

Delivering comprehensive geriatric assessment in new settings: advice for frontline clinicians

JRF Gladman

Professor of the Medicine of Older People and Honorary Consultant in Health Care of Older People, Nottingham University Hospitals NHS Trust, Nottingham, UK

ABSTRACT Over the decades, as the principles of comprehensive geriatric assessment have been established, there have been attempts to apply its principles to settings other than acute hospital medical wards or the general community-dwelling older population, for example, to other settings where older people with infirmity are found. The purpose of this paper is to describe and reflect upon the application of and evidence for comprehensive geriatric assessment in these new settings and give some advice to clinicians about how to optimise their contributions to these processes. I will state my advice having first discussed intermediate care, emergency surgery (hip fracture), elective surgery, dementia and delirium care, emergency care, cancer care, and the care of residents of care homes (mindful of the irony of calling the latter a new setting, given that geriatric medicine originated in long term care).

KEYWORDS care homes, comprehensive geriatric assessment, emergency care, intermediate care, oncogeriatrics, orthogeriatrics

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Correspondence to JRF Gladman
 Division of Rehabilitation and Ageing
 B Floor Medical School
 Queen's Medical Centre
 Nottingham NG7 2UH
 UK

e-mail john.gladman@nottingham.ac.uk

INTRODUCTION

The unprecedented increase in human longevity observed in recent decades has not been without its drawbacks. Some of the extra years gained are years lived in good health, but some are extra years of infirmity. This infirmity is characterised by multimorbidity, disability and frailty. The usual model of healthcare designed for non-disabling single conditions in otherwise robust people does not seem appropriate for infirmity. Comprehensive geriatric assessment (CGA) is a model of healthcare designed to address infirmity.¹ At its heart is a thorough, multi-domain (hence comprehensive) assessment of the patient. These domains include physical health, mental and psychological health, disability and functioning, alongside social determinants and environmental determinants of health and wellbeing. Typically the assessment is multidisciplinary. In CGA, this is used to produce a care or management plan, which requires an interdisciplinary team to deliver. In CGA the plan is then put into practice, and there is careful team follow-up with iterative assessment to ensure the goals of the care plan are achieved. CGA can be contrasted with a model of care where one individual or professional assesses a single health problem aiming to identify a specific disease and hence a specific single treatment. CGA is applied to people who show features of infirmity, for example those who present with non-specific and geriatric conditions such as falls, confusion, and reduced mobility.

The evidence base demonstrating the benefits of the CGA approach compared to usual care has been well established through randomised controlled trials and their meta-analyses. The first full meta-analysis was published in 1993,² demonstrating improved outcomes in terms of odds ratios for living at home at follow-up of 1.68 for hospital units delivering CGA, 1.49 for services delivering CGA across both the hospital and community, and 1.22 for home-based CGA. Gawande³ describes how astounding he found the CGA process and opined that if, instead of being a simple process, CGA was a drug or device (a 'defrailulator') it would excite the population, government and industry. Instead, he observed, this gift from geriatric medicine has not always been greeted with the take-up it might deserve. One can speculate whether this is because of the word 'geriatric', which in the UK at least is almost taboo outside of professional circles, or because of the focus solely upon the start of the process (assessment). The evidence base for CGA may be overlooked if the process is described using alternative phrases such as 'geriatric evaluation and management' or 'integrated care'. There may be concerns over costs, there may be ageist attitudes, and there may be a failure for the evidence base to have been disseminated to policy makers and planners.

Nevertheless, most UK hospitals have geriatric wards and the model of care they provide is, or should be, CGA. Thus, the basics of CGA are implemented in the UK and other countries where geriatric medicine has become established, at least for acute hospital inpatients.

Stroke rehabilitation and services for those who fall also conform to the principles of CGA – even if these services do not use the term.

INTERMEDIATE CARE

Intermediate care is a phrase to describe a sector of care that sits between primary and secondary care. As operationalised in the UK, it refers to short term rehabilitation services, with the aim of averting hospital admission, shortening a hospital admission, or preventing a move into long term institutional care. Intermediate care services can be either home-based or bed-based. The active process in intermediate care is described in the literature as rehabilitation, but as the majority of users are old, disabled and multimorbid, intermediate care therefore provides geriatric rehabilitation, or CGA.

