

All reproduction is prohibited  
but direct link to the document is accepted:

<http://www.irdes.fr/english/issues-in-health-economics/201-forms-of-primary-care-teams.pdf>

## Forms of primary care teams

### A typology of multidisciplinary group practices, health care networks and health care centers participating in the Experiments of New Mechanisms of Remuneration (ENMR)

Anissa Afrite, Julien Mousquès (Irdes)

What are the characteristics of primary care teams in France (multidisciplinary group practices (MGP), health care networks (HCN) and health care centers (HCC)) involved in the Experiments of New Mechanisms of Remuneration (ENMR) in terms of size, human resources, equipment and information systems? What are their organisational and functional characteristics in terms of care supply, coordination and multi-professional cooperation?

This fourth publication evaluating the primary care teams participating in the ENMR proposes an analysis of their structural, organisational and functional characteristics based on a survey conducted among 147 sites for the period 2008-2012. The sites were grouped together on the basis of factorial analyses and classifications resulting in five clusters: two HCC clusters, grouping salaried practitioners, and three MGP and HCN clusters grouping self-employed practitioners.

Over the last ten years, the French government have encouraged the formation of primary care teams for the delivery of primary care, notably in the form of Experiments of New Mechanisms of Remuneration (ENMR) aimed at three types of multi-professional health care facilities which are multidisciplinary group practices (in French, "*maisons de santé*"), health care networks (in French, "*pôles de santé*") and health care centers (in French, "*centres de santé*")<sup>1</sup> [Mousquès, 2011; Afrite *et al.*, 2013].

The aims of the ENMR are multiple: to encourage health professionals to locate

their practices in disadvantaged areas in terms of health care supply, to develop multi-professional cooperation and coordination, not only to improve health professionals' working conditions in these facilities but also to improve the quality and continuity of care.

Available data sources are relatively poor and provide little information about these three French primary care teams organisations forms (multidisciplinary group practices (MGP), health care networks (HCN) and health care centers (HCC)) and about the health professionals working in them. Furthermore it is impossible

to distinguish between MGP and HCN structures. To remedy this paucity of data, a specific survey was thus conducted by IRDES among 147 out of the 151 MGP and HCN included in the first two waves

<sup>1</sup> Primary care team can be split into three categories: multidisciplinary group practices where all professionals work in the same location/setting. They are called in France «*maison de santé*» and correspond to patient-centered medical home in the US. The second category corresponds to Primary Health care networks (called in France «*pôle de santé*» with at least two different settings but with large variation in the latter number and distances). In both cases, health professional are self-employed paid on a fee-for-services basis. This is not the case of the third category of primary care teams called «*health care center*» where health professionals are salaried.

of ENMR (2010-2011 and 2011-2012) [Sources insert]. In this fourth part of a series of publications on the evaluation of ENMR [Context insert], we examine the structural, organisational and functional characteristics of the surveyed MGP, HCN and HCC structures using factorial analyses and classifications. The complete results together with a more detailed analysis are presented in a working paper to be published in conjunction with this synthesis (Afrite and Mousquès, 2014). The following articles to be published will use this typology to examine the impact of primary care teams organised as MGP, HCN and HCC structures on different performance indicators whilst pointing out eventual differences in the results according to the type of site.

### A five cluster typology of MGP, HCN and HCC participating in the ENMR

The descriptive analysis of the survey results conducted among all the MGP (74 sites), HCN (37 sites) and HCC (36 sites) participating in the ENMR reveals strong heterogeneity between sites. This is in part a reflection of primary care teams status (MGP, HCN or HCC) and

that of the health professionals making up the teams (self-employed and salaried) but also of distinct structural, organisational and functional characteristics (Afrite and Mousquès, 2014). Data analysis methods were employed to distinguish between the different sites and classify them, according to their structural, organisational and functional features, to create a typology.

The study is based on a sub-sample of 128 sites (87% of the sample) for which the response rate to the survey questions concerning the dimensions considered as potentially discriminatory (Sources insert) was sufficient. It was based on two distinct sequences associating factorial analysis for mixed data (FAMD) and hierarchical ascendant classification (HAC) [Methods insert and Figure]. The first was carried out on the totality of sites and resulted in four distinct clusters. It opposed two clusters composed exclusively or almost exclusively of HCC to two large mixed clusters made up of MGP and HCN; one including a majority of MGP and the other a majority of HCN. The second sequence was specific to the 98 MGP and HCN so as to better differentiate between them. It opposed two clusters in the majority made up of MGP resulting from the dichotomisation of the preceding cluster, including a majority of MGP, to the preceding mixed cluster including a majority of HCN

IRDES was charged with evaluating the Experiments of New Mechanisms of Remuneration (ENMR) for primary care teams (multidisciplinary group practices, health care networks and health care centers) for the period 2009-2012. This article, based on a more in-depth analysis (Afrite et Mousquès, 2014), is the fourth in a series. The first presented evaluation aims and methodology in general (Afrite *et al.*, 2013), the second, the geographic distribution of sites and the impact on the density of general practitioners (Chevallard *et al.*, 2013) and the third, using the results of a qualitative survey, the different forms of multi-professional working and the role of ENMR in their development (Fournier *et al.*, 2014).

