Interdisciplinary collaboration within primary care teams

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Contents (second draft version: yellow parts throughout the document are to be completed)

Summary

The aim of this Position Paper is to address the issue of interdisciplinary collaboration (IdC) within primary care teams as a necessary (for some, even unavoidable) condition to face current and future health challenges. In order to improve, on one hand, features such as accessibility, sustainability, continuity, and quality of care, and on the other hand, patient experience and satisfaction, modern healthcare systems require IdC, especially in primary care. We intentionally use the expression "primary care teams" for two reasons: on one hand, the diversity of primary care organisations and settings throughout Europe recommends for the use of a general term, on the other, the assumption that IdC is intrinsically related to "teaming up" among different professionals for the benefit of patients.

But, why IdC within primary care teams should be a relevant topic? Is it a "nice-to-have" or politically correct adagio? Is it required only to compensate skill shortages (e.g. GPs)? It depends from the search for recognition by emerging professions (e.g. Nurses, Medical assistants, etc.)? Just another healthcare "management fad"? Or, do we need it because of structural and lasting changes (e.g. ageing, chronic diseases, endangering life styles, non-medical health needs, etc.) which require patient-centered care as well as reconfiguration of traditional health services? Research on the subject is growing, but still controversial: on one side, it shows that team-based primary care can offer better access, shorter wait times, more coordination and comprehensiveness of care, better intermediate outcomes (e.g. prevention of secondary complications, shorter visits to hospitals). On the other, value for money and cost-effectiveness are still uncertain although current literature and many observers are convinced that IdC in primary care could represent a real "healthcare breakthrough".

This Paper does not pretend to demonstrate that IdC is the first-best anyhow and at any price; nevertheless, it makes the case for a better understanding of why it is already useful nowadays and probably even more in near future, what are its key components, how it works and could be assessed. The dissemination of IdC in primary care teams throughout Europe has indeed to deal with some key questions:

- which evidence, drivers and barriers, should be accounted for the development of IdC in primary care?
- which educational, workforce planning and managerial policies can be adopted to develop interdisciplinary capabilities within primary care services?
- which organisational and operational conditions allow the improvement of trustworthy relationships among different primary care professions?
- which features of IdC enable integration of individual "patient-to-professional" relationships with complementary "patient-to-team" relationships?
- which patterns of micro-organisation (e.g. task delegation from GPs to Assistants, Nurses, Pharmacists, other Therapists, etc.) are applicable at a primary care level and how they can be improved?
- which approaches allow to optimize skill-mixes, attract new students and avoid professional burnout?
- which coordinating mechanisms among professions (e.g. protocols, clinical pathways, role and task definition, minimum levels of collaboration) and support systems (e.g. electronic medical records, patient summaries, decision support systems, pay for performance, etc.) are necessary to make IdC work?

Active sharing of IdC practice and experiences within primary care is needed to enable improvements in the quality of service delivery and to support advocacy for primary care at policy

making level in Europe (e.g. primary care not just as a healthcare cost-cutting opportunity, but also as a personal and distinctive added-value service to citizens). This Position Paper therefore wishes to draw further attention on the subject as, both Experts involved and the European Forum for Primary Care (EFPC), are truly convinced that IdC is at the very heart of primary care capabilities to take care of individuals health and local community needs.

Through the clarification of possible approaches to IdC within primary care, this Paper suggests conceptual systematisations, interpretative frameworks, hints and real-life examples, pointing out also recommendations for policymakers, health care practitioners and researchers. The document has been developed through discussions at conferences, case study analysis, remote exchanges within a network of 20 experts from 11 European countries coordinated by the Health & Management Laboratory of Scuola Superiore S.Anna in Pisa, Italy.

Setting the case for IdC within primary care teams

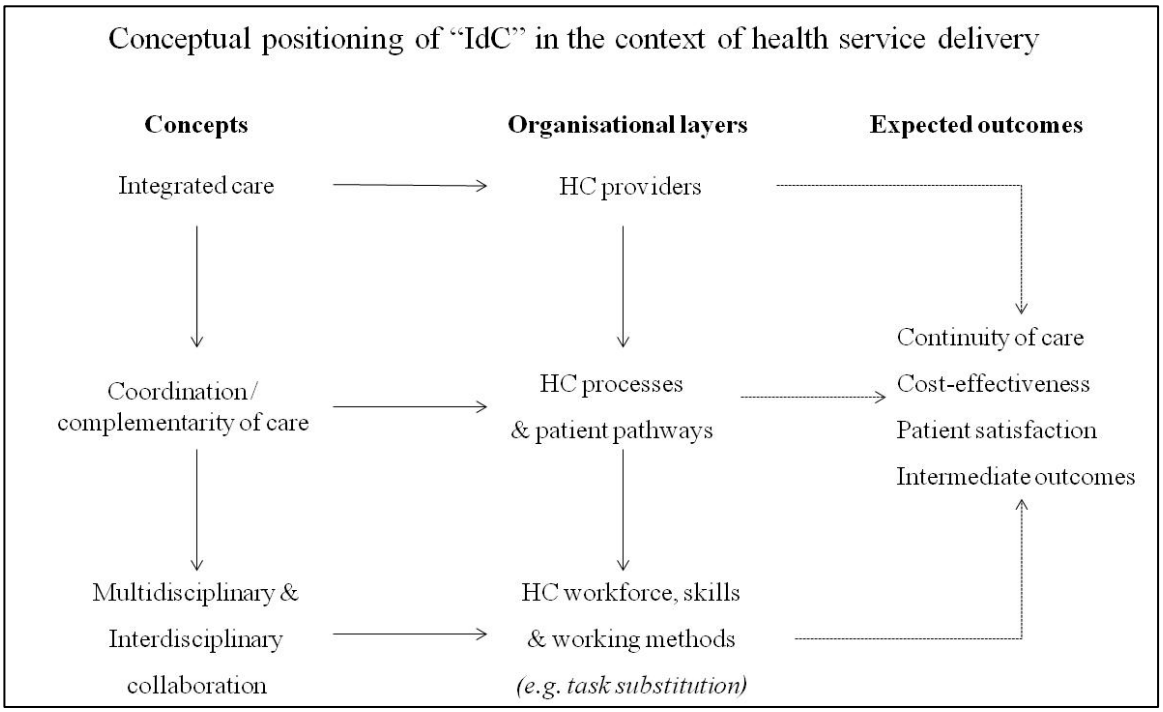
Most of health care systems in Europe struggle with inadequate coordination of care, whether it is for emergencies or for people with chronic conditions, often leading to a lack of responsiveness to health needs. Strengthening primary care by extending roles and skills within health systems is more and more regarded as a solution, although it requires investments to improve local capabilities and performance. Some systems also need to respond to skill shortages, others to resistance to change among primary care professionals.

The dissemination of best practices based on interdisciplinary collaboration (IdC) throughout Europe, from the perspective of the EFPC, is therefore essential to ensure a proper development of primary care capabilities and the ultimate delivery of effective and high-quality services. In order to contribute to the wellbeing of the population, IdC appears to be a key feature to be embedded in all European healthcare systems. Although each country experiences its own development in terms of professions and distribution or delegation of responsibilities within primary care settings, this Paper points out the need for a common framework about requirements in terms of competences and capacity, new and expanded professional roles, proper skill-mixes, patients' activation and other stakeholders involvement, in order to exploit opportunities of IdC and community orientation in primary care.