The evidence base for the benefits is generally favourable, but mixed. For example, in a randomised controlled trial of an intermediate care team providing a home-based intervention to shorten hospital length of stay,⁴ it led to an average of nine fewer days in hospital, improved functioning in terms of personal and instrumental activities of daily living ability, and better mental wellbeing for both patients and their family caregivers. It was also cheaper and cost-effective.⁵ A multicentre randomised controlled trial of bed-based post-acute (early discharge) intermediate care in community hospitals also showed benefits in terms of improved instrumental activity of daily living ability.⁶ But not all studies have been so convincing. A randomised controlled trial of post-acute intermediate care in care homes aiming to reduce hospital length of stay and long term institutionalisation shortened the length of hospital stay (but at the expense of an even longer stay in the care homes), had no beneficial effect upon health outcomes, and in fact led to a slight but non-significant increase in long term institutionalisation.⁷ A concurrent qualitative study indicated that although the intermediate care service provided beds, it failed to provide significant rehabilitation or the key elements of CGA.⁸ These results are a salutary reminder of the importance of ensuring that the core processes of CGA need to be delivered if the outcomes are to be achieved: beds and care alone are insufficient. Hospital at home admission avoidance intermediate care services have also failed to demonstrate convincing health benefits,⁹ implying that the benefits of CGA might not necessarily be achievable wherever the process is applied, or that their application has not yet been adequately achieved.

EMERGENCY SURGERY – HIP FRACTURE

Hip fracture is a condition that typically occurs in the infirm and so it is rational to consider that patients who

present to hospital with hip fracture will benefit from services that deliver CGA as opposed to those that focus primarily on the injury and its fixation. Doing so is referred to as ‘orthogeriatrics’ and is the preferred and most widespread model of care in the UK. The implementation of orthogeriatrics has been associated with striking reductions in morbidity and mortality in post-hip fracture patients across the UK, as observed in national hip fracture audits. These improvements are likely to reflect reduced time to surgery and improved anaesthetic techniques as well as CGA. However, to date, the randomised controlled trial evidence base for orthogeriatric care has been rather weak;^{10,11} Cochrane reviews reveal a non-significant 10% reduction in mortality but no benefits in terms of health status outcomes. This might explain why further trials have recently been performed (e.g. Prestmo et al.,¹² who showed improved mobility in the group receiving CGA) and why the model is not yet universal. In countries other than the UK, adoption of this model of care has been slower and further evidence may be useful but may also depend upon the availability of geriatricians.

ELECTIVE SURGERY

The nature of elective surgery is that there is an opportunity to identify those who are infirm and to intervene using the CGA process before surgery in an attempt to avert frailty outcomes such as delirium, other complications and increased length of stay. A systematic review from 2014¹³ revealed a growing evidence base of five studies (two randomised controlled trials and three before and after studies) where CGA had been applied to general and orthopaedic surgery, resulting in a reduced complication rate and a trend towards a reduction in length of stay. A recently completed study of CGA applied to vascular surgery from the St Thomas’ group in London [J Partridge, personal communication, 2016] produced fewer complications and a significantly reduced length of stay. As the evidence of benefit accumulates, it is likely that such services will increasingly be implemented on a routine basis rather than simply as research studies.

DEMENTIA AND DELIRIUM CARE IN HOSPITAL

Both dementia and delirium are common and important exemplars of infirmity. It is becoming widely accepted that the principles of dementia care – and by implication delirium care – are best based on the notion of person-centred care.^{14,15} While person-centred care owes its inspiration to the ethical imperatives to maintain and respect the personhood and the autonomy of patients with dementia or delirium, the resulting process of care in hospital and other healthcare settings are, in effect, CGA: careful, comprehensive assessment, with

coordinated interdisciplinary management and follow-up. A randomised controlled trial comparing a specialist hospital unit that operationalised person-centred care^{16,17} to usual hospital care (including geriatric medical wards) showed better quality of care and carer satisfaction and was cost-effective,¹⁸ although no difference in health status was observed. There was an 8% reduction in institutionalisation but this was not statistically significant. There have been no other robust studies of such units. Whether CGA should be delivered in a specialist unit, or delivered as the standard model for all inpatients with delirium or dementia is yet to be determined. This single study is a demonstration of the feasibility and potential of the more focused application of CGA, but also illustrates the difficulty of conducting randomised controlled trials of new services delivering CGA now that the principles of CGA are in use to some extent in usual, control, care.