(*cf.* Figure). Finally, the two clusters of HCC from the first analysis and the three clusters of MGP and HCN from the second analysis were combined and are presented here<sup>2</sup>.

The main factor distinguishing the clusters of HCC, MGP and HCN is the intensity of integration; in other words the

<sup>2</sup> A MGP and a HCN classified in the second class of HCC from the first typology sequence were reclassified in the second sequence specific to MGP and HCN structures. Two HCC present in the class mainly composed of MGP from the first typology sequence were not reclassified and were excluded from the analysis. However in the following studies on the evaluation of ENMR, they will be reclassified in the first class of HCC.

## SOURCES

### A survey on the structure, organisation and functioning of MGP, HCN and HCC

The survey was conducted among all HCC (36), MGP (74) and HCN (37) participating in the Experiment of New Mechanisms of Remuneration (ENMR) included in the first two waves of the experiment (2010-2011 et 2011-2012). Based on four standardised questionnaires, the survey was self-administered by Internet in 2011-2012 and again in 2013. Participation rates were high varying from 88% to 99% according to questionnaire. ENMR sites were questioned regarding different structural, organisational and functional dimensions for the period 2008-2012. It involved studying the structure, organisation and functioning of the different sites through different dimensions (see below) recognised by international literature on primary care (*ex:* Kringos *et al.*, 2010) by observing the degree of integration, pooling of resources, activities, etc. For example, this type of analysis was recently conducted in the United States for Accountable care organizations (Epstein *et al.*, 2014), in Québec for "Groupes de Médecins de Famille" (Levesque *et al.*, 2010), and in Europe on group or solo practices (Engels *et al.*, 2005). The themes explored were thus:

**Structural dimensions:** status (HCC, MGP or HCN); age; creation, geographic location and projects (health, architectural); size, composition and equipment; management; accessibility (opening hours and financial); funding (charges, revenues, ENMR funds and modes of utilisation).

**Organisational and functional dimensions:** internal and external coordination; information and information sharing; professional roles and collaborations developed.

Four questionnaires were thus exploited:

**Structure.** Focal point of the survey, this questionnaire makes it possible to identify and characterise each site according to several dimensions: legal status, geographic locality, age, creation, organisation, size of premises and equipment, information-computerisation and information-sharing, opening hours and financial accessibility, management, mono and multi-disciplinary internal coordination, external coordination, professional roles and developed multi-professional cooperations, participation in the different ENMR modules and associated actions and indicators.

**Composition.** For each year from 2008 to 2012, numbers of professionals are recorded whether they are established (members, associates, collaborators and/or salaried) or not (replacement personnel and/or internships) for each of the three following professional categories: medical (general practitioners, specialists, dental surgeons, midwives), paramedical (nurses, physiotherapist-masseurs, chiroprapist-podiatrists, etc.) and others (secretariat, administrative personnel, infrastructure managers, others).

**Professionals.** The main characteristics of general practitioners, nurses and physiotherapist-masseurs unavailable in the National Health Insurance administrative database were collected: seniority, other modes of practice, proportion of fees used to pay collective social contributions and, for the professionals in activity during the period 2010-2012, working hours, replacement hours and number of weeks holiday.

**Funding.** The standard sources of funding and contributions according to different items are informed together with the amounts and use of ENMR funds in each structure.

pooling of resources (premises, health professionals or not, equipment) and activity, accompanied or not by coordination between professionals, multi-professional cooperation and information sharing or computerisation.

The HCC structures are divided into two clusters, "associative" or "municipal" HCC, and are distinguished from the MGP and HCN in terms of status, age, and accessibility, but also by their size, professional composition and equipment and the expanded roles and degree of cooperation developed by the professionals (cf. Table). The two clusters also differ in terms of nursing roles, computerisation and financial accessibility through the third-party payment system for complementary health insurance.

### The two clusters of HCC: "associative" and "municipal"

**Cluster 1: "health care centers" are more often than not associative, relatively old, with a more frequently multi-professional cooperation and coordination than in "municipal" HCC**

The first cluster of multi-professional group practice is made up of HCC exclusively (12 sites), half of which have an

associative status<sup>3</sup> and the other managed by the social security or mutualist health insurance funds. On average, they have been established for 21 years. They are in the majority located in disadvantaged urban areas in terms of health care supply. Site management is frequently ensured by one salaried resource person, external to the health care profession or external to the site (83%). In comparison with the other clusters, their size, composition, equipment and range of non-physician

professionals' roles and functions are more limited. Multiprofessional cooperation and coordination are more developed in "associative" than "municipal" facilities but are more limited than on private practice sites (MGP and HCN).

"Associative" HCC can be distinguished by the poor development of role expansion

<sup>3</sup> Hereafter, these HCC will be referred to as 'associative' centers to facilitate reading.