Indeed when health policies are able to move from debating about new primary care models to enabling conditions for trustworthy relationships among different professionals, chances for better coordination and continuity of care usually increase. A vision is therefore needed to motivate professionals to move from "auto-referential identity" and "patient-to-professional exclusive relationship" to "IdC" and "patient-to-team" loyalty. IdC is indeed particularly important for the management of long term conditions and countries with a strong primary care system and established IdC care teams tend to develop more comprehensive models to manage chronic conditions, ensure access to services, continuity of care, coordination and integration, range of services and better clinical outcomes. IdC requires conditions including educational and workforce policies for interdisciplinary capability, increasing inter-professional trust, improving skill mix and task delegation, coordinating mechanisms and both managerial and information tools. Research is also needed to improve the modelling and comparison of approaches and solutions.

This paper adopts therefore a pan-European approach to IdC: in order to properly discuss real cases, it is important to initially explore the concept of IdC, how it applies to primary care teams, and why it is relevant to raise awareness in Europe. In this perspective it might be useful to position

and somehow define boundaries or interdependences with other issues characterising health service delivery, such as integrated care, coordination or complementarity of care, multidisciplinarity, task substitution. Such terms are often considered interchangeable as the all reveal different features of interactivity in health service delivery, while they do probably apply to different organisational layers (e.g. healthcare provider, process of care, professional roles and skills) and influence differently the final result. The goal of a positioning being not to provide the ultimate definition of IdC, but at least to reach a mutual understanding of its features and correlations with other conceptualizations.



For instance, integrated care has long been something of a holy grail for many healthcare systems: "though it is something everyone agrees is desirable, there is less agreement on how to overcome the very real challenges to implementation" (J. Dixon, Director of The Nuffield Trust). In this sense integrated care relates to organisational entities as it requires governance frameworks (to link culture and behaviours to mutual accountability), management systems (to deal with risks, performance and incentives), as well as technological capabilities (to ensure support to decisions, comprehensive patient care and continuity of care). Integrated care involves of course also primary care and the interfaces among different levels of care, as it appears often to be a necessary condition to ensure complementarity of care.

This latter can indeed assume different meanings (e.g. between treatments, professional roles, level or specialisation of providers, public vs. private actors, etc.), but for what concerns the sake of IdC, we would like to stress that this notion becomes valuable when it relates to "complementarity of care processes", which means that services are delivered on the basis of possible or best sequential combinations of skills, structures and resources. In this sense IdC in primary care teams can support complementarity of care making sure, for example, that patient risk profiles are managed as

much as possible outside hospital settings through organised patient pathways (e.g. prevention, disease management, case management), thus preserving the opportunity for hospitals to concentrate on complexity and intensity of care.

Moving forward, are multidisciplinarity and interdisciplinarity interchangeable or synonymous? Probably not, as multidisciplinarity is a "non-integrative mixture of disciplines in that each discipline retains its methodologies and assumptions without change or development from other disciplines within the multidisciplinary relationship". Multidisciplinarity is therefore distinctly different from interdisciplinarity: within a multidisciplinary relationship this cooperation "may be mutual and cumulative but not interactive" (Ausburg 2006), while interdisciplinarity blends the practices and assumptions of each discipline involved[1]. The difference might look subtle, but let's think of it applied to healthcare: multidisciplinary means that health care providers from different professions work together to collaboratively provide diagnoses, assessments and treatment, within their scope of practice and areas of competence. Interdisciplinarity factors involve different professions integrating several disciplines or perspectives in the pursuit of a common task (e.g. taking care of patients with simultaneous chronic co-morbidities and social needs). Interdisciplinary involves attacking a subject from various angles and methods, eventually cutting across disciplines and forming a new method for understanding the subject. A common goal of understanding unites the various methods and acknowledges a common or shared subject or problem, even if it spreads to other disciplines (think of mental health, chronic conditions, community oriented primary care services, etc.). In this Paper, considering the growing challenges and expectations from primary care services within most European healthcare systems, we think that multidisciplinarity might be useful but, nevertheless, insufficient to tackle problems of fragmentation and accountability of care (the goal being not just to pull under the same roof different professions involved in primary care, but making them work together on the basis of interdependences and professional trust). For this reason the focus should be more on developing interdisciplinarity, starting from educational systems (e.g. transforming medical and nursing schools in schools of health sciences?) and reaching primary care practices and continuous educational programs.

Finally, different outcomes should be expected when health providers are integrated, follow complementary processes, are able to capitalise on multidisciplinarity in order to potentially reach interdisciplinary collaboration (through task substitution, coordination mechanisms, etc.) as a distinctive advantage for all parties (citizens, professionals, third payers), especially in the settings of primary care services. Considering the various definitions proposed in the literature, it can be stated that (D'Amour et al. 2005): collaboration is commonly defined through five underlying concepts: sharing, partnership, power, interdependency and process. The most complete models of collaboration seem to be those based on a strong theoretical background, either in organizational theory or in organizational sociology and on empirical data. However literature does not provide a serious attempt to determine how patients could be integrated into the health care team, despite the fact that patients are recognized as the ultimate justification for providing collaborative care. For example, continuity of care is indeed not just the right to access health care at any time (e.g. for

[1]Although interdisciplinary and interdisciplinarity are frequently viewed as twentieth century terms, the concept has historical antecedents, most notably Greek philosophy. Klein (1990) attests that "the roots of the concepts lie in a number of ideas that resonate through modern discourse—the ideas of a unified science, general knowledge, synthesis and the integration of knowledge" while Gunn (1992) says that Greek historians and dramatists took elements from other realms of knowledge (such as medicine or philosophy) to further understand their own material.

emergency); it implies also continuous services provided by several different professionals, who are able to share information and integrate assistance in various settings (e.g. home, ambulatory and hospital) and as such being accountable for resources and outcomes. Otherwise, lack of continuity of care increases health inequalities, as citizens with lower education and wealth are more exposed than other categories.

As European countries have different starting points and structural or historical legacies on these subjects, we think that the attempt of linking IdC to other relevant concepts for primary care services is not just a theoretical exercise, although we do not have the ambition here to solve all ambiguities or redundancies. For sure we also need to add that policy makers and professions should avoid to use IdC as a defensive tool for maintaining prerogatives or an offensive approach for claiming recognitions; individual professional interests might be legitimate, but usually inferior to the benefits potentially attainable through inter-professional collaboration (which is not a "zero-sum game", but a "positive sum game" if all professions accept to invest in IdC for a higher shared return, rather than to exploit it as an opportunity to subtract power to other categories). In this Paper we definitely advocate for an advancement of primary care through IdC and not for a warfare game, among "traditional professional rentiers or new comers", to reach supremacy in patient relationship or funding, which could lead to fatal implosions for the whole primary care sector.

IdC might involve shifting of tasks, redefinition of roles and occupational qualifications, but will deploy its full potential when changes in the balance of power among different professions are mutually recognized among all parties involved. In some countries, for example, advanced nursing is becoming a first-contact care (tackling the prescribing monopoly of doctors), but also the pivotal role of modern disease management programs, as well as screening and vaccinations (Groenewegen 2008); such innovations are likely to produce tensions over established roles, challenging previous professional identities and educational paths, and although it is not easy to predict final developments, in this Paper we pledge for the higher value of inter-professional partnership, regardless of the final adjustment of power and leadership among professions. Innovation is indeed a "disruptive force" which produces lasting positive effects when parties are able to identify new opportunities[2]. Indeed, task delegation might also lead to duplication or increase of services rather than to substitution or savings, because lower costs might be offset by longer consultations or use of more resources for caring, which means that IdC has to prove its value not as a Darwinian selective process but rather as a recombination of skills and roles able to affect positively resource consumption and final outcomes[3]. This issue poses also some new research questions, as some reviews (e.g. Dierick-van Daele et al. [4] 2008) highlight several potential limitations that influence the validity and generalizability of skill substitution. However, successive studies from Netherlands (Dierick-van Daele et al. 2009), which evaluated through a randomized controlled trial process and outcomes of care provided to patients with common complaints by general practitioners or specially trained nurse practitioners as first point of contact,

[2] For example, task delegation from doctors to nurses, and then to nurse assistants or others, implies in the short term a growing opportunity for the delegated professions, but will produce greater and lasting benefits if all professions are able to define a new method of working together, which might lead the delegating party to reposition on new functions such as managing primary care organizations, interfaces between levels of care, professional education, innovation in service delivery.

