
Setting	Il setting in cui viene realizzato il CM NON sembra influire sull'efficacia dell'intervento
Formazione e competenze del Case manager	Ci sono alcune evidenze che **la formazione degli infermieri-case managers**, **l'uso di protocolli di gestione clinica e la collaborazione fra il case manager e un medico (o un team multidisciplinare) specialista** nella patologia specifica dei pazienti, determinino in una maggior efficacia degli interventi
Intensità e durata del Case Management	Studi condotti su diversi gruppi di pazienti suggeriscono che **interventi di CM più intensi (maggior tempo di contatto coi pazienti, maggior durata dell'intervento, contatto diretto piuttosto che telefonico) producono risultati migliori**, soprattutto riguardo al miglioramento del functional status e alla riduzione dei tassi di ospedalizzazione
Compiti del Case manager	La maggior parte degli studi non misura il carico di lavoro che i case managers dedicano a ciascuna delle loro diverse funzioni, rendendo difficile comprendere su quali funzioni sia più utile investire per aumentare l'efficacia degli interventi di CM

Effective Health Care Program

Comparative Effectiveness Review
Number 99

Outpatient Case Management for Adults With Medical Illness and Complex Care Needs

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RISULTATI

QUESITO 3)

EFFICACIA DEL CM NEI PAZIENTI SELEZIONATI PER SPECIFICA PATOLOGIA CRONICA

QUALITÀ DELLE CURE	FORZA DELLE EVIDENZE	DEMENZA
Aderenza alle linee-guida	**FORTI** evidenze che il CM aumenti la probabilità del paziente di essere trattato in linea con le migliori evidenze scientifiche	

ESITI DI SALUTE	FORZA DELLE EVIDENZE
Soddisfazione del paziente	**MODERATE-FORTI** evidenze che il CM aumenti la soddisfazione ddei pazienti
Salute mentale e depressione	**CONTRASTANTI** evidenze che il CM migliori la salute mentale e riduca la depressione dei pazienti (migliori risultati con l'allungamento del follow-up oltre l'anno)
Qualità di vita	**CONTRASTANTI** evidenze che il CM migliori la qualità di vita dei pazienti
Stato funzionale	**FORTE** evidenza che il CM **NON** migliori lo stato funzionale dei pazienti
Percezione della propria salute	**FORTE** evidenza che il CM **NON** aumenti lo stato di salute percepito dai pazienti
Sopravvivenza	**FORTE** evidenza che il CM **NON** aumenti la sopravvivenza

UTILIZZO DI RISORSE	FORZA DELLE EVIDENZE
Cure primarie (ISTITUZIONALIZZAZIONE)	**CONTRASTANTI** evidenze che il CM modifichi o ritardi l'istituzionalizzazione dei pazienti
Accessi al PS	**FORTE** evidenza che il CM **NON** riduca gli accessi al PS
Durata della degenza	**CONTRASTANTI** evidenze che il CM riduca i giorni di ospedalizzazione
Costi	**CONTRASTANTI** evidenze che il CM riduca i costi
Ospedalizzazione	**FORTE** evidenza che il CM **NON** riduca i ricoveri ospedalieri (maggiore efficacia se vengono selezionati pazienti ad alto rischio)

QUALITÀ DELLE CURE	FORZA DELLE EVIDENZE	DISORDINI MENTALI
Compliance dei pazienti	**FORTI** evidenze che il CM aumenti la compliance dei pazienti e riduca il tasso di abbandono delle cure	
ESITI DI SALUTE	**FORZA DELLE EVIDENZE**	
Soddisfazione del paziente	**FORTI** evidenze che il CM aumenti la soddisfazione dei pazienti	
Depressione e salute mentale	**MODERATE-FORTI** evidenze che il CM migliori la salute mentale e riduca la depressione e i sintomi dei pazienti	
Qualità di vita	**FORTE** evidenza che il CM **NON** migliori la qualità di vita dei pazienti	
Sopravvivenza	**FORTE** evidenza che il CM **NON** aumenti la sopravvivenza	
UTILIZZO DI RISORSE	**FORZA DELLE EVIDENZE**	
Cure primarie	**MODERATE-FORTI** evidenze che il CM aumenti i contatti con i servizi di salute mentale	
Durata della degenza	**CONTRASTANTI** evidenze che il CM riduca i giorni di ospedalizzazione	
Costi	**CONTRASTANTI** evidenze che il CM riduca i costi	
Ospedalizzazione	**FORTE** evidenza che il CM **NON** riduca i ricoveri ospedalieri	