## METHOD

Two types of data analysis were employed to elaborate the typology conducted in two sequences:

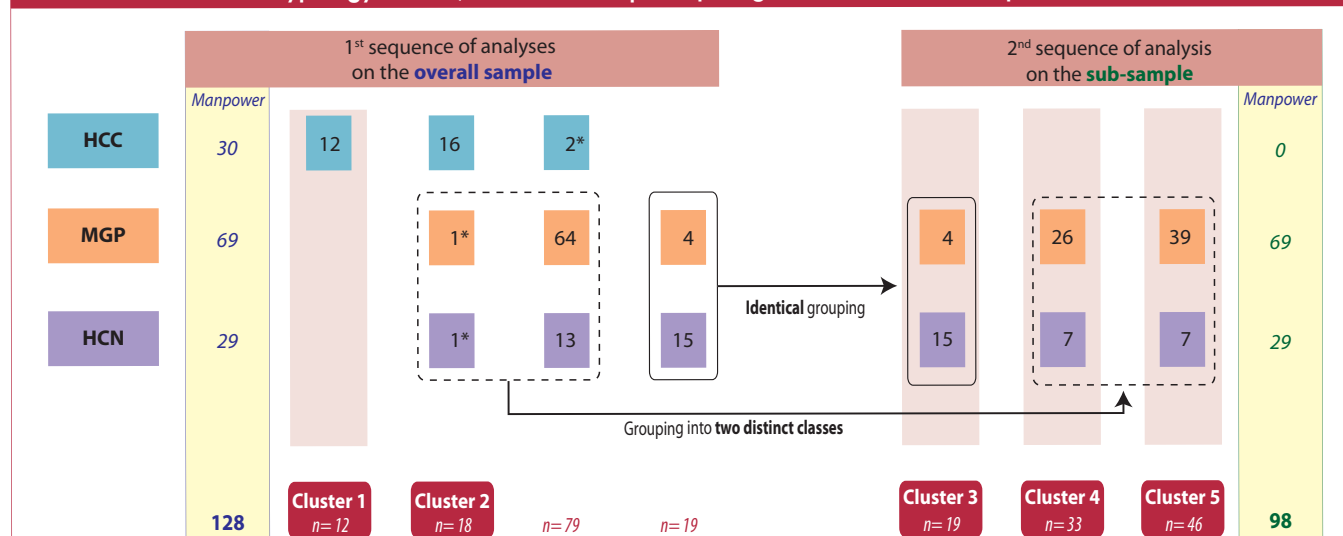
- **Factorial analysis for mixed data (FAMD).** FAMD provides a graphic representation of individuals described by a certain number of characteristics (qualitative and/or quantitative) by concentrating on the relationships (similarities and oppositions) and the most discriminatory dimensions. AFDM is particularly well adapted here as it allows simultaneously taking the qualitative or quantitative nature of data into account and also the limited sample size in relation to the number of variables to be integrated (Pagès, 2004; Escofier and Pagès, 2008).

The choice of active variables retained to construct the FAMD factorial axes are based on two principles: retain a balanced number of variables and associated modalities by dimension whilst excluding non-discriminatory variables and grouping together correlated variables on the basis of the descriptive statistics obtained for the 147 sites interrogated (Afrite and Mousquès, 2014). Approximately 50 variables and 130 modalities primarily corresponding to the following main themes were retained: legal status, age, size, composition and equipment; physical and financial, and temporal accessibility to care; management, professional roles, cooperation and coordination (notably multi-professional), information and computerisation. Non-integrated variables or those corresponding to disaggregated forms of active variables, that is 80 additional variables for 200 modalities, were used as illustrative variables in order to enrich the interpretation of similarities and differences observed between the sites.

- **Hierarchical Ascendant Classification (HAC).** HAC is carried out using the factorial coordinates resulting from FAMD. This classification method is based on a succession of combinations grouping together sites with the most similarities, two by two, until a single cluster is obtained according to a set of variables. The Ward aggregation criterion used here allows classifying sites in homogeneous groups while distinguishing them from each other.

F

### Typology of MGP, HCN and HCC participating in the ENMR in two sequences



\* See note 1, page 2.

Source: Survey on the structure, organisation and functioning of MGP, HCN and HCC 2008-2012, IRDES.

Realisation: Irdes.

