

Dr Miranda Laurant leads a research programme aimed at utilising non-physician clinicians and multidisciplinary teamwork to help improve care delivery within The Netherlands

# Out of hours primary care



DR MIRANDA LAURANT



**Briefly, could you explain the differences between a nurse practitioner (NP) and a general practitioner (GP)? How do their qualifications and expertise differ in The Netherlands?**

In The Netherlands, a GP first studies six years of medicine at one out of the eight Academic Medical Faculties in the country, and subsequently follows a three-year post-academic specialisation to become a GP. An NP, on the other hand, is a registered nurse who has completed a four-year Bachelor's degree in nursing at the University of Applied Sciences, has been working as a nurse for at least two years, and subsequently completed a specific two-year practice-orientated Master's training programme, the Higher Professional Education Master's Degree Advanced Nursing Practice (MANP) at one of the 10 Universities of Applied Sciences.

**What were the aims of the study and how did you gather your data?**

We answered the following research questions: what type of care is provided by NPs during out of hours primary care; what effect does care provided by NPs have on the

quality, safety, patient satisfaction and GP workload; is substitution of care efficient and feasible; and which factors hinder or facilitate substitution during out of hours primary care?

We used a variety of research methods: anonymous extraction of data from the Call Manager System (ie. electronic patient records), patient and provider questionnaires, knowledge test providers, video-recordings from consultations and interviews with providers.

In order to manage such a large dataset and draw conclusions, it was very important to ensure we clearly understood the data. Every three months we received a new extraction from the Call Manager System whereby the consultations were reported (such as complaints/symptoms, diagnostics, treatment plan and follow-up). Subsequently, we carried out preliminary data analyses in order to answer the research questions and discussed the results with our collaborative partners.

**Is substituting an NP for a GP the best solution to the workload problem? What else should be done to better manage demand?**

Our study showed a minimal, but positive, effect on GP workload. After 15 months, GPs expressed a slightly lower workload as measured by the provider questionnaire. Yet during the study it became clear that 'workload' is a complex phenomenon – actual workload (ie. number of consultations per hour) and experience of workload are two different things.

The actual number of consultations per hour is 1.2 consultations less than the standard, which is fixed at 4.5 consultations per hour (including breaks, daytime shifts on Saturday and Sunday) by the general practitioner cooperatives (GPC), but still GPs experience a high workload. If we look at the number of consultations per hour, we saw

no difference between intervention day and control day (3.3 versus 3.2 consultations per hour, respectively). However, comparison of GPs and NPs (intervention day) showed a significant difference in the number of consultations per hour (3.5 versus 3.0, respectively). Furthermore, we saw that the number of consultations correlated with the number of patients consulting out of hours for GPs, but this correlation was absent for NPs, meaning that the extra number of patients are taken care of by GPs and not by NPs.

So, other strategies are necessary to manage GPs' workload. During our congress on 28 February 2013, it also became clear that substitution of care to an independent autonomous functioning provider, such as an NP, is necessary to maintain primary out of hours care in the future. Due to the increased patient demand, GPs are no longer in the position to be able to maintain primary out of hours care without this extra help.

**Do you have plans to continue this research?**

Within the field of primary out of hours care I would be interested in carrying out a comparable study with Physician Assistants (PAs). PAs are healthcare professionals, such as nurses, physical therapists and dieticians, who followed a four-year Bachelor's degree, have at least two years working experience, and have taken a two and a half year practice-orientated Master's training programme: the Higher Professional Education Master's Degree Physician Assistants. Some GPCs employ PAs instead of NPs, but the effects are unknown.

It would also be interesting to assess if substitution of care is possible at smaller GPCs and what the optimal skill mix is and how the optimal team will look; studies in hospital settings and elderly care are also of interest. In general, the evidence base for substitution of care and multidisciplinary teamwork is still scarce.