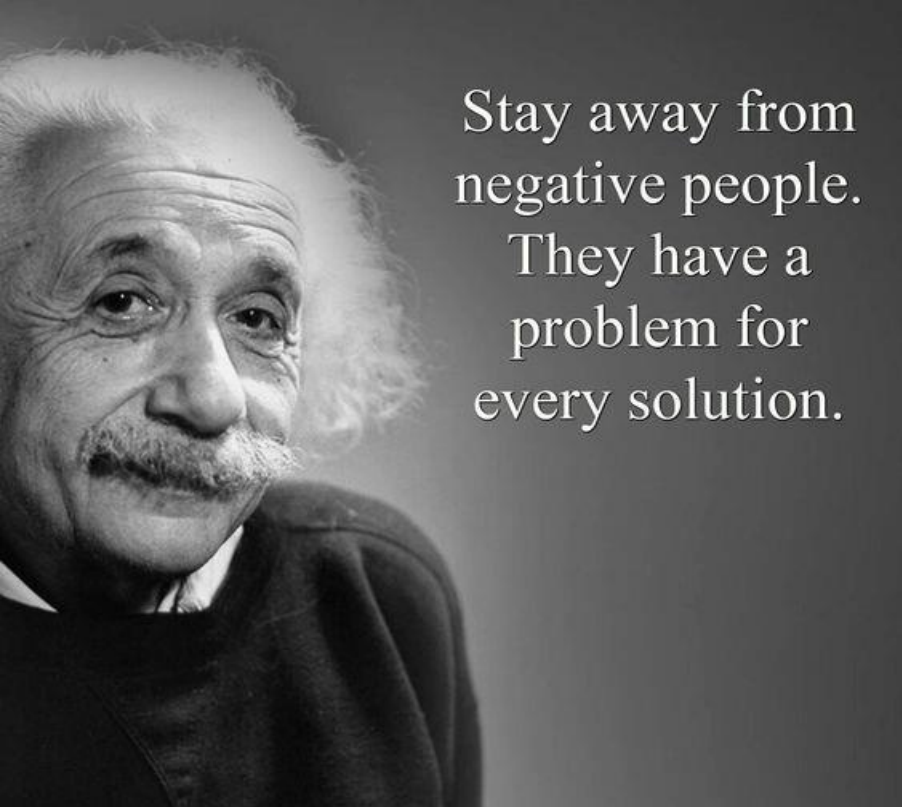| QUALITÀ DELLE CURE	FORZA DELLE EVIDENZE DIABETE
Aderenza alle linee-guida e compliance dei pazienti	**MODERATE-FORTI** evidenze che il CM aumenti l'aderenza alle linee-guida e la compliance dei pazienti
ESITI DI SALUTE	**FORZA DELLE EVIDENZE**
Qualità di vita	**FORTI** evidenze che il CM migliori la qualità di vita dei pazienti
Outcome clinici	**FORTI** evidenze che il CM migliori il controllo glicemico, mentre sono **CONTRASTANTI** per lipidemia, pressione sanguigna e peso corporeo
Soddisfazione del paziente	**CONTRASTANTI** evidenze che il CM aumenti la soddisfazione dei pazienti
Sopravvivenza	**FORTE** evidenza che il CM **NON** aumenti la sopravvivenza
UTILIZZO DI RISORSE	**FORZA DELLE EVIDENZE**
Costi	**FORTE** evidenza che il CM **NON** riduca i costi