T

### Characterisation of clusters of MGP, HCN and HCC according to several modalities considered as active variables in the analysis

	Clusters of HCC		Clusters of MGP and HCN			
	Cluster 1 (N= 12)	Cluster 2 (N= 18)	Cluster 3 (N= 19)	Cluster 4 (N= 33)	Cluster 5 (N= 46)	
	%	%	%	%	%	
<b>Administrative dimension</b>						
Professional(s) responsible for site management <sup>1</sup>						
One or several health professionals working on the site (voluntary, remunerated, salaried)	8	50	47	82	72	
Resource person non health professional working on the site (salaried) or external to the site (salaried)	83	28	5	6	7	
Several resource persons, health professionals and/or not, practicing their activity on site/external to the site	8	22	42	9	17	
Non reponse	0	0	5	3	4	
<b>Professionals' roles and developed collaborations dimension</b>						
Examples of roles and functions ensured by the secretariat						
Advice or medical information notably for emergency or non-scheduled patient demands	25	33	26	67	50	
Medical records management (mail archiving, medical examination results...)	92	94	68	82	87	
Accounting (accounting entries...)	8	50	53	36	54	
Organisation of structure activities	8	11	42	30	57	
Examples of roles and functions undertaken by nurses						
Telephone reception, patient advice or information, emergency or unscheduled care demands	8	72	0	9	33	
Therapeutic education for patients with chronic diseases	50	78	63	45	63	
Anti-vitamin K monitoring for patients under anti-coagulant treatment	50	28	53	18	52	
Coordination of complex care pathways (patients with multiple chronic diseases...)	17	33	21	6	28	
Regularity of meetings or regular formal exchanges between general practitioners and nurses concerning care team organisation <sup>1</sup>						
Weekly or monthly	17	39	47	12	74	
Quarterly or half yearly	25	39	5	39	13	
No meetings between general practitioners and nurses	58	22	47 <sup>2</sup>	48	13	
Regularity of meetings or regular formal exchanges concerning medical issues, patient records, shared referentials or other questions concerning professional practices between general practitioners and nurses <sup>1</sup>						
Weekly or monthly	25	44	37	12	83	
Quarterly or half yearly	33	28	11	21	7	
No meetings between general practitioners and nurses	42	28	47	67	11	
Regular multi-professional exchanges concerning the management of complex cases	100	67	58	64	91	
Regular development of actions promoting health or prevention	100	83	63	45	57	
The setting-up of regular projects or cooperation processes between health professionals and/or other professionals	100	67	74	42	72	
Regular collaboration or coordination between the site and external services and institutions located in the area	92	100	84	64	83	
<b>Information sharing and computerisation dimension</b>						
Access to a site GPs patient files	by other GPs on site	92	67	0	91	91
	by other non-physicians health professionals	92	61	0	85	87
Examples of computer assisted functions or actions performed from computerised medical records used regularly by doctors						
Computer assisted diagnosis	0	11	5	21	41	
Computer assisted prescription	92	50	16	73	93	
Publication of briefing notes and/or personalised prevention plan and/or extraction of patient lists to be reminded for screening tests and/or prevention	58	56	21	64	91	
Extraction of a list of patients suffering from a given pathology and/or a given characteristic and/or data characterising treatment administered to specific patients	83	50	16	70	70	
Use of computerisation by nurses to manage patient nursing files <sup>1</sup>	42	83	37	58	67	
	Average	Average	Average	Average	Average	
<b>Composition of established professionals dimension (number in 2012)</b>						
Number of health professionals established on the site in 2012						
Medical (excluding general practitioners)	2	14	1	1	1	
General practitioners	4	7	6	5	5	
Paramedical (excluding nurses and physiotherapist-masseurs)	2	5	2	3	3	
Nurses	3	5	9	5	4	
Physiotherapist-masseurs	0	1	3	2	2	
Other professionals	5	17	6	3	3	

<sup>1</sup> Questions with exclusive response modalities (the sum of modalities is equal to 100%).

<sup>2</sup> Percentage includes non-responses.

**Reading note:** <sup>1</sup> In 42% of sites in the cluster 1 of health care centers, nurses use computerised nursing records. This is not the case in 58% of sites in this cluster. Survey on the structure, organisation and functioning of MGP, HCN and HCC 2008-2012, IRDES.

**Realisation:** Irdes.

 Data available for download

sion and functions for the secretarial staff, non-specific for the nursing profession and either non-existent or absent for the physiotherapist-masseurs. Secretariats are quasi systematically common to all health professionals but for the majority or quasi majority, the secretarial roles are limited to reception, scheduling appointments and cheque-cashing. They have no "organisational" functions (such as management, the organisation of therapeutic education, accounting, or the organisation of activities).

Contrary to private practice sites, and more marked than in "municipal" HCC, multi-professional cooperation is, however, frequent and regular. It is expressed through the development of projects or cooperation processes between professionals, by the monitoring and protocolised care of patients suffering from chronic diseases, by multi-professional exchanges in the management of complex cases.

The development of actions to promote health (health education....) or prevention (screening for sexually transmitted diseases....) are regular as are collaborations between health professionals external to the site outside the professional networks.

In terms of coordination, mono-disciplinary meetings between general practitioners are often held on a weekly basis whereas between nurses they are held at three or six month intervals. Furthermore, over half the HCC in this cluster do not report medical meetings between nursing staff and general practitioners.

