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We read with interest the Personal View by Bastiaan Bloem and colleagues on integrated and patient-centred management of Parkinson's disease.¹ We have designed the structure and operation of the Parkinson's disease network in Lombardy, Italy,² and wish to compare the two models. Both networks consider a hub-and-spoke model of distributed health-care services and are designed to be implemented in high-income European regions with prevalently public health-care systems. However, there are some considerable differences between the two models.

Bloem and colleagues' model derives from the ParkinsonNet,

originally designed in 2004 as a low-cost network of physical therapists in the Netherlands.³ It consists of a collection of regional community-based networks of dedicated allied health professionals (physiotherapists, occupational therapists, speech-language therapists, dietitians, and nurses) who are specifically trained on Parkinson's disease management. In this model, the personal case manager is a non-medical professional and there is one hub for the entire country (population of 17.28 million people, area of 41543 km²). The connection between a patient with Parkinson's disease and their doctor is mediated by a caring nurse. By contrast, the Lombardy network was developed top-down. The regional health authority commissioned it in accordance with a national provision on chronic diseases. The model structure is based on data analysis done by the commissioning authority from statistics related to Parkinson's disease and health-care providers in Lombardy. In this model, the personal case manager is the patient's doctor and there are 12 hubs throughout the Lombardy region (population of 10.06 million, area of 23844 km²).

Bloem and colleagues did not clearly identify objective measures to monitor efficacy and efficiency of network operations. The Lombardy network described in detail criteria for Parkinson's disease diagnosis and staging, referral of non-motor symptoms, management of device-aided therapies, data collection, and quality assessing and governance. Similar outcome measures should be used to compare these two networks. To this end, the Dutch model could possibly adopt the objective measures used in Lombardy and allow comparisons of the two European experiences.

Financial sustainability was a concern in both models. Structured networks could reduce costs, improve timely access to treatment, enable earlier diagnosis, enhance patient

outcomes, decrease hospital stays, and increase quality and duration of life. However, cost savings can be offset by the necessary upfront investments in quality improvement of a structured network. Substantial investment is needed to build disease-specific country or regional networks in Europe. The Dutch and the Lombardy networks are natural candidates for further comparison and testing.

We declare no competing interests.

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Authors' reply

We thank our colleagues for their comments on our novel network model for reshaping care for people with Parkinson's disease or other chronic neurological conditions.¹ David Grimes and colleagues discuss the feasibility of implementing Parkinson's disease-specific training of community-based allied health professionals across different health-care settings. Their proposed approach is compatible with our model and is a feasible implementation route to ascertain adequate care delivery by allied health professionals. An important part of the integrated network model is to establish links between Parkinson's disease specialists and generalists working in the community.¹ We agree that using local resources and adapting the specific characteristics of the network, such as number of trained professionals, accordingly is essential. We were encouraged to note

that specialised allied health-care programmes, which were originally developed in the Netherlands, could be transferred successfully to a different health-care setting in another country with modifications dictated by the regional availability of resources.²

Alberto Albanese and Daniela Calandrella draw attention to the Lombardy network, which is a promising illustration of several key components of our proposed model: to deliver integrated care, to ascertain continuity of care, and to enable access to appropriate care.¹ However, they might have misinterpreted some other components of our model. The role of a personal care manager in the model is fulfilled by a medical professional (eg, a Parkinson's disease nurse).^{3,4} The specific characteristics of the network, including the number of hubs, depend on the prevalence of specific diseases and the travel distances in a country. For example, the approximately 50000 people with Parkinson's disease in the Netherlands are served not by a single hub but by at least six of these hubs. These hubs are centres of expertise where knowledge should help to remotely support local health-care professionals, allowing them to deliver optimal care nearby the patient. Treatment should be administered as close to home as possible and visits to hubs should remain an exception—eg, for those with a difficult diagnostic trajectory or those in need of complex advanced treatments.

Our colleagues inadvertently create the impression that allied health training is the sole, or most important, part of the integrated care model, whereas it is only one component of a much broader and multifaceted approach that also includes self-management, a personal care manager adopting a proactive approach, and access to specialised services in a remotely situated hub when needed. In line with the recommendation of Grimes and colleagues, an extreme focus on patient participation is at the core of every element of this approach.¹

We agree with Albanese and Calandrella that we should reach international agreement about relevant outcomes to evaluate the cost-effectiveness of different integrated care models, allowing for benchmarking and enabling a crucial process of learning from the differences. We also agree with Grimes and colleagues that the COVID-19 pandemic has created unique opportunities to rapidly implement key elements of the integrated care model. In many ways, the ongoing pandemic already acts as a catalyst to narrow existing gaps between community-based generalists and disease-specialists through virtual peer-to-peer consultations.⁵ The now widely deployed telemedicine approaches will improve the collaboration between tertiary expert centres and general neurologists working in community hospitals, enabling harmonisation of high-level care for people with Parkinson's disease.

BRB currently serves as co-editor in chief for the *Journal of Parkinson's Disease*, serves on the editorial board of *Practical Neurology* and *Digital Biomarker*. BRB has received honoraria from serving on the scientific advisory board for AbbVie, Biogen, and Union Chimique Belge. BRB has received speaker fees from AbbVie, Zambon, Roche, GE Healthcare, and Bial, and has received grants from the Netherlands Organisation for Scientific Research, Michael J Fox Foundation, Union Chimique Belge, AbbVie, Stichting Parkinson Fonds, Hersenstichting Nederland, Parkinson's Foundation, Verily Life Sciences, Horizon 2020, and Parkinson Vereniging. EJH received funding from the UK National Institute of Health (NIH) Research, the Gatsby Foundation, British Geriatrics Society, and Parkinson's UK. EJH has also received speaker and consultancy fees from Profile, Mediscys, and Luye and received travel support from Bial AbbVie and Ever pharma. MSO serves as a consultant for the Parkinson's Foundation, and has received research grants from the US NIH, Parkinson's Foundation, the Michael J Fox Foundation, Parkinson Alliance, Smallwood Foundation, Bachmann-Strauss Foundation, Tourette Syndrome Association, and University of Florida Foundation. MSO's deep brain stimulation research is supported by NIH National Institute of Nursing Research (R01NR014852) and NIH National Institute of Neurological Disorders and Stroke (R01NS096008). MSO has received royalties for publications with Demos, Manson, Amazon, Smashwords, Books4Patients, Perseus, Robert Rose, Oxford, and Cambridge for movement disorder books. MSO is an Associate Editor for *New England Journal of Medicine* *Journal Watch Neurology*. MSO has participated in continuing medical education