Ospedalizzazione	**FORTE** evidenza che il CM **NON** riduca i ricoveri ospedalieri (maggiore efficacia se vengono selezionati pazienti ad alto rischio)
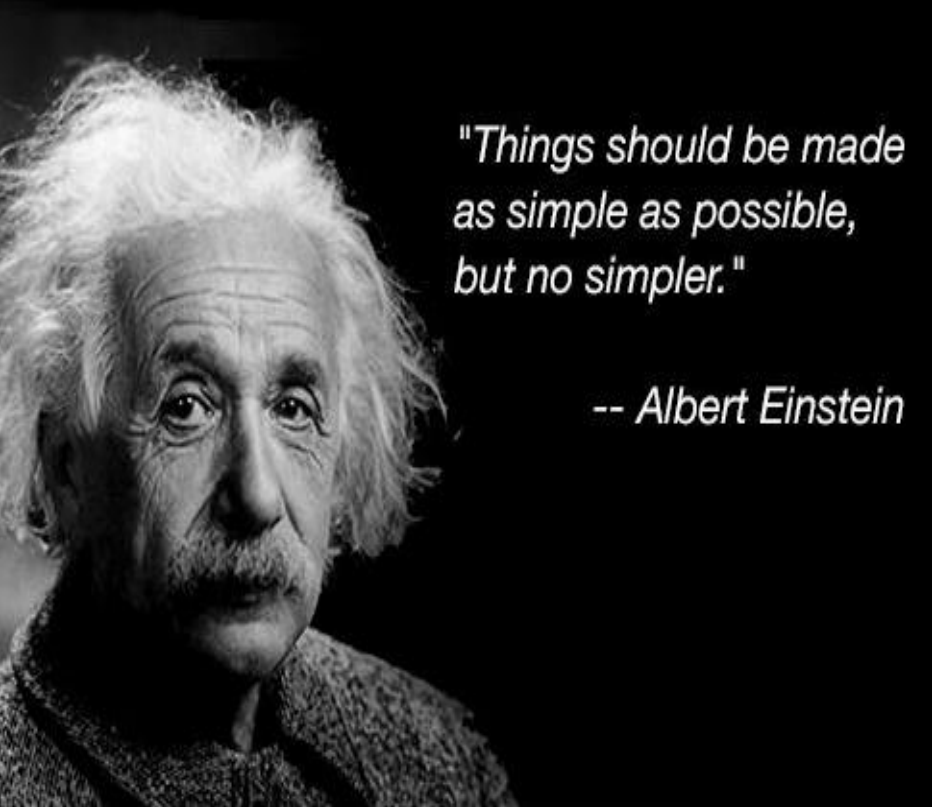
QUALITÀ DELLE CURE	FORZA DELLE EVIDENZE — CANCRO
Aderenza alle linee-guida	**FORTI** evidenze che il CM aumenti l'aderenza alle linee-guida
ESITI DI SALUTE	**FORZA DELLE EVIDENZE**
Qualità di vita	**FORTI** evidenze che il CM migliori la qualità di vita dei pazienti
Outcome clinici	**FORTI** evidenze che il CM migliori il controllo di sintomi
Soddisfazione del paziente	**FORTI** evidenze che il CM aumenti la soddisfazione dei pazienti
Sopravvivenza	**FORTE** evidenza che il CM **NON** aumenti la sopravvivenza
UTILIZZO DI RISORSE	**FORZA DELLE EVIDENZE**
Costi	**FORTE** evidenza che il CM **NON** riduca i costi
Ospedalizzazione	**FORTE** evidenza che il CM riduca i ricoveri ospedalieri