The "associative" HCC differ by their accessibility in terms of opening hours with shorter daily opening hours during the course of the week than private practice sites (less than 12 hours per day). Weekly accessibility, however, is similar (12 half days per week) with longer opening hours (over four hours) on a Saturday morning which is not the case on "municipal" sites. The non-participation in continuous access to health care is less flagrant than on "municipal" HCC (58%). Compared to private practice sites, financial accessibility is facilitated in all centers by the systematic practice (statutory) of third-party payer policy for the part of health expenditures reimbursed by the National Health Insurance. Moreover,

the third-party payer system applied to complementary health insurance is high (83 %). On average, over 70 contracts with different mutual funds, insurance companies or provident funds are registered which is fewer than in "municipal" centers. Refusal to register new patients with a "preferred" general practitioner working on site is frequent (42 %).

In terms of computerisation, "associative" HCC distinguish themselves from "municipal" HCC. Physicians working in "associative" HCC more frequently use a unique and dedicated medical record management software (75%) certified by the High Authority for Health (*Haute Autorité de Santé*, HAS) and the Agency for Shared Health Information Systems (*Agence des Systèmes d'information partagée de santé*, ASIP)<sup>4</sup>, secretaries and/or non-physicians professionals have almost systematic access to patient records (92 %) and the use of certain associated computer assisted functions are more frequent (for example: computer assisted prescription, extraction of patient lists registered with a "preferred" general practitioner...). Nurses, however, more rarely use computerisation to manage patients' nursing records (58%).

"Associative" HCC also differ in terms of size (on average 344 m<sup>2</sup> with 5 medical consulting rooms or care delivery rooms), and the number and variety of medical and paramedical professions (4 general practitioners and 3 nurses). This is fewer than in "municipal" HCC or the MGP and HCN clusters. Physiotherapist-masseurs are poorly represented. Compared to privately operated centers and "municipal" HCC, GPs also more rarely delegate care delivery to nurses on-site (21%), measured by the number of nursing procedures prescribed by a general practitioner on-site.

In "associative" HCC, ENMR resources are primarily allocated to remunerating the time professionals spend coordinating care and is variable according to discipline and/or profession (67%) but less so than in the MGP clusters. Contrary to private practice sites, the majority of these sites do not allocate resources to the purchase of equipment and/or medical supplies or computer hardware (83%) or remuneration for site management tasks (75%).

### Cluster 2: older "municipal" HCC in which the range of non-physicians roles and functions are more developed than in 'associative' health care centers

The second cluster groups together 16 HCC, in the majority run by the local authorities ("municipal") (67%), they are older (46 years on average) and frequently in premises benefitting from a special leasing agreement (for example, premises made available free of charge). HCC in this cluster are in the majority located in vulnerable urban areas in terms of health care supply. Site management is frequently ensured by one or several health professionals working on site on a voluntary, remunerated or salaried basis (50%). Compared to other clusters of sites, accessibility in terms of opening hours is lower but financial accessibility higher. Size, composition and equipment are also superior and expanded roles and functions among non-physicians professionals are more developed than in "associative" HCC. Multi-professional cooperation is less developed than in "associative" HCC but higher than in private practice sites. Multi-professional coordination is more developed but computerisation less so.

Accessibility in terms of opening hours is less extensive in "municipal" HCC than "associative" HCC, MGP and HCN: less than 12 hours per day from Monday to Friday, less than 4 hours on Saturday and 11 half days per week. Non-participation in the continuity of care is even more marked (78%). Physical accessibility in "municipal" HCC is similar to "associative" HCC but because they are older, access to or circulation within the sites for persons with reduced mobility is more limited. Financial access is simplified by the quasi systematic application of the third-party payer system for health expenditures reimbursed by complementary health insurance and a considerably higher number of complementary health insurance contracts acceptance (131 on average). Access to nursing care is possible with or without an appointment and, contrary to "associative" HCC, new patients wishing to register with a "preferred" general practitioner are systematically accepted.

<sup>4</sup> [www.has-sante.fr/](http://www.has-sante.fr/) and [esante.gouv.fr/asip-sante](http://esante.gouv.fr/asip-sante)

The "municipal" HCC also differ in that expanded professional roles are more developed than in "associative" HCC, whether regarding secretaries, nurses or physiotherapist-masseurs. As in "associative" HCC, the secretariat is often shared by all the health professionals on the premises, and contrary to private practice sites, is responsible for cheque-cashing but has no organisational functions. Its roles and functions are, however, more varied than in "associative" HCC (assistance with benefit entitlements or administrative procedures...). The development of additional roles and functions for nurses beyond nursing procedures is more extensive than in "associative" HCC (such as nursing consultations, patient orientation for emergency or non-scheduled demands, therapeutic education for chronically ill patients). More often present than in "associative" HCC, the physiotherapist-masseurs also ensure a variety of tasks (prevention of musculoskeletal disorder, monitoring of patients with chronic lower-back pain...).

The "municipal" HCC also differ in the development of multi-professional cooperation (monitoring and treatment protocols for chronic diseases...) which is less developed than in "associative" HCC but more so than in privately practice facilities. Mono-and multi-professional coordination is also more highly developed than in other clusters of sites other than the coordinated and cooperative cluster of MGP.