EMERGENCY CARE

The evidence base of CGA as demonstrated in the 1993 meta-analysis² was, obviously, based on work before 1993. At the time of writing in 2016, hospital services have changed markedly from when the evidence base was established. In particular, length of stay has fallen and much hospital care is now delivered in emergency departments and other very short stay units. These emergency care settings represent another new setting in which the principles of CGA could be applied for those with infirmity. Recently in the UK there has been considerable interest in doing so, as exemplified by the intercollegiate *Silver Book – Quality care for older people with urgent & emergency care needs*¹⁹ and the Royal College of Physicians' *Acute medical care for frail older people* toolkits.²⁰ Service innovations and research studies have accompanied this recent interest.

One randomised controlled trial evaluated the provision of specialist geriatric medical assessment for patients discharged from hospital acute assessment units, aiming to improve the outcomes of a frail sub-group of such patients and assuming that this would enable the CGA process to be delivered.²¹ In yet another salutatory lesson, no health²² or economic²³ benefits were seen, and a qualitative study²⁴ showed that long term management had not been affected and hence the full CGA process had not properly been delivered. Another service development to deliver CGA in emergency settings has been the acute frailty unit – specific units within emergency care settings in which a rapid version of the CGA process can be commenced. The effectiveness of such units to improve health outcomes presumably depends on the ability to direct subsequent inpatient or community care to deliver the ongoing CGA process. To date no randomised controlled trials of such units have been conducted, although a number of before and after

service evaluations have taken place.²⁵ Service evaluations tend not to be able to examine health outcomes, but they have shown they are able to reduce the proportion of older people admitted to hospital.²⁶ While this has been a policy objective in the UK in recent years, it is not yet clear if there are any benefits to patients. It is not yet clear if acute frailty units do enable CGA and hence improve outcomes, whether they represent a worthwhile investment, or whether more generalised approaches to the recognition management of the infirm are preferable.

CANCER CARE

The choice of surgery, chemotherapy and/or radiotherapy for patients with cancer has traditionally been defined by the histology and staging of the cancer – an approach that takes little account of the infirmity of the patient. This limitation has been recognised as oncologic practice has extended into older and more infirm patients, and so CGA has been applied. A systematic review in 2014²⁷ of four studies showed that simply adding in a comprehensive assessment to the usual oncological assessment altered treatment decisions in between one quarter and a half of cases: one study showed a survival gain for doing so, another showed improved quality of life, another reported more appropriate treatment, although one which had aimed to prevent delirium was not successful. More research is in progress, but it is likely that the recognition of the infirm and the application of the principles of CGA will become an integral part of future oncological practice.

CARE HOME RESIDENTS

The residents of care homes are infirm: the majority have dementia, multimorbidity and considerable disability,²⁸ and so appear to be the ideal recipients of models of care delivering CGA. Countries such as the Netherlands recognise this by having the separate speciality of nursing home medicine, which takes as a given the need for services that deliver the CGA process. A complete review of the entire range of evaluation of service models in care homes is beyond the scope of this paper. However, the evaluations of the Evercare service in the USA are informative. The provision of a service led by an advanced nurse practitioner who conducted comprehensive assessments of residents and provided care supported by a team capable of providing extra support in nursing homes, compared to usual US medical care in a service evaluation, halved the number of admissions to hospital and was associated with considerably reduced healthcare costs – although little is known about the health outcomes of the residents other than that survival was not affected.²⁹ Controlled studies of CGA are not easily conducted, in part because of the difficulty in delivering

the process at scale and partly due to choosing an appropriate comparison. For example, in the UK, care home residents are usually offered a version of GP-led primary care, although this is known to be highly variable³⁰ but which in certain variants approximates to CGA, and recent innovation has led to a plethora of service model variants involving dedicated teams delivering CGA variants.³¹ The questions seem to be which variant or variants of service models delivering CGA are the most efficient, feasible and affordable.