QUALITÀ DELLE CURE	FORZA DELLE EVIDENZE	SCOMPENSO CARDIACO
Aderenza alle linee-guida	**FORTI** evidenze che il CM aumenti l'aderenza ai corretti comportamenti di self management	
ESITI DI SALUTE	**FORZA DELLE EVIDENZE**	
Qualità di vita	**FORTI** evidenze che il CM migliori la qualità di vita dei pazienti	
Soddisfazione del paziente	**FORTI** evidenze che il CM aumenti la soddisfazione dei pazienti	
Sopravvivenza	**FORTE** evidenza che il CM **NON** aumenti la sopravvivenza	
UTILIZZO DI RISORSE	**FORZA DELLE EVIDENZE**	
Primary care	**FORTE** evidenza che il CM **NON** riduca i costi	
Ospedalizzazione	**Moderata** evidenza che il CM riduca i ricoveri ospedalieri	

LIMITI DELLA REVISIONE

Stay away from negative people. They have a problem for every solution.

"Things should be made as simple as possible, but no simpler."

-- Albert Einstein

REGRESSION TO THE MEAN

Nel caso dei pazienti complessi, scelti come i pazienti ad esempio che hanno avuto un alto numero di ospedalizzazioni l'anno precedente (o i pazienti a più alto costo), una parte di loro avrà una tendenza normale alla regressione verso i valori medi. L'importante è non attribuire questo fenomeno all'intervento ma alla naturale regressione del fenomeni verso la loro media.
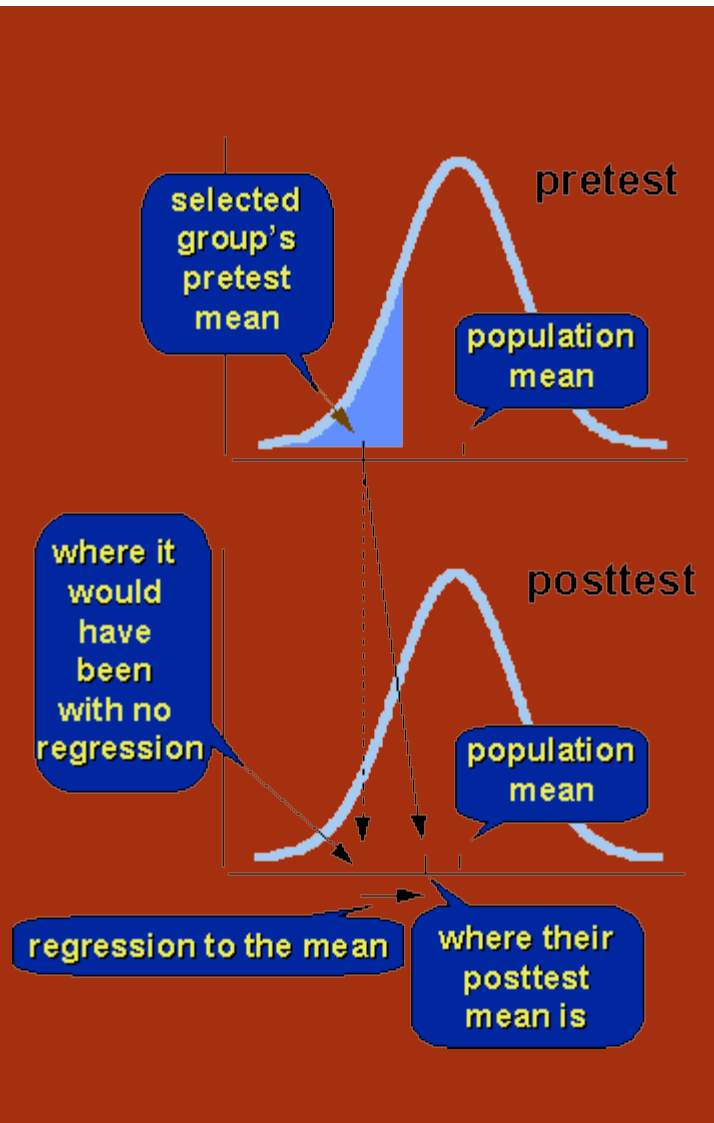
VARIABILITÀ DELL'OUTCOME PUÒ ESSERE SPIEGATA DALLA VARIABILITÀ DEGLI INTERVENTI INCLUSI