[3] For example, benefits or outcome could be in terms of (ref.): improved biological values monitored by process indicators, changes in number of hospital admissions, readmissions, office visits, emergency department visits, skilled nursing facility admissions, home care visits, and changes in patient self-rated physical, emotional, and social functioning.

[4] Full economic evaluations per se are of limited value for making decisions about substitution of skills. The tenuous relationship between structural, process and outcome variables is not sufficient investigated in terms of costs and consequences of substitution of skills.

reported that in both groups, the patients highly appreciated the quality of care, without statistical significant differences in health status, medical resource consumption and compliance of guidelines. Patients in the nurse practitioners intervention group were more often invited to re-attend, had more follow-up consultations and their consultations took statistically significantly longer. Nurse practitioners and general practitioners provide comparable care, which might lead to an increased involvement of specially trained nurse practitioners in primary care (we add here, as they could compensate for GPs shortage and as they cost less both in terms of basic education and remuneration).

On the basis of such contributions, some could even argue: do we still need clinical doctors in primary care, or could we replace them with registered nurses (e.g. such as in UK) o nurse practitioners (such as in the Netherlands)? Besides potential shortage of physicians and benefits for patients from direct relationships with nurses, one must observe that dealing with minor health problems is different from more serious complaints which probably still require a different educational path (including the authority of prescribing medications and legal accountability). Here again, the issue is not about a clash of leadership, but about patient segmentation and inter-professional trust and integration: primary care still requires clinicians as a “necessary and irreplaceable condition”, but not anymore as a “sufficient condition” to ensure proper care (meaning that traditional professions need to be completed by growing or new professions).

From a different perspective, role enhancement, substitutions, task delegation and other mechanisms might also be useful as they give an opportunity to increase the scope of local services and create new professional skills (such as managing multiprofessional primary care practices, which might be a new attractive role compensating for the current lack of interest by medical students for primary care in some countries). In addition, doctors who are part of a team can focus their time on medical issues, allowing other health care professionals (such as nurses, dietitians, and social workers) to provide patient education on healthy living or how to manage chronic conditions more effectively (Kemp 2007). When implementing skill-mix changes, it is therefore important to conceive complementary professional roles to avoid duplicating tasks and loose potential improvements (e.g. Dennis et al. 2009 performed a review about GPs substitution in health promotion and disease management interventions for elderly people by Nurses and Pharmacists and found that those latter achieved the same outcomes ad doctors, although without evident reductions in service use).

Structural features, drivers and barriers for the development of IdC

IdC is mainly related and favoured when professionals work together in the same local primary care organisation or have continuous relationships: this does not necessarily imply "being under the same roof", although the situation of single professionals – such as GPs or Nurses – working in solo models makes more relative speaking of primary care teams. For such reason, IdC is connected and enhanced by the development of primary care organisations and providers. As for the sake of this Paper, it is quite relevant to point out some structural features, drivers and barriers, which probably fully apply when minimal organisational conditions in primary care are ensured (which are not the objective of this document, but have been treated for example by another European Forum for Primary Care Position Paper[5]).

Concerning structural features, as primary care services are still mostly "labour-intensive sevices", IdC has to deal with workforce management and education very closely. Indeed while each EU Member State is in charge of its medical infrastructure, as the 2008 *EU Green Paper on the European Workforce for Health* demonstrates, there have been growing concerns throughout the EU about health workforce numbers, training, motivation, right skills and right location (…). Concurrent and previous OECD studies highlighted that the average growth in physician and nurse density in the OECD area slowed sharply in the past 15 years compared with the previous 15 years. The trends for physicians were accompanied by changes in lifetime hours worked, growing feminisation of the workforce, increasing specialisation, and a growing number of health workers' retirements. Future projections even suggest a growing international competition to recruit the best and the brightest students.

Despite differences in how medical and nursing education is organised, most OECD countries exercise some form of control over student intakes, either by capping the total number of places or by limiting financial support to medical education. In fact, on average across the OECD, the number of medical graduates in 2005 lies below the 1985 level, revealing future potential gaps between the demand for, and the supply of, health professionals. Moreover the contribution of foreign-trained doctors to changes in stocks of physicians is significant and has increased over time in many OECD countries.

An example of an innovative educational approach outside Europe can be traced from Ontario in Canada, where the five university chairs of family medicine and the 10 University deans and directors of nursing identified a vision for collaboration of physicians, nurses and nurse practitioners in the delivery of care and the resulting requirements for the academic sector. Central to the realization of this view of primary care is considered "collaborative interdisciplinary teams", consisting of a family physician (and/or pediatricians), nurse, and nurse practitioner, with other providers (e.g. psychologist, dietitian, consulting pharmacist, chiropractor or physiotherapist, etc.) added according to the needs of the local population, including social workers (Pringle et al. 2000). The point being, how to educate professionals to collaborate, as the different health sciences disciplines usually have their own faculties or schools. IdC requires therefore interdisciplinary education, starting by existing primary care centers where collaboration is already real and which

[5] Meads G., The organisation of primary care in Europe, European Forum for Primary Care Position Paper, 2009.

can act as teaching centers, so that students can be exposed to IdC in clinical settings starting to internalize its features and benefits since the very beginning of their professional career.

More to be introduced about inter-professional education requirements and modifications to favor and enable IdC in primary care on the basis of literature, WHO Study Group on Interprofessional Education and Collaborative Practice, Eu policies and country experiences. Member of the Experts group please feel free to point-out relevant educational experiences around Europe to be included (…).

Moreover, migration and training policies should not be considered as the only possible solutions, as other policies aiming at a better use of the available health workforce are also called for, such as: improving retention (particularly through better workforce organisation and management policies, in particular in remote and rural areas); enhancing integration in the health workforce (e.g. by attracting back those who have left the health workforce and by improving the procedures for recognising and as necessary supplementing foreign qualifications of immigrant health professionals); adopting a more efficient skill mix (e.g., by developing the role of advanced practice nurses and physicians' assistants); and improving productivity (e.g., through linking payment to performance). Different countries are likely to choose different mixes of these policies, depending, among other things, on the flexibility of their health labour markets, institutional constraints, and cost.

Table 1: New roles and skill-mix: drivers, issues and possible interventions

Driver	Issue	Possible interventions
Skill shortages	Respond to shortages of staff in particular occupations or professions	Skill substitution; improve utilisation of available skills, develop new role
Cost-containment	Improve management of organisational costs, specifically labour costs	Reduce unit labour costs or improve productivity by altering staff mix or level
Quality improvement	Improve quality of care	Improve utilisation and deployment of skills of staff through achieving best mix of staff and roles
Technological innovation; new medical interventions	Achieve cost effective use of new medical technology and interventions	Re-training of staff; new skills; different mix or new type of role or worker introduced.
New health sector programmes or initiatives	Maximise the health benefits of the implementation of the programme through having appropriately skilled workers in place	Assess cost effective mix of staff required; skill enhancement of current staff; introduction of new roles
Health sector reform	Achieve cost-containment, improvements in quality of care and performance and responsiveness of health sector organisations	Re-profiling, "re-engineering"; labour adjustment; new roles; new workers.
Changes in legislative/ regulatory environment (Note, can also be a possible intervention)	Scope for changes in (or constraints on) roles of different occupations, professions. Changes in legislative environment. *E.g.* Increase in medical indemnity costs	Role change or enhancement; new skills required; introduction of new workers

Source: adapted from Buchan and Dal Poz, 2002

In this perspective IdC in primary care looks as an important feature to respond to such general challenges, as it might foster a potential contribution to the efficient use of the health workforce, for example by leveraging on the mix of staff in the workforce or the demarcation of roles and activities among different categories of staff (and not just necessarily physicians and nurses).

