



La médecine de famille n'est pas uniquement une discipline pratique, c'est également une discipline académique. En Suisse, il existe depuis des années deux sociétés promotrices, qui récompensent les travaux ou projets de recherche remarquables sur les thèmes de la médecine interne générale (MIG): le Collège de Médecine de Premier Recours (CMPR), qui se concentre sur la MIG ambulatoire, et la Société Suisse de Médecine Interne Générale (SSMIG), avec sa fondation de recherche «SGAIM Foundation». Dans cette série, nous souhaitons vous présenter sous forme résumée les résultats ou les projets de recherche planifiés des lauréat(e)s 2020. Dans la mesure où la langue de la littérature scientifique est l'anglais, la plupart de ces articles paraissent en anglais. Nous avons demandé aux lauréat(e)s de faire référence à la pertinence pratique de leurs travaux dans leurs articles.

*Prof. Dr méd. Stefan Neuner-Jehle, rédacteur en chef PHC*

# Nurse practitioners – a solution to the decreasing numbers of home visits to the multimorbid elderly?

**Stefan Gysin**

Studiengangsmanager Medizin, Universität Luzern, Luzern, Switzerland

## Introduction

In Switzerland, the numbers of general practitioner (GP) home visits are decreasing and the numbers of multimorbid elderly are increasing. The internationally established nurse practitioner (NP) model is newly being introduced in Swiss family practices and could address these challenges. In this exploratory study, we analysed consultation data from two pilot projects with the aim to determine the frequency and patient characteristics of NP consultations both on home visits and in the practice as well as the NPs' autonomy. First results provide some evidence that NPs could reach relatively high autonomy and might have a focus on home visits and multimorbid elderly.

## Background

Swiss primary care faces decreasing numbers of general practitioner (GP) home visits and a multimorbid, ageing population [1]. Home visits (including routine follow-up, emergency and palliative care visits) at a patient's home and in nursing homes are an important part of primary care and highly valued by older patients. Studies have shown that home visits can improve access to care, and reduce hospitalisations, mortality and costs [2].

To address the decreasing numbers of GP home visits, many countries have introduced nurse practitioners (NPs). NPs are registered nurses with a master's or doctoral degree and have the competencies and skills to pro-

**Table 1:** Coding system and corresponding levels of GP supervision.

In the practice	On home visits	Level of supervision: NP was...
105	205	observing
104	204	being observed
103	203	asking before decision
102	202	reporting periodically
101	201	autonomous

GP = General Practitioner; NP = Nurse Practitioner

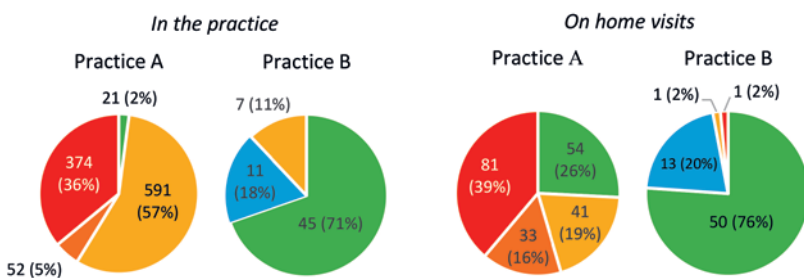
vide direct patient care in primary care settings. In the US, NPs are the largest type of autonomous home visit providers and studies indicate that they deliver high-quality, patient-centred care to housebound elderly people [3]. In order to acquire the necessary skills and to achieve autonomy, novice NPs need supervision by a suitable mentor. In Switzerland, the NP role is being newly introduced. Despite educational programmes at master’s and post-graduate level (with a focus on clinical practice), the tasks and responsibilities of NPs are not yet legally

**Table 2:** Number of consultations and patient characteristics by practice and site. Gysin S, Bischofberger I, Meier R, van Vught A, Merlo C, Essig S. Nurse Practitioners in Swiss Family Practices as Potentially Autonomous Providers of Home Visits: An Exploratory Study of Two Cases. SAGE (Home Health Care Management & Practice 2021, Vol. 33[1]) pp. 8–13. © 2021 (SAGE). doi.org/10.1177/1084822320946289.