SUMMARY OF THE EVIDENCE

This summary of the evidence gives strong grounds for the argument that CGA is a process that can be implemented in a wider variety of settings where infirm patients are to be found. CGA is not the sole prerogative of the geriatrician. While the randomised controlled trial evidence base of CGA services compared to usual care demonstrates the benefits of the CGA approach, the near ubiquitous nature of infirmity in healthcare settings suggests that the care of those with infirmity should be a standard part of care – ‘frailty is everyone’s business’. This means that CGA is not just the responsibility of geriatricians. The evidence also gives a warning that not all service developments aiming or purporting to deliver CGA actually do so and, as a result, fail to deliver the expected benefits. This means that those developing new services should focus on ensuring the core processes of CGA are actually performed – a focus simply on providing bed, board and care for example will not deliver the benefits of CGA. It also means that further research is required. Such research will increasingly find it difficult to use randomised controlled trial methodology due to rapid service developments and the increasing inclusion of aspects of CGA in usual care: implementation research studies rather than effectiveness studies may often be required (see, for example, the Hospital Wide CGA study which aims to support the practice of CGA across entire hospitals <http://www.bgs.org.uk/index.php/how-cga>). Although my evidence summary has not focused on this, there is also a need to identify which patients benefit most or most cost-effectively from CGA services. It is not yet clear if age, multimorbidity, disability, frailty, residence, a risk score, or some combination of these defines the ideal target population for CGA.

ADVICE FOR FRONTLINE CLINICIANS

This section reflects the personal views of the author.

My first message is to geriatricians: have faith in CGA. My impression is that this professional group has not expounded the astounding benefits of CGA. Perhaps implying, as Gawande did, that CGA can cure frailty is

inaccurate. But right at the top of most of my patients’ priorities is staying in their own homes, and this is exactly what CGA helps them to do. In 2011 I spoke to the leaders of health and social care in the East Midlands who were pondering the challenge posed by an ageing population and found that none of them had ever heard of CGA – they were so surprised that one of them quietly queried whether I had made it all up! This experience reflects a woeful failure in knowledge mobilisation, which in part represents a failure of geriatricians to have proselytised.

My next message is to advise that clinicians from across the professional spectrum continue to innovate, with concurrent critical evaluation. There should be a shared vision that all infirm older people, wherever they are or present to, should be offered services that deliver the principles of CGA.

A third message is that CGA is not the sole prerogative or responsibility of geriatricians. Geriatricians themselves should avoid giving this impression, and use of alternative phrases that other professional groups might be more comfortable with (such as individualised, personalised, integrated, joined-up or holistic care) might be more usefully employed than CGA. The principles of this sort of care should be expounded to, and by, all professional groups, not least because there is unlikely to be enough geriatricians to provide leadership of all services providing CGA. Given the fact that most professionals, whatever their specialty (with a few exceptions) will frequently deal with older people who will often have frailty, this also means that all professionals need to be able to participate in the CGA process.

When it comes to service delivery, the next message is about team working. Every player in a team needs to understand their responsibilities for leadership and followership. Concentrating on communication within teams is vital if the team is to work properly: team briefings and meetings are not optional extras to be done if and when the work is done, but are integral and essential parts of the work. While my third point aimed to state that not every CGA service must be led by a geriatrician, it is the responsibility of this group of professionals to help educate, train and support those for whom the care of the infirm is not their primary business.

A further message for geriatricians is, perhaps, obvious. The geriatrician can provide essential contributions to the CGA process. Core geriatrician skills are making diagnoses in non-specific presentations such as falls or confusion, identifying feasible and effective medical interventions suitable for the infirm, estimating the prognoses in complex and often end-stage health states, medication reviews, making decisions in the face of questionable mental capacity and recognising and

medically contributing to palliation. Geriatricians should concentrate on acquiring and improving these skills, and on their application.

CONCLUSION

Comprehensive geriatric assessment is the geriatrician's gift to healthcare. Stewardship of this gift should include promoting it, developing new ways of delivering it, teaching it and practising it with expertise. It is also the responsibility of those who are not geriatricians to embrace it so that all older people with frailty, wherever they are and whoever they see can benefit.