Skill-mix changes may involve a variety of developments including enhancement of skills among a particular group of staff, substitution between different groups, delegation up and down a disciplinary ladder, and innovation in roles. Such changes may be driven by different dynamics including service innovation, shortages of particular categories of worker (especially in inner cities or rural areas), quality improvement, and a desire to improve the cost- effectiveness of service

delivery (refer to table 1). For instance, there have been already in the recent time large differences in reported physician/nurse ratios across OECD countries and evidence of significant changes over time in some countries (table 4, possibly to be updated): this raises the issue of the direction of change and its desirability.

Table 4: The number of practising physicians per 1 000 practising nurses, 1960-2001

COUNTRIES	YEARS*										
	1960	1970	1980	1990	1995	1996	1997	1998	1999	2000	2001
Australia*			183	186	228	229	231	233	241	228	233
Austria		768	726	728	660	657	654	664	646	651	
Belgium					323	336					
Canada		208	188	190	198	201	203	209	211	211	
Denmark			317	362	359	357	356	359	360	359	356
France				557	543	542	528	522	505	488	477
Germany							338	338	338	339	340
Greece		1,123	1,249	993	1,075	1,070	1,070	1,093	1,121		
Ireland					176	170	165	167	166	159	161
Italy					750	783	761	773	808		
Japan	517	414	305	274		249		242			
Korea										431	431
Mexico			703	546	560	565	590	585	576	581	
Netherlands								119	125	128	129
New Zealand			254	203	211	210	242	231	234	233	228
Norway										113	117
Portugal			873		875	866	832	824	847	867	841
Slovak Republic					407	371	362		484	493	494
Spain				793	861	828	849	905	866	883	
Sweden	309	303	314	313	329	334	339	339	341	344	
Switzerland										327	
United Kingdom				187	222	224	234	230	223	228	
US										289	

* Data in 1980 for Australia refer to 1981.

Source: OECD Health project.

For such and other reasons that it is not convenient to address in this Position Paper, most countries are finding hard to deliver good primary care services and do still experience various backlashes: patients going to emergency room dissatisfied by the accessibility to GPs, a growing number of physicians in training who do not view primary care as intellectually challenging or economically attractive, significant variability in GPs productivity not only across countries but also between regions of the same country, scarcity of information about GP performance and impact on people's health (as it requires to combine population-wide preventive measures with disease management efforts and patient outcomes), limited sharing of information among levels of care through joint platforms. Once again some of those issues can be tackled if primary care professions start to work together systematically, sharing working environments, information and thus exploiting economies of scale (e.g. administration and supplies), of scope (e.g. geographical coverage of home-care or out-of-hours services), of knowledge (e.g. evidence-based medicine and evidence-based management) and of opportunity (e.g. intercepting patients for screenings or prevention while due for routine visits).

Taking into account those elements, Barbara Starfield (2009) always remembers that the key components of primary care include access to and use of first-contact care, patient-focused (rather than disease-focused) care over time for defined populations, services that are comprehensive and timely, and coordination of care when patients need services elsewhere. In this perspective, moving beyond structural features influencing the need for IdC within primary care teams, some specific drivers derive indeed from current challenges (meaning that threats sometimes can hide the best opportunities…), such as:

- shift from a "double burden of disease" (combination of infections, malnutrition and reproductive problems with non-communicable diseases, mental disorders and injury) to a "third burden" (health risks associated with ageing, chronic conditions, globalization, climate change and harmful lifestyles);
- gaps in salaries between physicians and other professions (with emerging qualifications and expectations), but also decreasing costs of new and more portable technologies (whether biomedical, for communication or recording);
- exponential increase in primary care functions (compared to past medicine, let's think about the full implications of new working methods such as the chronic care model);
- burnout of professionals, especially GPs, called on to deliver more and more services in less and less time;
- underutilization of complementary professions for medico-legal issues related to shared responsibility, lack of interdisciplinary education and lack of familiarity with the scope of other professional roles (Way et al. 2001);
- patient growing complexity with multiple, interacting and compounding problems – physical, psychological and social (Heath et al., 2009);
- challenge of assessing quality in primary care as it is grounded in interdisciplinary work (with interactions contributing or undermining results, both within practices and between specialties, disciplines, agencies and providers… which brings us to a syllogistic issue: if IdC is not practiced, how can it be measurable? And if only vertical outcomes of primary care – such as care for individual diseases – can be assessed, but outcomes of horizontal functions – such as integrating, prioritizing, and personalizing care – are much more difficult to grasp, which quality is really appraisable?);

Additional drivers can be traced according to the evidence brought by literature reviews:

- interprofessional teamworking seems to be affected by two main variables (Xyrichis and Lowton 2008): team structure (in terms of team premises, team size and composition) and team processes (in terms of organisational support, team meetings, clear goals and objectives, and audit);
- successful collaboration in health care teams can be attributed to numerous elements (D'Amour et al. 2005), including processes at work in interpersonal relationships within the team (the interactional determinants), conditions within the organization (the organizational determinants), and the organization's environment (the systemic determinants).
- according to a Canadian consensus effort on effective teamwork in healthcare (Clement et al. 2005), key factors underpinning success of IdC are: leadership and champions who can drive change management efforts, clarity regarding roles on the part of all team members, trust and being valued within the team, cultural readiness or significant efforts to create a culture of acceptance.

Although evidence in insufficient to inform current policy debates about the ideal staffing of a team-based primary care ideal practice, models in which GPs share responsibility with nurse practitioners, medical assistants, care coordinators, patient educators, clinical pharmacists, social workers, behavioral specialists and other therapists, are well poised to provide better primary care services. The opportunity to tailor care on the needs and preferences of patients (based also on the

size and resources of practices), to share decision-making tools (thus incorporating evidence-based processes of care, population-based interoperable electronic health records, performance measurement supports), to provide compensation for care coordination and services outside face-to-face visits (leading ultimately to the recognition of case-mix differences, achievement of quality targets and reduction of hospitalizations), is probably key. Moreover primary care cannot be addressed in a vacuum, but requires rewarding for those who contribute to high-quality, cost-effective care across the continuum, regardless of specialty or venue (Rittenhouse and Shortell 2009): this also implies developing measures of care that reflect experiences and relationships, rather than infrastructure and processes, moving public perception from the "gatekeeper" image to local comprehensive service centers able to decrease redundancies, medical errors, emergency visits and hospital admissions for ambulatory case sensitive conditions, re-hospitalizations recently discharged and instead improve prevention of costly complications. Given this perspective, health care systems should be careful to seize the opportunity of enhancing IdC in primary care being a medium-long term dynamic, learning lessons from the recent collapse of the financial sector: "remaining too focused on short-term gains is alluring, but in the end may prove foolhardy." For example, an implication of this, could be the suggestion to measure "enablement" as a marker of quality of care (Howie et al. 1997), as IdC primary care teams can empower patients to cope and understand what they should do to take care of their own health.