- Differenti paesi con diversa tipologia di sistema sanitario in cui viene erogato l'intervento
- Differenti tipologie di finanziamento
- Differenti obiettivi del case management
- **Pazienti individuati attraverso diverse tecniche di stratificazione e reclutamento (registri, database amministrativi, etc…)**
- **Differenti tipologie di pazienti**
- Modalità di erogazione dell'intervento (contatto telefonico, visite domiciliari, etc..)
- **Differenti componenti dell'intervento**
- **Differenti componenti delle componenti dell'intervento**

- Case manager (singolo professionista o di team)
- Differente istruzione e background formativo del case manager
- Differente tipologia di case manager coinvolti (medici o infermieri).
- Differente composizione del team
- Differenti tempistiche nel follow-up e nella misurazione degli outcome
- Differenti scale utilizzate per la misurazione degli outcome

IDENTIFICAZIONE E SELEZIONE DEI PAZIENTI

- *Identificazione dei pazienti che possono beneficiare di un servizio di case management.*

Predictive Model	Sviluppato utilizzando una combinazione di "*leading and lagging indicator*" per evidenziare i pazienti a rischio di sviluppare complicazioni. "*Leading indicators*": possono predire un cambiamento/peggioramento delle condizioni cliniche (es. variazione della terapia). "*Lagging indicators*": indicatori che compaiono dopo un evento (es. ospedalizzazione).
Functional Impairment	Basato su un numero di attività della vita quotidiana che richiedono assistenza. Il grado di **dipendenza** è utilizzato per individuare quei pazienti che possono beneficiare di interventi di case management.
Recent Resource Selected for Case Management Following Recent Usage	**Utilizza le ospedalizzazioni e le dimissioni dall'ospedale** (generalmente riferite a specifiche condizioni cliniche) per individuare i paziente che possono entrare in un percorso di case management.
Population Programme	I servizi di case management sono costruiti in **funzione dei bisogni (e.g portatore di PEG)**.
Combination Model	Utilizza una **combinazione degli approcci** sopra descritti, combinando l'utilizzo delle risorse, il grado di dipendenza e il numero di condizioni croniche di cui un paziente è affetto.

STRUMENTI DI IDENTIFICAZIONE DISPONIBILI

Integrazione tra Primary Care e Acute Setting:

- Hospital Admission Risk Prediction (HARP)
- Victorian HARP
- John Hopkins ACG tool
- PARR (Patients at Risk of Readmission), the SPARRA (Scottish-Patients at risk of Re-admission and the SPARRAMH (SPARRA Mental Health)
- Combined Predictive Model
- CHADS (Congestive heart failure, Hypertension, Age >75 years and Diabetes, prior Stroke)
- LACE
- PRISM (Canadian)
- Health numerics-RISC
- Charlson Index

Solo Primary Care:

- Qadmissions15
- EARLI (Emergency Admission Risk Likelihood Index): This is a UK tool for use in Primary Care. It is a 6 item questionnaire developed from data from patients aged over 75 years.
- PEONY (Predicting Emergency Admissions over the next year): this is a UK tool for use in Primary Care for those aged 40-65 years.