	In the practice	On home visits	p value*
<b>Practice A</b>			
Number of consultations	1038 (83.2%)	209 (16.8%)	
Patient characteristics			
Mean age (SD)	50.9 (23)	85.5 (8.4)	<0.01
Female	504 (48.6%)	117 (56%)	0.06
Multimorbid	397 (38.2%)	183 (87.6%)	<0.01
<b>Practice B</b>			
Number of consultations	63 (49.2%)	65 (50.8%)	<0.01**
Patient characteristics			
Mean age (SD)	63.6 (19.1)	80.3 (13.1)	0.02
Female	44 (69.8%)	51 (78.5%)	0.27

\* t-test was used for continuous variables, the chi square test for categorical variables

\*\* this p value was calculated based on the comparison between the share of home visits of the two practices



**Figure 1:** Shares of the different levels of supervision during consultations by practice and site.

Red = NP observed the GP; Orange = NP was observed by the GP; Yellow = NP asked the GP before deciding; Blue = NP reported periodically; Green = NP was autonomous. Gysin S, Bischofberger I, Meier R, van Vught A, Merlo C, Essig S. Nurse Practitioners in Swiss Family Practices as Potentially Autonomous Providers of Home Visits: An Exploratory Study of Two Cases. SAGE (Home Health Care Management & Practice 2021, Vol. 33[1]) pp. 8–13. © 2021 (SAGE). doi.org/10.1177/1084822320946289.

defined. In primary care, there are currently a handful of ongoing pilot projects in family practices with NPs providing counselling, physical examination and treatment in the practice and on home visits, often under the supervision of a GP [4]. Due to the early stage of implementation, there is limited evidence regarding the NP role in Swiss primary care. It remains unclear whether NPs could be a potential solution to the decreasing number of GP home visits and the increasing numbers of multimorbid elderly.

The aim of this study was to determine the frequency and patient characteristics of NP consultations both on home visits and in the practice as well as the NPs’ autonomy.

**Methods**

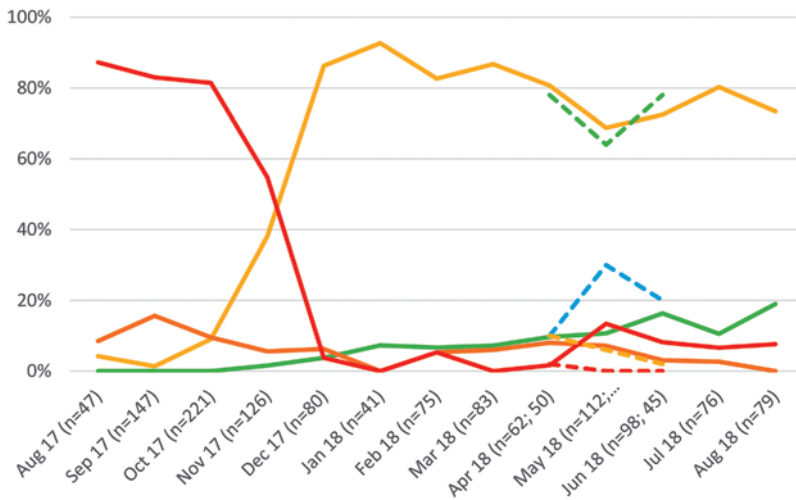
This was an exploratory, descriptive study using consultation data from two pilot projects in Swiss family practices.

One pilot project was initiated in August 2017 by the local health authority. A novice NP who had started postgraduate training was employed in a small, rural family practice (“Practice A”) owned by two elderly GPs who provided clinical supervision. The other pilot project was initiated in Spring 2016 by two middle-aged GPs and owners of a rural, interprofessional group practice (“Practice B”). The NP was hired after finishing postgraduate training including a clinical placement in that practice.

In Practice A, data were collected electronically via the FIRE project [5] between August 2017 and August 2018. In Practice B, data were collected manually between April and June 2018. For each consultation, the NPs assigned a code indicating the site of and their autonomy during the encounter. Autonomy was defined as the required level of GP supervision (table 1). In Practice A, we obtained patient sex, age and multimorbidity status, which was defined as the presence of two or more chronic conditions. In Practice B, we obtained patient sex and age.

**Results**

In Practice A, the NP had 1247 consultations with an average of 96 per month (standard deviation [SD] 47.9). A total of 209 (16.8%) of the consultations were home visits. In Practice B, the NP had 128 consultations with an average of 43 per month (SD 8.7). Sixty-five (50.9%) of the consultations were home visits. In both practices, the average patient age was significantly higher on home visits than at consultations in the practice. The NP in Practice A had a significantly higher share of multimorbid patients on home visits than in consultations in the practice (table 2).