From an organizational perspective, as Ouchi (1980) stated out, when a product in uncertain (as it is in primary care because it depends from individual needs) and the applicable technology is also uncertain (when there is no single approach to each patient's need), then both markets and bureaucracies will perform poorly in producing high quality care, and therefore social actors will form "clans" with internal norms and professional socialization playing a major role in the definition of quality, as it happened in medicine and even more in primary care. The implication of Ouchi's analysis is that to improve quality in primary care it is essential to make explicit those attributes of clinical practice and caring processes that are part of the professional tradition and spirit about dealing with complex interactions between different conditions, diagnoses, contexts and challenges of prioritising, integrating and personalizing care for a succession of different individuals, families and communities. Given this complexity, for which markets or hierarchies do not provide adequate organizational models, quality improvements in primary care need to move away from linear approaches to engage multiple perspectives and levels that are more likely to be attributes of a working environment shaped on IdC. Indeed primary care must capitalize on the fact that in health status there is no linear progression of events (such as in education, moving from a lower level school to a higher one): uncertainties can always happen, so that a common limitation is to confuse primary care services as "primitive care", rather than interventions able to combine social and health determinants, managing risk factors in defined populations. What matters therefore are not the components of health systems, but their inter-relations (in which patients and families are not just external beneficiaries, but need to be activated actors). Professionals need to be paid for their proactivity, moving from episodic to continuous care and responsiveness to local needs. Health systems must provide stewardship, innovative payment schemes and inter-sectorial policies (e.g. road safety measures, norms for occupational health, work-related injuries, tax increase to combat addictions). In this perspective the workforce represents the ultimate asset to move from rigid and pyramidal health centers into health spaces extended to schools, workplaces, recreational areas and homes, exploiting new technologies (e.g. mobile devices) going beyond primitive work methods. Primary care networks need to be seamlessly integrated into the rest of the healthcare system, providing high-quality services with innovative strategies, educating patients to the benefit of universal social protection in health (Frenk 2009).

In this perspective, some Authors (Butt, Markle-Reid and Browne 2008) also suggest the salient attributes of interprofessional partnership processes potentially leading to IdC, such as:

- agreement (purpose & need for partnership);
- collegial relationship (reciprocity, communication, mutual trust, respect, equality, conflict management);
- interdependency (sharing: goals, values, philosophy, advocacy, accountability & responsibility, knowledge, planning & intervention. Willingness to cooperate, permeable boundaries, presence of synergies);
- power and leadership (shared within the group, contingent on knowledge & experience, consensual & egalitarian decision making).

Moving from drivers and processes enabling IdC to barriers to its development within primary care teams, it becomes a matter of "embarrassment of choice", taking into account all what has been already anticipated: auto-referential educational systems, organizational and provider resilience, professional resistances to change, rigidity in contractual agreements, lack of interoperable systems, partial evidence about final gains, limited public awareness about benefits of IdC, policy makers reluctance to invest in primary care, scarce availability of skills and leadership able to manage complexity entangled by primary care teams based on IdC. Moreover, there are also factors that would likely signal failure in implementing IdC: a lack of time to bring people together to reflect for the need of change, insufficient inter-professional education (including continuous education and persistence of professional silos), systems of payment not rewarding collaboration, few links between collaborative practice and individual goals, the absence of efforts to capture evidence for success and communicate to stakeholders, including the public. Additional general problems in healthcare teamwork can also be expressed in terms of (adapted from Opie 1997):

- failure to appreciate the value of different roles;
- power differentials inhibiting communications;
- professional autonomy concerning limited roles of some team members;
- professional roles limiting participation in decision making;
- conflict and conflict avoidance limiting team effectiveness;
- frequent staff changes complicating team learning and development;
- effective teamwork compromised by a predominance of non experienced workers.

We limit intentionally the analysis to these few remarks, as the challenge is to make IdC happen and not to comment all barriers that need to be overcome!

Possible frameworks to intepret IdC in primary care

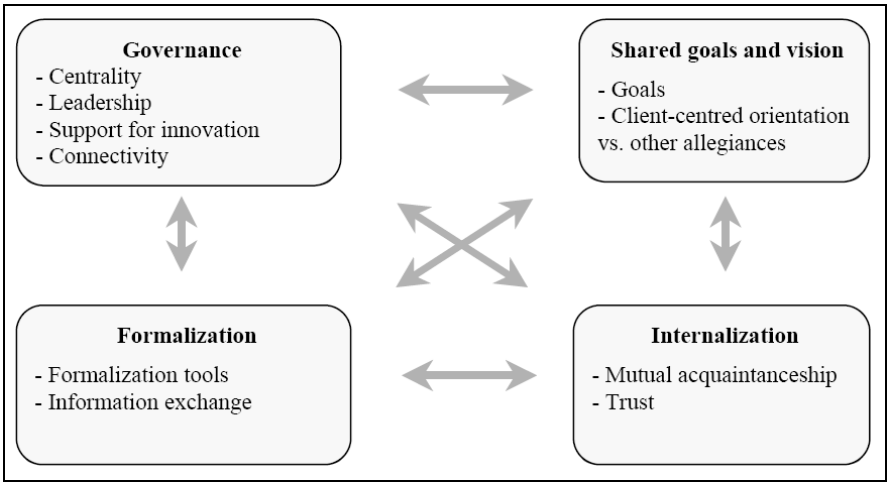
At this stage of the Position Paper some systematic thinking about IdC within primary care teams can help to compare national or local approaches and experiences. The goal being to identify components and dynamics which might be dependent or independent from national / local healthcare systems.

As already commented, IdC can be commonly associated to concepts such as sharing, partnership, power, interdependency and process of care, taking into account various factors influencing collaboration. Although frameworks in literature do not establish clear links between the elements in the models and the outputs, patients are however recognized as the ultimate justification for providing collaborative care. And this Position Paper moves in this direction, considering IdC as a good thing, if and only if, it implies the good of the patient (and possibly of the tax-payer, worker

or insurance subscriber… as in most cases they all are the same people!). For instance, an IdC model with patients receiving care from their primary care physician working with a registered nurse and a social worker (Sommers et al. 2000) in US, showed potential for reducing hospital utilization and maintaining health status for seniors with chronic illnesses.

A first example of a framework for understanding the structuration of collaboration, has been developed by D'Amour et al. (2008) on the basis of previous study of interprofessional collaboration in a primary-healthcare setting dating 1999. The model is based on the premise that professionals want to work together to provide better care, but at the same time, they have their own interests and want to retain a degree of autonomy and independence: the main instrument for negotiating such autonomy is power. Drawing on the literature, such a framework takes issues of structure into account but focuses on relationships between individuals and the interaction between the relationships and the organizational dimensions.

The model suggests that "collective action" can be analyzed in terms of four dimensions and ten associated indicators. As shown in the following picture, two of the dimensions involve relationships between individuals (shared goals and visions, internalization) and two involve organizational settings (formalization and governance which influences collective action).



Source: D'Amour et al. (2008)

As shown in the previous Figure, the four dimensions are interrelated and influence each other. The relational dimensions are:

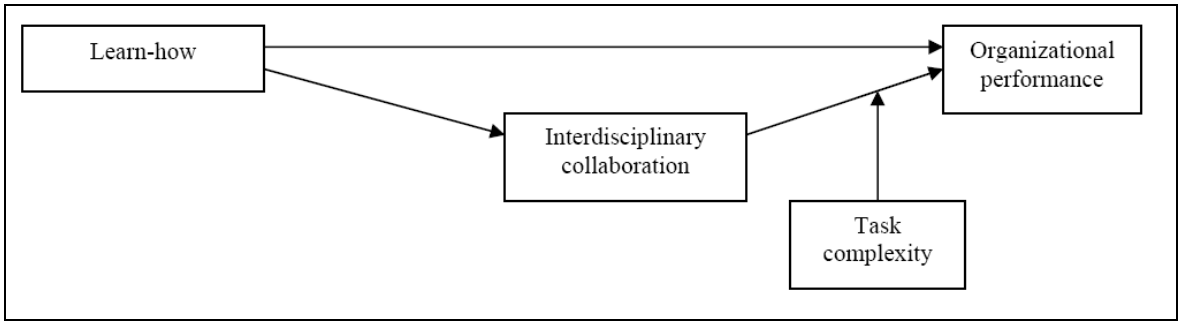
- **Shared Goals and Vision**, which refers to the existence of common goals and their appropriation by the team, the recognition of divergent motives and multiple allegiances, and the diversity of definitions and expectations regarding collaboration;
- **Internalization**, which refers to an awareness by professionals of their interdependencies and of the importance of managing them, and which translates into a sense of belonging, knowledge of each other's values and discipline and mutual trust.
- **Formalization** (structuring clinical care), defined as "the extent to which documented procedures that communicate desired outputs and behaviours exist and are being used". Formalization clarifies expectations and responsibilities.
- **Governance**, that is, the leadership functions that support collaboration. Governance gives direction to and supports professionals as they implement innovations related to interprofessional and interorganizational collaborative practices.