The development of actions promoting health or prevention are frequent (83%) and collaboration or coordination (agreements, information sharing meetings, interventions, communication, expertise, care activities...) with other services or institutions in the area are systematic.

In terms of computerisation, the "municipal" HCC differ from the "associative" HCC. The use of a unique and dedicated medical record management software certified by the HAS and ASIP is rare (28%) and the use of certain computer assisted functions is even less frequent. Access to medical records by other professionals (paper or computerised) is not systematic.

The "municipal" HCC finally differ in terms of size (on average 1.372m<sup>2</sup> and 12 consultation or care delivery rooms), a greater number and variety of profession-

als (14 medical health professionals and 17 non-medical professionals), and a higher level of medical equipment<sup>5</sup> than in "associative" HCC and clusters of MGP and HCN (on average 13 types of identified medical equipment out of a total of 27). Contrary to the preceding cluster, but less so than in private practice sites, the sharing of patient lists is slightly more frequent in "associative" HCC, measured by the number of nursing procedures prescribed by a general practitioner on site and carried out on site by HCC nurses (26%).

Finally, as for "associative" HCC, ENMR resources are most frequently allocated to remunerating the time spent by professionals on coordination (61%) rather than investments in equipment and/or medical supplies (67%).

### The three clusters of MGP and HCN

#### Cluster 3: essentially made up of recently established but less well integrated HCN

This cluster of MGP and HCN is in the majority made up of HCN (79%) and concentrates half the sample of HCN participating in the ENMR. These sites are relatively recent (on average two years old) and often located in disadvantaged rural areas in terms of health care supply (32 %), areas with a reduced health care supply but lower health care needs (21 %), or disadvantaged urban areas in terms of health care supply (37 %). The characteristics of the HCN in this cluster demonstrate a lower level of multi-professional integration, coordination and cooperation than other clusters of MGP and HCN.

Taking their multi-site configuration into account, the HCN in this cluster differ in terms of size and staff numbers and have a specific management structure. The number of nurses (on average 9 against 5.6 for all MGP and HCN), general practitioners (6 against 5.1) or administrative personnel (5.9 against 3.8) is higher as are the number of rooms dedicated to nursing care (2.3 against 1.6), meetings, meals and/or rest rooms (2.2 against 1.9) or patient reception or waiting rooms (5.9 against 4.7). Site management is often ensured by several resource persons.

The level of patient sharing is similar to that of other clusters of MGP in terms of the proportion of general medical procedures conducted by another GP on site than the patient's "preferred" GP (16 %) <sup>6</sup>. On the other hand, as in the 'more recent and fairly poorly integrated' MGP, the proportion of nursing procedures prescribed by a GP and administered by nurses from the same site (38 %) is lower than in the second cluster of MGP.

Contrary to the MGP clusters, the associative status predominates with at least one signatory GP (74%) or paramedic (68%), but this cluster particularly distinguishes itself by the virtual absence of paramedical signatories in the property holdings civil partnership (SCI). The HCN in this cluster also differ in their considerable non-response rate, and the lack of or poor development of coordination between professionals (mono-disciplinary meetings, multi-professional exchanges for the management of complex cases...), the specific roles and functions of secretariats (patient record management, scheduling appointments...), and nurses (telephone reception, advice or information for patients, emergencies or non-scheduled demands...), information sharing and its computerisation (dedicated software or not). On the other hand, external cooperation through the participation in one or several networks or regular collaboration between external health professionals is very frequent.

In terms of accessibility, weekly opening hours in this cluster of HCN is superior to that of HCC but lower than all clusters of private practice facilities (55h30). The third-party payment system for expenditures reimbursed by the National Health Insurance is less favoured (42%), as is the systematic registration of new patients on the preferred GP scheme (47%), compared to other MGP, HCN and a fortiori HCC.

Finally, this cluster is characterised by the allocation of ENMR funds to the remuneration of professionals.

<sup>5</sup> Such as: oximeters, glucose monitors, spirometers, electrocardiogram, ambulatory blood pressure monitors, electronic blood pressure monitors with multiple arm cuffs (adults, obese patients, children)...

<sup>6</sup> We are unable to evaluate this measure for HCC as GPs working in these facilities cannot be identified in the National Health Insurance Cross-schemes Information System (Sniiram, Cnamts)

neration/compensation for time spent on site management (53%) and, to a lesser extent than in clusters made up in the majority of MGP, to coordination (58%) and/or the purchase of equipment and/or supplies (32%).

#### **Cluster 4: in the majority fairly recent and poorly integrated MGP**

Composed of 33 MGP and HCN, this cluster is in the majority composed of MGP (79 %). It concentrates over a third of MGP (38 %) and a quarter of HCN included in the ENMR sample. In comparison to the HCC, these sites are recent (five years old on average). They are for the most part located in disadvantaged rural areas in terms of health care supply (42 %), or in areas with a lower health care supply but lower care needs (15 %). The MGP and HCN in this cluster are characterised by a lower level of integration, coordination and multi-professional cooperation in comparison with the preceding cluster.