**Figure 2:** Shares of the different levels of supervision in all NP consultations per month. Solid lines = Practice A; Dotted lines = Practice B. Red = NP observed the GP; Orange = NP was observed by the GP; Yellow = NP asked the GP before deciding; Blue = NP reported periodically; Green = NP was autonomous. Gysin S, Bischofberger I, Meier R, van Vught A, Merlo C, Essig S. Nurse Practitioners in Swiss Family Practices as Potentially Autonomous Providers of Home Visits: An Exploratory Study of Two Cases. *SAGE (Home Health Care Management & Practice 2021, Vol. 33[1])* pp. 8–13. © 2021 (SAGE). doi.org/10.1177/1084822320946289.

In Practice A, the NP was autonomous in 6.1% of consultations. In 50.5% of consultations, the NP consulted the GP before discharging the patient. In 7% of consultations the NP was observed by the GP, and in 36.4% the NP was observing the GP. In Practice B, the NP was autonomous in 74.2% of consultations. In 18.8% of consultations the NP reported to the GP at a later time, and in 6.3% the NP consulted the GP before discharging the patient. Overall, the NP in Practice B was more autonomous than the NP in Practice A (74% vs 6%,  $p < 0.01$ ). Both NPs showed higher autonomy on home visits than during consultations in the practice (Practice A: 26% vs 2%,  $p < 0.01$ ; Practice B 76% vs 71%,  $p = 0.5$ ). The shares of the different levels of supervision by practice and site are illustrated in figure 1.

During the first three months, the NP in Practice A was observing the GP in 83.9% of consultations. Between December 2017 and August 2018, the NP asked before discharging the patient in 80.4% of consultations. In the last month of data collection, the NP reached the highest share (19%) of autonomous consultations. The different levels of supervision over time are depicted in figure 2.

## Discussion

Even though most GPs in Swiss primary care still provide home visits, the total numbers have declined in recent years and are relatively low in comparison to most European countries [1]. In the Canton of Vaud, Mueller et al. [6] found that home visits accounted for

only 2.5% of all GP consultations between 2006 and 2015. The authors suggested including NPs in new models of home care delivery. In our study, home visits accounted for 51% and 17%, respectively, of all consultations, which could indicate the potential of the NP model to address the decreasing numbers of GP visits in Switzerland. The difference regarding the relative numbers of NP home visits between the two practices could be explained by the unequal training and experience of the NPs, as well as the different approaches and demands of the family practices. Mueller et al. [6] also found that most GP home visits were follow-up visits to older patients (65+). In our study, the average patient age on NP home visits was 80+ and almost 90% of patients suffered from multiple chronic conditions. Autonomy can be measured with a variety of methods and on different levels. We measured the NPs' autonomy based on the required level of GP supervision for individual consultations, which provided a detailed picture of the daily practice. In Practice A, GP supervision was provided as part of the NP's postgraduate training. The levels of supervision over time could be interpreted as a learning curve, as autonomy increased drastically after the first three months. In Practice B, the NP showed greater autonomy as she had already completed postgraduate training and had been working for two years at the time of data collection. Generally, asking the GP before discharging the patient could have been for various reasons. It could be a teaching opportunity or due to legal restrictions on the NPs' current scope of practice.

## Limitations

The results of this study might not be generalisable. In one practice, the duration of data collection was short and we could not determine the patients' multimorbidity status. There was no information regarding reasons for the encounters. Furthermore, we could not exclude self-reporting bias regarding the NPs' autonomy.

## Conclusions and implications

These first cases provide some evidence that NPs might be a potential solution to the decreasing numbers of GP home visits and the increase in multimorbid, elderly patients in Swiss primary care. In order for NPs to reach a relatively high level of autonomy in clinical practice, postgraduate training with a focus on clinical skills, supervision by GPs and a few years of practical experience seem to be crucial. Further pilot projects and studies at a larger scale are needed to corroborate these findings.

The full list of references is included in the online version of the article at [www.primary-hospital-care.ch](http://www.primary-hospital-care.ch)

Correspondence:  
Dr. med. Stefan Gysin, PhD  
Studiengangsmanager  
Medizin  
Universität Luzern  
Departement Gesundheitswissenschaften und  
Medizin  
Froburgstrasse 3  
CH-6002 Luzern  
[Stefangysin\[at\]hotmail.com](mailto:Stefangysin[at]hotmail.com)