# Innovation in healthcare delivery

Patient demand for out of hours care is rising, resulting in an increase in workloads for healthcare professionals. However, a new approach led by the **Radboud University Nijmegen Medical Centre** in The Netherlands is using substitution of care and multidisciplinary collaboration to improve care delivery

**WITH MORE PATIENTS** in need of out of hours primary care, healthcare systems across Europe are straining to provide high quality care. In The Netherlands particularly, despite recent attempts to combat this issue, the rising demand for out of hours care has remained a problem and shown to have significant impacts on both patient and provider satisfaction.

The problem is thought to have first emerged in 2000 when a major shift in the organisation of out of hours care saw an increase in the number of large-scale general practitioner cooperatives (GPCs). These cooperatives are thought to be responsible for a rise in out of hours consultations – research from 2010 showed a 39 per cent increase in the number of patient appointments compared to 2004. Further examination found that many of these consultations were for non-urgent medical matters that could have been delayed until normal practice time. However, patients who did not want to put off care used the cooperatives, and therefore the number of consultations has steadily increased.

## SUBSTITUTING GENERAL PRACTITIONERS (GPs)

One solution to this issue has been to extend the professional roles of non-physician clinicians, such as nurses and physician assistants, to help alleviate the strain on GPs. Unlike the required nine years of training needed to qualify as a GP, nurse practitioners (NPs) study for six years but both professionals are registered on the Individual Healthcare Professions Act.

As of 2013, there are 1,848 NPs and 428 NP-trainees in The Netherlands and 88 per cent are currently deployed in various healthcare settings. The majority of the NPs (72 per cent) are deployed in hospitals. In primary care, approximately 185 NPs (10 per cent) are trained to care for patients with common complaints such as skin disorders, respiratory problems and musculoskeletal complaints. Within this setting, NPs are able to substitute GPs in the management of patients with these minor health problems. Early research by Dr Angelique Dierick-van Daele and colleagues into the feasibility and effects of substituting GPs with NPs during daytime surgery revealed that that NPs could act independently in 90 per cent of consultations and that the quality of the care they provided was comparable to the level of care provided by GPs.

Dr Miranda Laurant from the Scientific Institute for Quality of Healthcare (IQ healthcare, Radboud University Nijmegen Medical Centre) has been continuing this research into the substitution of NPs within out of hours primary care. Her study has been funded by the Netherlands Organisation for Health Research and Development (ZonMw), Brabant Medical School (BMS) and Association GPC Netherlands (VHN), and carried out in collaboration with the Foundation for Development of Quality Care in General Practice (Stichting KOH) and a GPC (CHP Zuidoost-Brabant).

In December 2010 Laurant launched a two-year study at one large GPC (CHP Zuidoost-Brabant), situated within the hospital next to the emergency department of the Catharina Hospital in Eindhoven. The cooperative provides out of

hours care for around 304,000 people. The actual intervention period lasted 15 months, from April 2011 until July 2012. On Saturdays and Sundays from 10am until 5pm, the GPC is normally staffed by a team of five GPs, but for the purpose of the study, an NP replaced one GP on either Saturday or Sunday during regular hours, with a staff of five GPs returning to normal duty on the other weekend day. The intervention and control days rotated systematically every five weeks between Saturday and Sunday.

The findings from Laurant's study supported earlier results from Dierick-van Daele et al. (2009) and showed that NPs provided an equal level of care to GPs, both in terms of quality and safety, with patients claiming they saw no difference in the level of care provided. Of all the consultations undertaken by NPs for the study, 93 per cent were completely autonomous, and examined patients across an estimated 200 different diagnoses. The findings also revealed that in comparison to GPs, NPs wrote fewer prescriptions (37.1 per cent against 43.0 per cent) and referred fewer patients to the emergency department (5.1 per cent versus 11.3 per cent) than GPs. However, this is thought to be explained by the more complex complaints seen by GPs, such as gastric, liver and heart problems, which are likely to need additional care.