DIFFERENTI COMPONENTI INCLUSE NEL CASE MANAGEMENT

|	Somers 2000	Landi 2001	Caplan 2004	Coleman 2004	Stott 2006	Keating 2008	Peleg 2008	Burns 2000	Hughes 2000	Schraeder 2001	Phelan 2002	Brand 2004	Young 2005
Sructured intervention	X	X	X	X	X	X	X	X		X	X	X	
Team training in intervention	X	X		X			X		X				
Comprehensive geriatric assessment		X	X		X	X	X	X					
Multi-disciplinary collaboration	X	X	X		X	X	X	X					X
Individualized care plan	X	X	X	X	X	X	X			X	X	X	
Patient education	X			X			X	X		X	X	X	
Patient self-management	X			X			X			X	X	X	
Treatment in hospital prior to discharge	X		X	X									X
Post-discharge treatment only		X					X	X	X	X			
Treated in clinic setting		X					X	X		X	X	X	X
Home treatment	X	X	X	X	X		X			X	X		
Long-term intervention > 3 months		X			X			X	X	X	X		
Short-term intervention < 3 months	X		X	X			X						X
On call service									X			X	
Medications management	X			X	X		X			X		X	

DIFFERENTI «COMPONENTI» DELLE COMPONENTI

Table 2.12 Section three: components of self-care support interventions and outcomes in nurse case management studies

Study	Components of self-care support								Delivery of patient education			Outcome measures with direction of effect								
	Patient education	Provider education	Exercise	Medication and treatment management/appointment reminders	Patient and carer psychological support	Dietary advice	Carer education	Technology	Self-care support groups	Individual self-care support	Written materials	Physical functioning	Illness knowledge	Exercise and diet	Pain	Treatment adherence	Depression and anxiety	Satisfaction	Quality of life	Health service use
Aadalen, 1998[1]	✓						✓			✓	✓	↔					↔	↑		
Allen, 1999[2]	✓						✓			✓										↓
Blue et al., 2001[6a]; Stewart & Blue, 2001[6b]	✓	✓	✓	✓	✓	✓	✓			✓	✓									↓
Boaden et al., 2005[7a]; Sargent et al., 2007[7b]; Gravelle et al., 2006[7c]	✓		✓	✓	✓	✓	✓			✓	✓								↑[d]	↔
Boyd & Fisher, 1996[8]				✓	✓					✓										↓
Brown et al., 2004[10a]; Brown et al., 2007[10b]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	↔	↔	↔	↔	↔ / ↑	↔	↑		↔
Challis et al., 2002[11]	✓		✓	✓	✓		✓	✓	✓											↓
Dorr et al., 2005[12]	✓			✓	✓				✓	✓	✓					↑				
Enguidanos et al., 2003[13]	✓			✓	✓					✓		↔					↔	↔		↔
Fitzgerald et al., 1994[14]	✓			✓	✓	✓	✓	✓[a]			✓									↑[b]
Gagnon et al., 1999[15a]; Schein et al., 2005[15b]	✓			✓	✓		✓			✓		↔				↔	↔	↔	↔	↔↑
Kemper, 1988[16a]; Carcagno & Kemper, 1988[16b]					✓							↔						↔ / ↑[c]	↑	↔

Follow-Up

DIFFERENTI TEMPISTICHE DEL FOLLOW-UP PER LA MISURAZIONE DEGLI OUTCOME

Gli studi introdotti nella review hanno un follow-up compreso tra 3 mesi e 3 anni
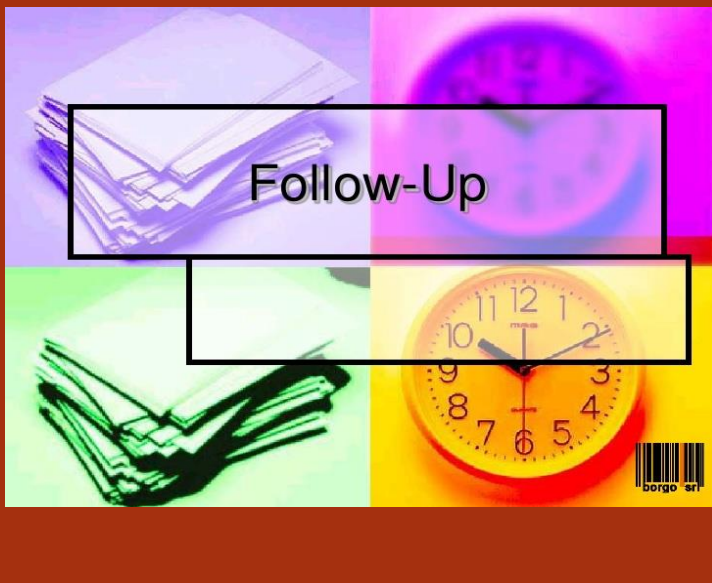
PRATICAL ISSUE