Together, these four dimensions and their interaction can capture most of the dynamics of collaboration. They are subject to the influence of external determinants such as resources, financial constraints and policies. The thesis being that collaboration is an integral part of everyday professional life, and under certain conditions it can be transformed into collective action. D'Amour's framework recognizes the complexity of the phenomenon and suggests a diagnostic of collaboration based on ten different indicators, revealing three possible stages of collaboration: active, developing, potential or latent collaboration. In this perspective, the indicators reported in the next table can be used to determine the intensity of collaboration and link it to other variables, including clinical outcomes, or to implement interventions in order to intensify it (similar to suggestions from literature on team-building).

Indicators of collaboration according to the typology			
Indicators	**Active Collaboration LEVEL 3**	**Developing Collaboration LEVEL 2**	**Potential or Latent Collaboration LEVEL 1**
Goals	Consensual, comprehensive goals	Some shared ad hoc goals	Conflicting goals or absence of shared goals
Client-centred orientation vs. other allegiances	Client-centred orientation	Professional or organizational interests drive orientations	Tendency to let private interests drive orientations
Mutual acquaintanceship	Frequent opportunities to meet, regular joint activities	Few opportunities to meet, few joint activities	No opportunities to meet, no joint activities
Trust	Grounded trust	Trust is conditional, is taking shape.	Lack of trust
Centrality	Strong and active central body that fosters consensus	Central body with an ill-defined role, ambiguous political and strategic role.	Absence of a central body, quasi-absence of a political role.
Leadership	Shared, consensual leadership	Unfocused, fragmented leadership that has little impact	Non-consensual, monopolistic leadership
Support for innovation	Expertise that fosters introduction of collaboration and innovation	Sporadic, fragmented expertise	Little or no expertise available to support collaboration and innovation
Connectivity	Many venues for discussion and participation	Ad hoc discussion venues related to specific issues	Quasi-absence of discussion venues
Formalization tools	Consensual agreements, jointly defined rules	Non-consensual agreements, do not reflect practices or are in the process of being negotiated or constructed	No agreement or agreement not respected, a source of conflict
Information exchange	Common infrastructure for collecting and exchanging information	Incomplete information-exchange infrastructure, does not meet needs or is used inappropriately	Relative absence of any common infrastructure or mechanism for collecting or exchanging information

Source: D'Amour et al. (2008)

Another framework of interest for IdC is from Harvard Business School based and is based on the "learn-how" concept (Nembhard et al. 2007), meaning learning activities that combine experimentation, adaptation-in-use, and staff participation to overcome the "knowing-doing gap" in implementation of organizational innovations. The tested hypothesis being that organizations using learn-how not only experience "project-level success" with the implementation of new work practices, but also "organizational-level success" as indicated by overall measures of performance[6]. Learn-how is associated with interdisciplinary collaboration which has been linked positively itself to a variety of organizational performance measures (e.g., performance quality, efficiency, productivity, innovativeness, technical performance, budget adherence) in a variety of settings, including healthcare. The literature on interdisciplinary groups and teams provides three, complementary explanations for this link. The first relates to the better quality of the decisions that are made when individuals with diverse expertise collaborate. The second explanation is that interdisciplinary collaboration develops transactive memory about "who knows what" leading to better planning, less confusion and fewer misunderstandings. The third explanation given for the interdisciplinary collaboration-performance relationship is that collaborators increase their detection of changing conditions and errors, enabling them to respond sooner to minimize adverse effects on performance. In conclusion the evidence of a strong interdisciplinary collaboration-performance relationship suggests that interdisciplinary collaboration is proximate to organizational performance because it fosters better decisions, coordination and error detection and recovery at the staff-level. Therefore the development of Idec within primary care teams can be grounded also on solid organization and managerial literature.



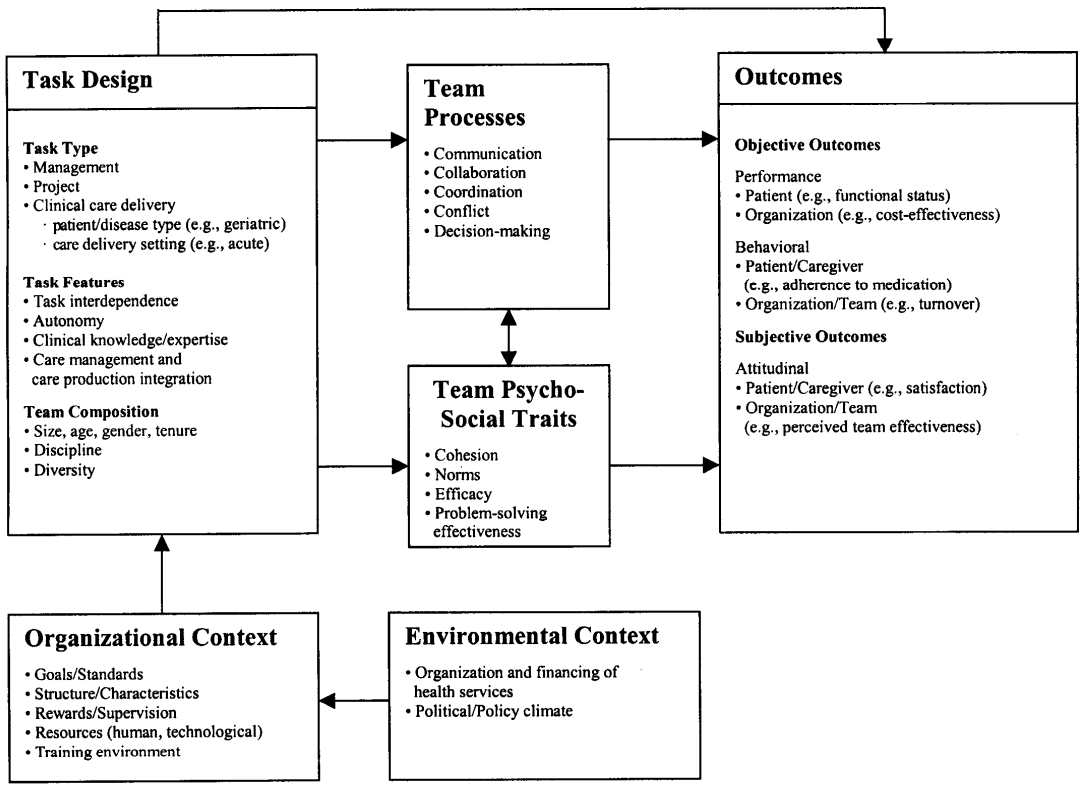
However the extent to which interdisciplinary collaboration affects organizational performance depends on the nature of the task to be completed by the workgroup, and in particular the complexity of the task, which increases with the number of acts that must be performed, the number of actors and acts that must be coordinated, and the number of unexpected changes in acts and relations among acts that occur as the task is performed. At an organizational level, task complexity is also related to service focus. Organizations that offer a limited menu of services are said to be less complex task environments than those that offer an extensive menu of services requiring constant production adjustments . Thus, for example, a primary care unit that performs home-care or rehabilitation assistance is considered a more complex task environment than one that does not because the former offers multiple services and because it offers services that place high cognitive demands on multiple, highly skilled professionals.
More complex tasks often require that an interdisciplinary group of professionals work together because professionals from no single discipline can handle the complexity and knowledge demands of the task effectively. Adding to task difficulty, the coordination requirements for these groups are

[6] For all detailed quotations supporting the framework please refer to Nembhard et al. Paper.

high, and are not well-satisfied by programming (e.g. standard operating procedures) because of the prevalence of emergent issues during the performance of complex tasks. Thus, complex tasks present heightened challenges for workgroups with respect to decision-making, coordination, and error detection. As we explained above, these are precisely the processes that interdisciplinary collaboration facilitates… think of this applied to primary care, just to realize what are the potential margins of service improvement by exploiting correlations between different professions.