In this cluster sites are generally managed by one or several health professionals working on the site, either on a voluntary, remunerated or salaried basis (82 %). They do not differ in terms of size or composition. However, they appear to have less medical equipment (7 against 8.4) than the other cluster of MGP.

In opposition to 'relatively recent and more integrated' cluster of MGP, this cluster is characterised by less mono-professional coordination and the absence of or irregular multi-professional coordination, the frequent absence of specific nursing roles and functions (dosage of anti-vitamin K, complex care pathways, physical or telephone reception of emergencies and unscheduled demands...) and secretariats (accounting, site organisation and administration...), the absence of or lesser development of multi-professional cooperation within the sites (multi-professional coordination project, complex case management...) or with external professionals or institutions. The computerisation of medical records and information sharing is more frequent than in the HCN cluster but the use of other computer assisted functions is lower than in the second cluster of MGP, notably the computerisation of nursing records.

The absence of SCI signatories among doctors (82%) and paramedical professionals (88%), is more frequent, but also the "*Société et groupement d'exercice*" (SGE) [respectively 91% and 88%], opposes this cluster of MGP to the second.

Patient lists are less frequently shared between professionals on site than in the other cluster of MGP and more globally compared to private practice sites, with a lower proportion of procedures carried out by a different GP than the patient's "preferred" GP (13.7 % against 16.7 %) and nursing procedures prescribed by the GP and carried out by nurses on the same site (39.4% against 47%).

In terms of accessibility, the MGP and HCN in this cluster are characterised by access to general medicine by appointment only (61 %), permanence of care is essentially ensured by an on-call organisation within the sector (58 %) or freely regulated (21%), and the refusal of new patients wishing to register with a "preferred" GP is frequent (30 %).

ENMR funds are quasi systematically allocated to the remuneration or compensation of professionals for the time spent on coordination activities (85 %), more often fixed sums or to a lesser extent, to finance the purchase of equipment or supplies (55%) or time spent on site management tasks (45 %).

#### **Cluster 5: in the majority composed of relatively recent and better integrated MGP**

Like the preceding cluster, this last cluster composed of 46 MGP and HCN is in the majority composed of MGP (85 %). It concentrates over half the MGP (57%) and a quarter of the HCN included in the ENMR sample. They are more recent than the HCC (six years old on average) and in the majority located in disadvantaged rural areas, in terms of health care supply or health care needs (61 %). The characteristics of the MGP in this cluster demonstrate better integration, coordination and multi-professional cooperation than the other clusters of MGP and HCN.

The sites in this cluster distinguish themselves from the other MGP and HCN by their size, composition, and multi-profes-

sional cooperation and coordination. The number of GPs (4.7 against 5.1) and nurses (4.3 against 5.6) is lower but they have a slightly higher level of equipment (9.3 against 8.4).

The level of integration is also higher with more paramedical signatories in the SCI (37 %) and the SGE (24 %), and a considerably higher rate of patient "sharing" between the professionals on site: 18.5% of general medical procedures are carried out by GPs other than the patient's preferred GP, 53.4% of nursing procedures prescribed by site GPs are carried out by on-site nurses.

Coordination is also more developed with more regular mono-professional and multi-professional coordination (weekly) for almost two thirds of the sites in this cluster, a quasi-systematic computerisation and patient record sharing within the site, the more frequent use of certain associated computer assisted functions as the computerisation of nursing records (reception/teletransmission of biological tests, computer assisted prescription, publication of briefing notes, reminders for screening tests...).

Professional roles are more expanded: more frequent though not systematised development of certain specific nursing roles and functions (dosage of AVK, physical and telephone reception of emergencies or unscheduled demands, complex care pathways...) and secretarial roles (site organisation and administration, coordination with external professionals, organisation of activities, therapeutic education programme management, consultation payments...), and regular multi-professional cooperation within the sites (multi-professional cooperation project, complex cases management) or with external professionals and institutions.

Finally, accessibility is also better than on other sites with new patient demands for registration with a preferred GP quasi systematically accepted (83%), access to general medicine is facilitated as it is possible with or without an appointment (67 %), slightly longer weekly opening hours and permanence of care organised by regulation or on-call duties (39 %).

In the same way as the preceding cluster, ENMR funds are in the majority used to remunerate or compensate professionals for the time spent on coordination (87 %), more often than not according to fixed modalities, and in over one out of two sites, to finance the purchase of equipment and/or supplies (54 %) or time spent on site management duties (59 %).

\* \* \*

The survey conducted among multi-professional primary care teams participating in the first waves of ENMR revealed considerable heterogeneity between sites essentially resulting from distinct structural, organisational and functional characteristics. We then established a five cluster typology, two for health care centers and three for the multidisciplinary group practices and health care networks group-

ing together sites with the most similarities. The different clusters show considerable differences in size, composition, accessibility, expansion of roles and functions developed by secretariats, nurses and physiotherapist-masseurs, the intensity of integration, coordination and cooperation within and between the categories of professionals.