## NOVEL FINDINGS

Additionally, Laurant's study proved for the first time the positive impact on healthcare costs of replacing a GP with an NP. This results from NPs' lower hourly rate and the drop in

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emergency room referrals. "Although within a team of five professionals, the effect on direct healthcare costs might be considered minimal, when more GPs are substituted by NPs it is expected that the gains will subsequently increase," she explains. The study also proposed that, in theory, NPs could provide care for around 75-83 per cent of all patients, meaning that substitution of care might be extended to even three or four NPs working alongside two or one GP, respectively, in the future. Nonetheless, Laurant is aware of calls for further research to ensure the highest quality and safety of care if this model is adopted.

#### GOING FROM STRENGTH TO STRENGTH

Close collaboration with Stichting KOH and CHP Zuidoost-Brabant meant that Laurant faced very few challenges over the 15-month period. Both organisations helped to guide and supervise NPs when introduced to daily practice and a four-month preparation phase before the project began ensured that the study ran smoothly. Additionally, the collaborative partners held a two-hour face-to-face meeting each month to discuss preliminary results and address any delivery barriers.

In January 2012, a year after the study was launched, The Netherlands implemented an adapted legal framework for NPs that gave them, under specific conditions, independent

powers to conduct certain patient treatments. Laurant hopes to continue building on this development with the study results. Future research aims to provide evidence on the impacts and (conditions for) implementation of non-physician clinicians across primary, secondary and mental healthcare settings for all patient types, and subsequently provide consultancy to policy makers to adopt the care substitution strategy across various healthcare settings.

#### ONGOING RESEARCH

Soon to be published in scientific and professional journals, the results will also be presented at different congresses. In February earlier this year, Laurant and her collaborative partners organised their own congress to present the final outcomes of the study with providers, GPs, policy makers, educators and insurance companies. A panel discussion at the event saw several stakeholders discuss the findings and demonstrate willingness to incorporate the results into future plans.

One of the most significant outcomes from the congress was that VHN, a major stakeholder with regard to the organisation of out of hours care, backed Laurant's study. VHN has already asserted their willingness to take the conversation further with other stakeholders in primary care, such as the Dutch Association of General Practitioners (LHV) and the Dutch College of Practitioners (NHG).

The effects of the study's findings are still ongoing and Laurant and her collaborative partners are awaiting a meeting with the Department of Health, Welfare and Sports to discuss the implementation of an NP substitute strategy. "By disseminating the results through a variety of channels, we hope our findings will be taken into account in future plans related to the organisation of (out of hours) primary care," Laurant concludes.

CONSULTATION AT GP PRACTICE



## INTELLIGENCE

### ORGANIZATIONAL IMPROVEMENT BY SUBSTITUTION OF OUT OF HOURS PRIMARY CARE. A STUDY ON THE FEASIBILITY AND IMPACT OF THE DEPLOYMENT OF NURSE PRACTITIONERS (PROJECT NUMBER: 8271.1010)

#### OBJECTIVES

To assess the effects of substitution of care from general practitioners to nurse practitioners in an out of hours primary care setting.

#### KEY COLLABORATORS

**Nancy Wijers, MSc**, junior researcher, IQ healthcare, Radboud University Nijmegen Medical Care, Nijmegen, The Netherlands

**Regi van der Burgt, MSc**, project coordinator, Foundation for Development of Quality Care in General Practice (Stichting Kwaliteit en Ontwikkeling Huisartsen), Eindhoven, The Netherlands

**Gerben Welling, MPA**, Director; **Anita Meeuws**, Location Manager; **Peter Diepeveen**, Program Manager; GP Cooperative (Centrale Huisartsenposten (CHP) Zuidoost Brabant), Eindhoven, The Netherlands

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**MIRANDA LAURANT** earned her PhD in 2007 and was trained as a nurse and health scientist. She currently works at Radboud University Nijmegen Medical Centre as a Senior Researcher. Laurant is also an Honorary Senior Lecturer in the School of the Community Based Medical Education at the University of Manchester and has contributed to advisory reports for the Health Council of The Netherlands and UK Health Foundation on revision of professional roles/substitution of care.