Going more on a micro-level, an additional framework of interest for the development of IdC in primary care is the Integrated Model of Healthcare Team Effectiveness (IMTE)… to be completed, waiting for materials about Louise Lemieux-Charles work.

Figure 1. Integrated Model of Health Care Team Effectiveness (IMTE)



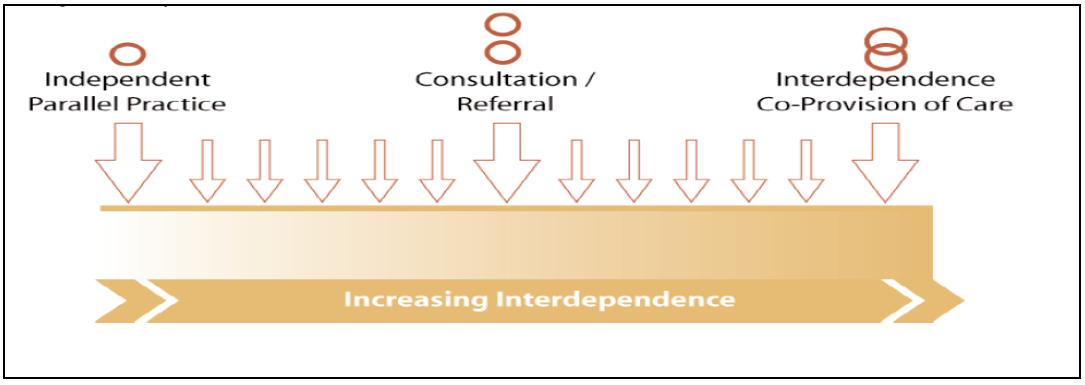
Note: Adapted from Cohen and Bailey 1997; Fried, Leatt, Deber and Wilson 1988; Shweikhart and Smith-Daniels 1996

An additional framework derives from the work of researchers for the Canadian Health Services Research Foundation (2006). This project explored specific components of teamwork including: effectiveness of teams, types of interventions, healthcare team dynamics, and the impact of government infrastructure, patient safety, legislation, and policy on teamwork in the healthcare system. Analyses showed an inadequate conceptualization of "team" and "team outcomes" and the complexity and variety of theories and methods used in the research. This lead to an issue about defining teams: patient population type (such as geriatric teams), disease type (such as stroke teams), or care delivery settings (such as primary care, hospital, and long-term care). Some main messages were then drawn:

- Teams work most effectively when they have a clear purpose; good communication; co-ordination; protocols and procedures; and effective mechanisms to resolve conflict when it arises.
- The make-up and functioning of teams varies depending on the needs of the patient. Patients and their families are important team members with an important role in decision-making
- Teams function differently depending on where they operate. Teams in hospitals have clearly defined protocols and procedures, professional hierarchies, and shared institutional goals, while teams in community-based primary care practices face challenges related to the role-blurring in community settings.
- Teamwork is influenced by organizational culture.
- The larger policy context can promote teamwork by providing consistent government policies and approaches; health human resource planning; legislative frameworks to break down silos; and models of funding/remuneration that encourage collaboration.

In particular, coming to the interpretative framework, successful team interventions are often embedded in initiatives working to improve quality of care through better co-ordination of healthcare services and the effective utilization of health resources with a focus on the determinants of health. Therefore collaboration enhances teamwork, as it is a process that requires relationships and interactions between health professionals regardless of whether or not they perceive themselves as part of a team. As shown in the diagram below, collaboration among health professionals is dynamic and occurs within a spectrum from:

- independent parallel practice with autonomous health professionals working side by side; to
- consultation and referral where health professionals exchange information; to
- interdependent co-provision of care with interdependent decision-making.



Health professionals who practice using a process of interprofessional communication and decision-making that promotes collaboration based on shared knowledge and a range of professional skills to influence patient care are engaged in collaborative practice. Interprofessional collaboration varies depending on the complexity of healthcare needs and the number and type of healthcare professionals working to address those needs. Research is identifying specific competencies that support the concept that being an effective collaborator can be learned. These competencies include: knowledge of healthcare professional roles, ability to communicate effectively with other health professionals, ability to reflect the effect of health professionals' roles/attitudes related to mutual trust, and willingness to collaborate. Interventions than can be at practice or organization level.

Practice-Level Interventions	Organizational-Level Interventions
• Develop survey on standards and performance measures on team effectiveness[157] • Practice sessions for team-building and problem-solving[158,159] • Self-management[159] • Team-training[159] • Interdisciplinary rounds[170]	• Strategic planning[171] • Leadership workshops[158] • Provide support to teams by identifying goals and implementing resources[142] • Establish protocols and guidelines on roles and responsibilities[172]

Teamwork in Healthcare: Promoting Effective Teamwork in Healthcare in Canada
CANADIAN HEALTH SERVICES RESEARCH FOUNDATION

Besides formalized frameworks, research approaches can indeed help to interpret and orient IdC within primary care. For instance (Baker et al. 2004):

- Team effectiveness studies of team structure, work processes and team processes and team psycho-social traits (what makes teams effective?). Teams are usually studied in range of different settings using varying instruments to gather data with little overlap.
- Team intervention studies which change team structures (how did new clinical roles or skills influence performance?). Studies that evaluate the impact of interdisciplinary teams on clinical outcomes. RCT designs common, outcome measures are reliable, valid but linked to specific populations and with limited measures of team or psychosocial factors. Unclear whether team performance improved or whether addition of new skills was key (e.g., physician on home care team).
- Quality improvement studies of how teams worked to improve (how did new team skills or team focused interventions improve outcomes?). Most studies focus on team measures, outcome variables are perceptions of impact or project activity, complex analytical models.

This synthetic overview about research approaches can be completed by pointing out key methods issues in qualitative studies of teams and open key research questions (as shown in the next Table).

Key Methods Issues In Qualitative Studies of Teams	**Key Research Questions**
• Team research requires complex analytical models • Analyses are often multi-level • Assessing interventions requires longitudinal data • Valid and reliable instruments are not available for many constructs • Where measures are available, they are often not used or other measures not directly relevant are used • Measures of team require pooling data from team members • Weighting team membership • Increasing numbers needed when team is the unit of analysis • Sample sizes limit analyses	• What are the key components of team effectiveness? • How does team effectiveness influence treatment outcomes, patient satisfaction with care and costs? • What interventions improve team effectiveness? • What organizational supports improve team effectiveness and the relationship between effectiveness and outcomes? • What instruments provide valid and reliable measures of team effectiveness?