REFERENCES

- 1 Welsh T, Gordon AL, Gladman JRF. Comprehensive geriatric assessment – a guide for the non-specialist. *Int J Clin Pract* 2014; 68: 290–3. <http://dx.doi.org/10.1111/ijcp.12313>
- 2 Stuck AE, Siu AL, Wieland GD et al. Comprehensive geriatric assessment: a meta-analysis of controlled trials. *Lancet* 1993; 342: 1032–6.
- 3 Gawande A. *Being Mortal: Illness, Medicine and What Matters in the End*. London: Profile Books; 2015. p. 44–5.
- 4 Cunliffe AL, Gladman JRF, Husbands SL et al. Sooner and healthier: a randomised controlled trial and interview study of an early discharge rehabilitation service for older people. *Age Ageing* 2004; 33: 246–52.
- 5 Miller P, Gladman JRF, Cunliffe AL et al. Economic analysis of an early discharge rehabilitation service for older people. *Age Ageing* 2005; 34: 274–80.
- 6 Young J, Green J, Forster A et al. Postacute care for older people in community hospitals: a multicenter randomized, controlled trial. *J Am Ger Soc* 2007; 55: 1995–2002. <http://dx.doi.org/10.1111/j.1532-5415.2007.01456.x>
- 7 Fleming S, Blake H, Gladman JRF et al. A randomised controlled trial of a care home rehabilitation service to reduce long term institutionalisation for elderly people. *Age Ageing* 2004; 33: 384–90.
- 8 Hart E, LyMBERY M, Gladman JRF. Away from home: an ethnographic study of a transitional rehabilitation scheme for older people. *Soc Sci Med* 2005; 60: 1241–50.
- 9 Shepperd S, Doll H, Robert AM et al. Hospital at home admission avoidance. *Cochrane Database Syst Rev* 2008; CD007491. <http://dx.doi.org/10.1002/14651858.CD007491>
- 10 Handoll HHG, Cameron ID, Mak JCS et al. Multidisciplinary rehabilitation for older people with hip fractures. *Cochrane Database Syst Rev* 2009; CD007125. <http://dx.doi.org/10.1002/14651858.CD007125.pub2>
- 11 Crotty M, Unroe K, Cameron ID et al. Rehabilitation interventions for improving physical and psychosocial functioning after hip fracture in older people. *Cochrane Database Syst Rev* 2010; CD007624. <http://dx.doi.org/10.1002/14651858.CD007624.pub3>
- 12 Prestmo A, Hagen G, Sletvold O et al. Comprehensive geriatric care for patients with hip fractures: a prospective, randomised, controlled trial. *Lancet* 2015; 385: 1623–33. [http://dx.doi.org/10.1016/S0140-6736\(14\)62409-0](http://dx.doi.org/10.1016/S0140-6736(14)62409-0)
- 13 Partridge JSL, Harari D, Martin FC et al. The impact of pre-operative comprehensive geriatric assessment on postoperative outcomes in older patients undergoing scheduled surgery: a systematic review. *Anaesthesia* 2014; 69(Suppl 1): 8–16. <http://dx.doi.org/10.1111/anae.12494>
- 14 Harwood RH. Dementia for hospital physicians. *Clin Med* 2012; 12: 35–9.
- 15 Clissett P, Porock D, Harwood RH et al. The challenges of achieving person-centred care in acute hospitals: a qualitative study of people with dementia and their families. *Int J Nurs Stud* 2013; 50: 1495–503. <http://dx.doi.org/10.1016/j.ijnurstu.2013.03.001>
- 16 Harwood RH, Porock D, King N et al. *Development of a specialist medical and mental health unit for older people in an acute general hospital*. Medical Crises in Older People. Discussion paper series. ISSN 2044-4230. Issue 5, November 2010. <http://www.nottingham.ac.uk/mcop/documents/papers/issue5-mcop-issn2044-4230.pdf>
- 17 Goldberg SE, Bradshaw SE, Kearney F et al. Care in specialist medical and mental health unit compared with standard care for older people with cognitive impairment admitted to general hospital: randomised controlled trial (NIHR TEAM trial). *BMJ* 2013; 347: f4132. <http://dx.doi.org/10.1136/bmj.f4132>
- 18 Tanajewski L, Franklin M, Gkoutouras G et al. Economic evaluation of a general hospital unit for older people with delirium and dementia (TEAM Randomised Controlled Trial). *PLoS One* 2015. <http://dx.doi.org/10.1371/journal.pone.0140662>
- 19 *The Silver Book*. London: British Geriatrics Society; 2012. <http://www.bgs.org.uk/index.php/bgscampaigns-715/silverbook>
- 20 Royal College of Physicians. *Acute medical care for frail older people*. London: Royal College of Physicians; 2012. <https://www.rcplondon.ac.uk/guidelines-policy/acute-care-toolkit-3-acute-medical-care-frail-older-people>
- 21 Gladman JRF, Kearney F, Ali A et al. *The role of the interface geriatrician across the acute medical unit/community interface*. Medical Crises in Older People. Discussion paper series. ISSN 2044-4230. Issue 9, February 2012. <http://www.nottingham.ac.uk/mcop/documents/papers/issue9-mcop-issn2044-4230.pdf>
- 22 Edmans J, Bradshaw L, Franklin M et al. Randomised controlled trial of specialist geriatric medical assessment for patients discharged from hospital acute assessment units. *BMJ* 2013; 347: f5874. <http://dx.doi.org/10.1136/bmj.f5874>
- 23 Tanajewski L, Franklin M, Gkoutouras G et al. Cost-effectiveness of a specialist geriatric medical intervention for frail older people discharged from acute medical units: economic evaluation in a two-centre randomised controlled trial (AMIGOS). *PLoS One* 2015. <http://dx.doi.org/10.1371/journal.pone.0121340>
- 24 Darby J, Williamson T, Logan P et al. Comprehensive geriatric assessment on an acute medical unit: A qualitative study of older people's and informal carer's perspectives of the care and treatment they received. *Clin Rehabil* 2016. E-pub ahead of print 22 January. <http://dx.doi.org/10.1177/0269215515624134>