- Center for Care Innovations. Karen W. Linkins, Jennifer J. Brya, Sheryl Goldberg. **Health Home Innovation Fund: Strategies and Models for Care Coordination and Complex Care Management**. 2013

- Thomas Bodenheimer, Rachel Berry-Millett. Robert Wood Johnson Foundation. **Care management of patients with complex health care needs**. Research Synthesis Report No. 19 December 2009.

- Centre for Reviews and Dissemination. University of York. **Interventions to reduce unplanned admissions from care home settings funded by the NIHR Health Services and Delivery Research Programme** (Project ref: 12/5002/18).

- Case Management Society of America. **Standards of Practice for Case Management**. Revised 2010

- Giovanna Giuliani Director, California Quality Collaborative. **Complex Care Management Toolkit**. April 2012. Available at: http://www.calquality.org/storage/documents/cqc_complexca remanagement_toolkit_final.pdf

STRATEGIE PER MIGLIORARE L'EFFICACIA/ EFFICIENZA DEL CM

1. Una delle caratteristiche di interventi di successo (in termini di riduzione dei tassi di riammissione) era che l' intervento fosse chiaramente strutturato e definito e fosse prevista una **riunione del team condotta regolarmente per la discussione dei casi**.

2. La presenza della **Collaborazione multidisciplinare** era un elemento che si presentava più frequentemente negli interventi efficaci (es. social workers, psichiatri, psicologi, geriatri etc.)

3. I **piani di assistenza individualizzato** era presente in tutti gli interventi di successo.

4. **Valutare pazienti in casa** sembra migliorare il successo dell'intervento

5. La **valutazione geriatrica complessiva** era più frequente usata negli interventi efficaci.

STRATEGIE PER MIGLIORARE L'**EFFICACIA/ EFFICIENZA** DEL CM

❑ Utilizzare sistemi di **tele-health visits** (*Tortajada, Case Management for Patients with Complex Multimorbidity: Development and Validation of a Coordinated Intervention between Primary and Hospital Care*)

❑ Utilizzare sistemi di **geo-localizzazione** per pianificare le visite domiciliari

❑ Sviluppare un **sistema a scalini per programmare la frequenza dei contatti** (ed eventuali criteri di uscita dal programma)

❑ Analizzare i dati di popolazione per **monitorare l'utilizzo dei servizi**

STRATEGIE PER MIGLIORARE L'<u>EFFICACIA/EFFICIENZA</u> DEL CM

➢ **Coinvolgimento dei Health Coaches** (educatori professionali), opportunamente formati, possono essere molto efficaci nel migliorare le capacità di self-care del paziente

➢ Utilizzare **tecniche di coaching** per rafforzare la capacità dei pazienti/familiari per notare segni o sintomi che richiedono un intervento

➢ **Collaborare** attivamente con gli **assistenti sociali**

➢ Sostenere **formazione continua** per rafforzare e migliorare le competenze

➢ **Individuare obiettivi** a breve termine e a lungo termine

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visiv...
Poss...

