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Cochrane Database of Systematic Reviews 2017, Issue 9. Art. No.: CD006211.

DOI: 10.1002/14651858.CD006211.pub3.

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[Intervention Review]

Comprehensive geriatric assessment for older adults admitted to hospital

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Editorial group: Cochrane Effective Practice and Organisation of Care Group.
Publication status and date: New search for studies and content updated (no change to conclusions), published in Issue 9, 2017.

Citation: Ellis G, Gardner M, Tsiachristas A, Langhorne P, Burke O, Harwood RH, Conroy SP, Kircher T, Somme D, Saltvedt I, Wald H, O'Neill D, Robinson D, Shepperd S. Comprehensive geriatric assessment for older adults admitted to hospital. *Cochrane Database of Systematic Reviews* 2017, Issue 9. Art. No.: CD006211. DOI: 10.1002/14651858.CD006211.pub3.

ABSTRACT

Background

Comprehensive geriatric assessment (CGA) is a multi-dimensional, multi-disciplinary diagnostic and therapeutic process conducted to determine the medical, mental, and functional problems of older people with frailty so that a co-ordinated and integrated plan for treatment and follow-up can be developed. This is an update of a previously published Cochrane review.

Objectives

We sought to critically appraise and summarise current evidence on the effectiveness and resource use of CGA for older adults admitted to hospital, and to use these data to estimate its cost-effectiveness.

Search methods

We searched CENTRAL, MEDLINE, Embase, three other databases, and two trials registers on 5 October 2016; we also checked reference lists and contacted study authors.

Selection criteria

We included randomised trials that compared inpatient CGA (delivered on geriatric wards or by mobile teams) versus usual care on a general medical ward or on a ward for older people, usually admitted to hospital for acute care or for inpatient rehabilitation after an acute admission.

Data collection and analysis

We followed standard methodological procedures expected by Cochrane and Effective Practice and Organisation of Care (EPOC). We used the GRADE approach to assess the certainty of evidence for the most important outcomes. For this update, we requested individual patient data (IPD) from trialists, and we conducted a survey of trialists to obtain details of delivery of CGA. We calculated risk ratios (RRs), mean differences (MDs), or standardised mean differences (SMDs), and combined data using fixed-effect meta-analysis. We estimated cost-effectiveness by comparing inpatient CGA versus hospital admission without CGA in terms of cost per quality-adjusted life year (QALY) gained, cost per life year (LY) gained, and cost per life year living at home (LYLAH) gained.

Main results

We included 29 trials recruiting 13,766 participants across nine, mostly high-income countries. CGA increases the likelihood that patients will be alive and in their own homes at 3 to 12 months' follow-up (risk ratio (RR) 1.06, 95% confidence interval (CI) 1.01 to 1.10; 16 trials, 6799 participants; high-certainty evidence), results in little or no difference in mortality at 3 to 12 months' follow-up (RR 1.00, 95% CI 0.93 to 1.07; 21 trials, 10,023 participants; high-certainty evidence), decreases the likelihood that patients will be admitted to a nursing home at 3 to 12 months follow-up (RR 0.80, 95% CI 0.72 to 0.89; 14 trials, 6285 participants; high-certainty evidence) and results in little or no difference in dependence (RR 0.97, 95% CI 0.89 to 1.04; 14 trials, 6551 participants; high-certainty evidence). CGA may make little or no difference to cognitive function (SMD ranged from -0.22 to 0.35 (5 trials, 3534 participants; low-certainty evidence)). Mean length of stay ranged from 1.63 days to 40.7 days in the intervention group, and ranged from 1.8 days to 42.8 days in the comparison group. Healthcare costs per participant in the CGA group were on average GBP 234 (95% CI GBP -144 to GBP 605) higher than in the usual care group (17 trials, 5303 participants; low-certainty evidence). CGA may lead to a slight increase in QALYs of 0.012 (95% CI -0.024 to 0.048) at GBP 19,802 per QALY gained (3 trials; low-certainty evidence), a slight increase in LYs of 0.037 (95% CI 0.001 to 0.073), at GBP 6305 per LY gained (4 trials; low-certainty evidence), and a slight increase in LYLAH of 0.019 (95% CI -0.019 to 0.155) at GBP 12,568 per LYLAH gained (2 trials; low-certainty evidence). The probability that CGA would be cost-effective at a GBP 20,000 ceiling ratio for QALY, LY, and LYLAH was 0.50, 0.89, and 0.47, respectively (17 trials, 5303 participants; low-certainty evidence).

Authors' conclusions

Older patients are more likely to be alive and in their own homes at follow-up if they received CGA on admission to hospital. We are uncertain whether data show a difference in effect between wards and teams, as this analysis was underpowered. CGA may lead to a small increase in costs, and evidence for cost-effectiveness is of low-certainty due to imprecision and inconsistency among studies. Further research that reports cost estimates that are setting-specific across different sectors of care are required.

PLAIN LANGUAGE SUMMARY

Comprehensive geriatric assessment for older adults admitted to hospital

What is the aim of this review?

The aim of this Cochrane Review was to find out if organised and co-ordinated specialist care (known as comprehensive geriatric assessment, or CGA) can improve care provided to older people admitted to hospital. Researchers at Cochrane collected and analysed all relevant studies to answer this question and included 29 trials in the review.

Key messages

Giving older people who are admitted to hospital access to specialist co-ordinated geriatric assessment (CGA) services on admission to hospital increases the chances that they will be alive in their own homes at follow-up.

What was studied in the review?

Older people admitted to hospital may have multiple, complex, and overlapping problems. They are more prone to rapid loss of independence during an acute illness, leading to potential admission to a nursing home. Some of this decline might be avoided if care needs are identified appropriately and if treatment is co-ordinated and managed. Specialist co-ordinated care (known as comprehensive geriatric assessment, or CGA) was developed to address medical, social, mental health, and physical needs with the help of a skilled multi-disciplinary team. The aims are to maximise recovery and to return patients to previous levels of function when possible. In hospital, CGA is carried out on a geriatric ward, or on a general ward that is visited by a specialist geriatric team.

What are the main results of the review?

Review authors found 29 relevant trials from nine countries that recruited 13,766 people. These studies compared CGA with routine care for patients over 65 who were admitted to hospital. Most trials evaluated CGA that was provided on a specialised hospital ward or across several wards by a mobile team. The review shows that older people who receive CGA rather than routine medical care after admission to hospital are more likely to be living at home and are less likely to be admitted to a nursing home at up to a year after hospital admission.

We found no evidence that CGA reduces risk of death during follow-up at up to a year after admission, and we noted that CGA appeared to make little or no difference in dependence (whether patients need help for everyday activities such as feeding and walking).

We found too much variation in cognitive function and length of hospital stay to draw a conclusion. Uncertainty regarding the cost-effectiveness analysis suggests that further research is needed.

How up-to-date is this review?

Review authors searched for studies that had been published up to 5 October 2016.