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- 25 Gladman J, Devi R, Sitton-Kent L. *Urgent care models for delivering comprehensive geriatric assessment (CGA) for older people living with frailty*. SPARKLER 7. East Midlands Academic Health Science Network. October 2015. http://emahsn.org.uk/images/Section%208%20-%20Resource%20hub/Sparks%20and%20Sparklers/SPARKLER_7_CGA_Final_2016_web.pdf
- 26 Conroy SP, Ansari K, Williams M et al. A controlled evaluation of comprehensive geriatric assessment in the emergency department: the 'Emergency Frailty Unit'. *Age Ageing* 2014; 43: 109–14. <http://dx.doi.org/10.1093/ageing/aft087>
- 27 Caillet P, Laurent M, Bastuji-Garin S et al. Optimal management of elderly cancer patients: usefulness of the Comprehensive Geriatric Assessment. *Clin Interv Aging* 2014; 9: 1645–60. <http://dx.doi.org/10.2147/CIA.S57849>
- 28 Gordon AL, Franklin M, Bradshaw L et al. Health Status of UK care home residents - a cohort study. *Age Ageing* 2014; 43: 97–103. <http://dx.doi.org/10.1093/ageing/aft077>
- 29 Kane R, Keckhafer G, Flood S et al. The effect of Evercare on hospital use. *J Am Geriatr Soc* 2003; 51: 1427–34.
- 30 Robbins IJ, Gordon AL, Dyas JV et al. Explaining the barriers to and tensions in delivering effective health care in UK care homes: a qualitative study. *BMJ Open* 2013; 3: e003178. <http://dx.doi.org/10.1136/bmjopen-2013-003178>
- 31 Iliffe S, Davies SL, Gordon AL et al. Provision of NHS generalist and specialist services to care homes in England: review of surveys. *Prim Health Care Res Dev* 2016; 17: 122–37. <http://dx.doi.org/10.1017/S1463423615000250>

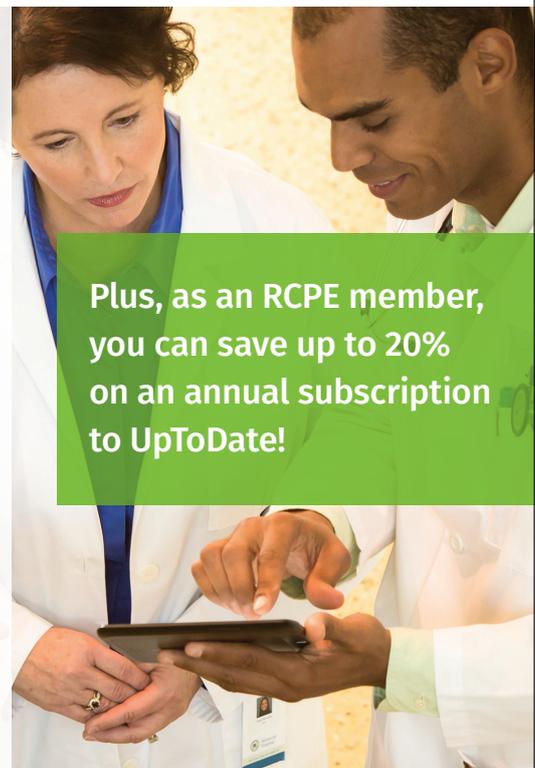


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