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- ... ...ella
- ... ...ali;
- ... ...e del
- ... ...erenza al

Misurazioni all'ingresso e (per alcune) di valutazione delle performance:

- **Stato funzionale**
- **Condizioni fisiche**:
  - Parametri metabolici: diabete, pressione arteriosa, profilo lipidico
  - Stato di salute e qualità della vita (SF-12)
- ***Patient experience***
- **Comportamenti psico-sociali**:
  - Depressione (PHQ-9)
  - Storia di abuso, violenza o trauma
  - Storia di abuso di sostanze

- **Aspetto sociale**:
  - Supporto familiare o di altro tipo
  - Capacità e disponibilità di caregivers
  - Aspetto finanziario
  - *Recreational/leisure pursuits*
  - Possibilità di trasporto e limitazioni
- **Performance congnitive e culturali**:
  - Compliance terapeutica
  - *Patient Activation Measure (PAM)*
  - Utilizzo della tecnologia
  - Capacità di self-care
  - *Health literacy*
  - Aspettative di salute

Il ca... ...raggiunto tra paziente, familiari/care-giver e il personale sanitario dei servizi di cura rispetto ai problemi identificati e alle opportunità di intervento

IDENTIFICAZIONE E SELEZIONE DEI PAZIENTI

Stratificando la popolazione rispetto al potenziale beneficio è fondamentale sia per massimizzare l'efficacia degli interventi (qualità) che per migliorare l'efficienza (costi)

MAGGIOR BENEFICIO	MINOR BENEFICIO
Pazienti affetti da **più condizioni croniche**, e **quindi ad alto rischio di cure costose**	Pazienti che **non presentano un elevato rischio di incorrere in un peggioramento** delle condizioni cliniche (ospedalizzazione, accessi in pronto soccorso, visite specialistiche urgenti, etc.)
Pazienti in condizioni cliniche meno severe (no fine-vita) ma con un **carico di bisogni socio-sanitari importante**	Pazienti in **condizioni cliniche troppo compromesse** (altri modelli di cura, ad es. cure palliative, hospice, etc.)

.....NOT ....THE END

" The important thing is to never stop questioning. "

Albert Einstein

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The Social Network: a concept to improve the quality of life for an ageing population while reducing loading on the NHS

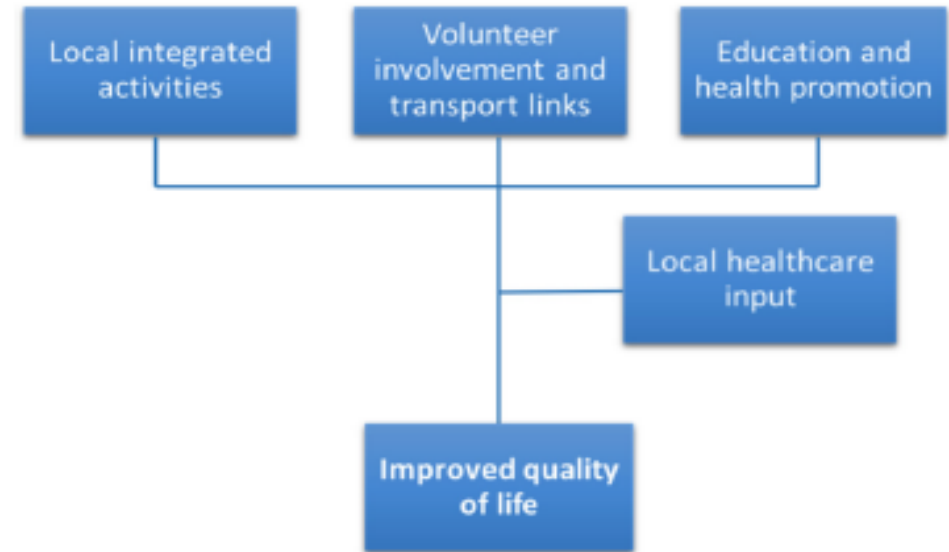Efioanwan Andah,[1] Maheen Ahsan,[1] Roy Lee,[2] Edward Brewin,[2] Kasim Ahmed[1]

Figure 1   Simplified outline of the proposal for The Social Network.