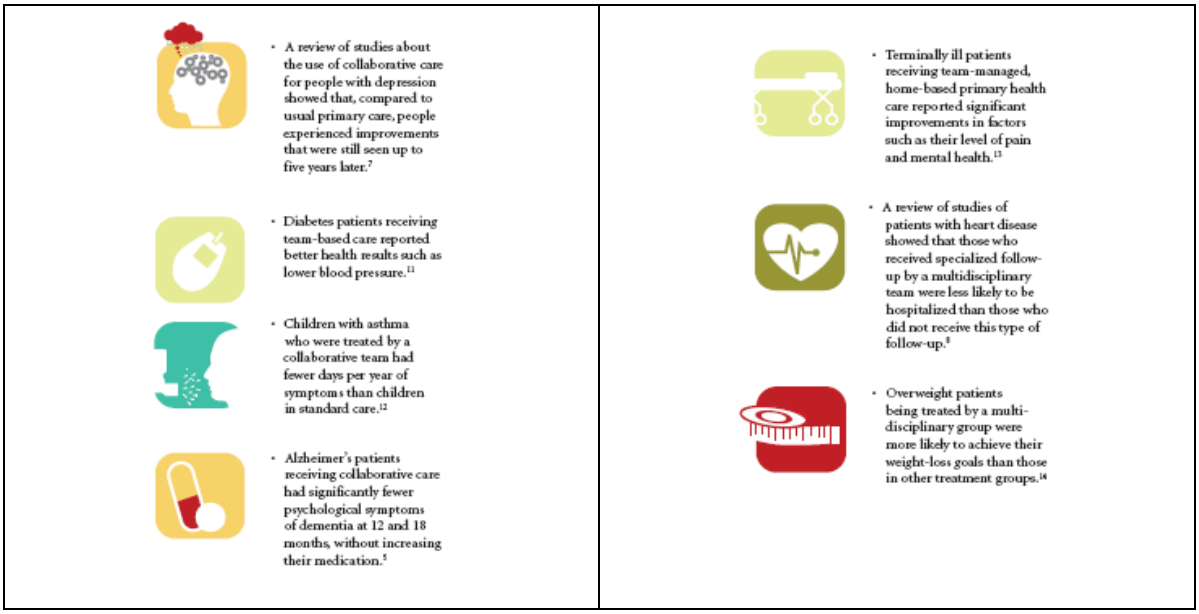
Source: adapted from Baker et al. presentation on Challenges in Linking Team Effectiveness and Health Outcomes Research, Academy Health Conference, 2004

IdC at work: case-studies from around Europe

A Position Paper on IdC has also to show real-life examples around Europe, so that readers can evaluate stage of development and adopted policies in different countries, benefits reached, good practices or pit-falls to be avoided. The possibility of activating a network of 20 experts from 11 countries sharing a common interest for IdC represents therefore a unique opportunity: for such reason a common grid for case selection and description is useful, as long as it considers running primary care teams shaped on IdC. Moreover the focus will be limited to European experiences, but also other cases as Medical Homes in the USA, Super Clinics in Australia or the Community Care Access Center in Ontario (Canada), could complete the panorama of IdC.

In other words, it is relevant to show what primary care teams based on IdC look like around Europe and what they could mean to patients, professionals and tax or third-payers. As reported in a document of the Health Council of Canada (2009): it's important to note that the existence of a team alone isn't enough to make a difference. In order for patients to benefit, teams must have the right mix of skills and health disciplines, team members need to communicate and collaborate well, with clear objectives, and they need to provide top-quality care to patients.

Example of potential benefits associated to primary care teams



Source: Health Council of Canada (2009)

Notes for the Experts involved in the crafting of the Position Paper.

Case-studies analysis can follow different methods, some are more research-oriented, others more descriptive. As we cannot produce a pure research effort, I suggest to follow an approach that is somehow "in between". Please think of running primary care teams in your country or of your knowledge where "IdC is a work", which means that is observable in practice. Then, the following grid can be used to retrieve salient features of the local primary care team or provider and the different nuances of IdC. The goal is not to fill necessarily every

line of the grid, but at least to have a common referential limiting excessive variability in the description or analysis of single cases. The grid is not normative, if you think there are missing features, changes to be made, or things that do not apply, please feel free to point them out (as long as it remains within a reasonable exercise...). The grid does not necessarily need to be filled in by Experts as long as adequate materials can be shared on the specific case-study.

Case-study features	**Description or reference to materials about the case-study**	**Example of details**
Legal status		Public or private, not or for profit
Organisational status		Independent provider or organisational unit
Organisational history		Brief description of main milestones that lead to IdC
Governance structure		Board, Managers, Professional leaders, organisational structure
Contact person		(Just for practical matters)
Main funding mechanisms		Capitation, fee-for-service, reimbursement schemes, direct payment, out-of-pocket, private activity for professionals
Location		Urban, Rural, Other
Physical accessibility and layout of the facility		Parking, waiting rooms, reception service, number and type of offices, meeting rooms, total square meters
Patient size list		< 5.000, from 5.001 to 10.000, from 10.001 to 20.000, > 20.000
Opening days and hours		Including shifts of personnel
Remote services		Phone system, web site, email, referral delivery
Main administrative services		Internal booking, exemptions, certifications, authorisation handling, external booking (e.g. for hospitals)
Professions involved		Number and type of contract for GPs, Nurses, Therapists, Social workers, Administrative personnel, Technicians, etc.
Main services offered		Primary care in ambulatory, at home, in hospital, in residential

		settings, pharmacy, optician, out-of-hours, specialist consultations, etc
Main professional roles		Who's in charge of what?
Technological instruments		Main diagnostics and treatment tools
Forms of IdC implemented		Health promotion, routine visits, disease management, case management, etc.
Drivers and barriers experienced		Who initiated the process? Which barriers had to be overcome? What makes the case-study special in a positive or problematic way?
Means for ensuring IdC		By role definition, protocols, task definition or joint activity (e.g. GP visiting with a nurse or medical assistant)
Practical examples of team-working		How and when interprofessional trust shows up?
Results attributable to IdC (and available indicators or data in support)		Direct or indirect results (in terms of resource use, service delivery, process of care, intermediate or final outcomes)
Added-value for professionals		What changed? What improved?
Patient reaction and involvement		In terms of experience, activation, satisfaction
Planning and performance evaluation of IdC		By service contract, budgeting, reporting systems
IT systems supportin IdC		Independent or shared EMR
Final assessment or statement (using a simple SWOT matrix?)		Was it worth to implement IdC? Which challenges are still ahead? No turns back?

Recommendations for the radication of IdC within European primary care teams

Lessons learned and recommendations for IdC consolidation within primary care (after review of previous sections of the Position Paper with Experts and case-study analysis).

While high quality care requires effective teams, there is little current research uses measures of team behavior and culture in evaluating clinical interventions or quality improvements…

Identifying the types of constructs and measures of these constructs that can be used in health services research will help to bridge the gap between team effectiveness research and clinical or quality improvement studies…

- *Which key success factors stem out from real-life experiences of IdC? And which barriers?*
- *Which issues are relevant for EU and national policies (western and transitional countries)?*
- *Areas for further research (e.g. measurement of IdC effectiveness using social or organisational network analysis, other?).*
- *Final remarks... IdC is not as an optional or "nice-to-have" but as an essential feature of primary care value proposition to citizens and a central component for the development of community-oriented health services*

Example of potential recommendations:

- *Provide a cultural environment which supports workforce development in primary care and uses skill mix and team work to address health challenges or professional shortages*
- *Develop Interdisciplinary education*
- *Point out IdC benefits for patients (especially for care improvements for chronic patients)*
- *Raise societal awareness about the value highly trained nurses in primary care complementary to GPs, both in terms of perception for being equal partners in care and to go beyond restricted task-oriented work frameworks towards professional capacity building (Markaki and Lionis 2008).*
- *A clear division of labour and clinical information systems (disease registers and shared notes)*
- *Address mistrust and different agendas of health professionals and professional organisations*

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