The survey and classification work enabled us to group together 128 sites on the basis of dimensions considered as the determinants of performance. It makes it possible to go beyond the traditional distinction between sites according to status, MGP and HCN *versus* HCC, or according to professional status with self-employed *versus* salaried professionals. However, if the extrapolation of results observed here for 98 MGP and HCN extended to the MGP identified to date (280 according to

the Observatory of Health Service Supply) appears reasonable, this is not the case for the HCC for which the size of our sample is modest in terms of the number of identified sites (around 400 polyvalent sites).

Above all, this typology appears as an additional tool which takes in account the differences between the sites in terms of structural, organizational and functional characteristics. It is used in the studies of evaluation of the ENMR to analyse the impact of primary care teams. Thereafter, according the type of site and in comparison with the solo or monodisciplinary private practice sites, it will be explored the impact of primary care teams on different performance indicators such as activity, productivity and quality of practices of general practitioners, patients' consumption and expenditures of care or patients' pathways between ambulatory care and hospital. ♦

## FOR FURTHER INFORMATION

- Afrite A., Bourgueil Y., Daniel F., Mousquès J. (2013). « L'impact du regroupement pluriprofessionnel sur l'offre de soins : objectifs et méthode de l'évaluation des maisons, pôles et centres de santé dans le cadre des nouveaux modes rémunération ». *Irdes, Questions d'économie de la santé* n°189, juillet-août.
- Afrite A., Mousquès J. (2014). « Formes du regroupement pluriprofessionnel en soins de premiers recours. Une typologie des maisons, pôles et centres de santé participant aux Expérimentations des nouveaux modes de rémunération (ENMR) ». *Document de travail Irdes*, n° 62, octobre.
- Chevillard G., Mousquès J., Lucas-Gabrielli V., Bourgueil Y. (2013). « Répartition géographique des maisons et pôles de santé en France et impact sur la densité des médecins généralistes libéraux ». *Irdes, Questions d'économie de la santé* n° 190, septembre.
- Engels Y., Campbell S., Dautzenberg M., et al. (2005). "Developing a Framework of, and Quality Indicators for General Practice Management in Europe". *Fam Pract*; 22(2): 215-222.
- Epstein M.A., Jha A.K., Orav E.J., Liebman D.L., Audet A.M.J., Zezza M.A., Guterman S. (2014). "Analysis of Early Accountable Care Organizations Defines Patient, Structural, Cost, And Quality-of-Care Characteristics". *Health Affairs*, 33, no.1: 95-102.
- Escofier B., Pagès J. (2008). *Analyses factorielles simples et multiples : Objectifs, méthodes et interprétation*, Paris, ed. Dunod, 284 p.
- Fournier C., Frattini M.O., Naiditch M., avec la contribution de Durand G. (2014). « Dynamiques et formes du travail pluriprofessionnel dans les maisons et pôles de santé ». *Rapport Irdes* n° 557, septembre.
- Kringos D., Boerma W.G.W, Hutchinson A., van der Zee J., Groenewegen P.P. (2010). "The Breadth of Primary Care: A Systematic Literature Review of its Core Dimensions". *BMC Health Services Research*, 10: 65.
- Levesque J.F., Pineault R., Provost S. et al. (2010). "Assessing the Evolution of Primary Healthcare Organizations and their Performance (2005-2010) in Two Regions of Québec Province: Montréal and Montérégie". *BMC Family Practice*. 11: 95
- Mousquès J. (2011). « Le regroupement des professionnels de santé de premiers recours : quelles perspectives économiques en termes de performance ? » In : *Le métier de médecin*, Grignon M. (coor.), *Revue Française des Affaires sociales*, n° 2-3, p. 254-275.
- Pagès, J. (2004). « Analyse factorielle de données mixtes ». *Revue de statistique appliquée*, 52 (4), 93-111.

The authors would like to thank Anne Aligon, Sandrine Béquignon and Guénaëlle Marquis, for their contributions to the preparation and conduction of the survey field work among the sites participating in the ENMR; Jacques Harrouin for his contribution to the computerised data collection procedures and Ly Hoang for her participation in the first data exploitation phase.

IRDES

INSTITUT DE RECHERCHE ET DOCUMENTATION EN ÉCONOMIE DE LA SANTÉ •  
117Bis rue Manin 75019 Paris • Tél. : 01 53 93 43 02 • Fax : 01 53 93 43 07 •  
www.irdes.fr • Email : publications@irdes.fr •

Director of the publication: Yann Bourgueil • Technical senior editor: Anne Evans • Associate editor: Anna Marek •  
Reviewers: Stéphanie Guillaume, Sylvain Pichetti • Translator: Véronique Dandeker • Copy Editing: Anna Marek •  
Layout compositor: Damien LeTorrec • ISSN : 1283-4769.