

Collaborating to manage polypharmacy

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Abstract

DiNCQUMGP (Divisions National Consortium for the Quality Use of Medicines in General Practice) reports on a collaboration between doctors, pharmaceutical companies, government agencies, and medicine users to manage polypharmacy (prescribing multiple medicines to a patient) amongst older people.

We have reported the outcomes of our collaboration (improving the Quality Use of Medicines) elsewhere. Here we discuss how we worked together, opened up new opportunities, and learned from one another. The first part of this article outlines a constructive new way of thinking about collaborating, that we argue is fundamentally different from current approaches. The second part describes what we did in the words of those involved.

Collaborating is the key

Discovery consists not in seeking new landscapes but in having new eyes. (Proust)

Many health-care structures and processes assume collaborating is essential. Government health policies frequently advocate collaboration. For instance, the Divisions of General Practice were designed "... to improve health outcomes for patients/clients by encouraging GPs to work together and link with other health professionals to upgrade the quality of health service delivery at the local level" (DHFS 1996).

The Commonwealth government established the PHARM Committee (Pharmaceutical Health and Rational Use of Medicines) in 1992, and the National Prescribing Service (NPS) in 1998, to work on the Quality Use of Medicines (QUM). Both bring together those involved in using medicines including consumers, pharmacists, hospitals, nurses, the pharmaceutical industry, government, and the medical profession. The QUM policy promotes the concept that members of the 'medication team' each play a role in the wise use of medicines throughout the community (DHAC website).

Health professionals are collaborating increasingly often (see NIS 1998). In 1996, collaborations accounted for "25% of the communicative relationships" between Divisions of General Practice and other health organisations (DHFS 1996).

The research literature promises big returns to those that collaborate. Health professionals and organisations are told that they have the opportunity to learn, create new opportunities, come into contact with new thinking, share resources, reduce costs, become more up-to-date, reduce risks, and do what they currently cannot do alone. Doctors and other health professionals can gain information about patients, access services, learn new approaches, gain resources, and find out about new policies and procedures. Collaborations between hospitals,

general practitioners and community services can smooth patients' transition from hospital to home care, and reduce the costly duplication of services (Walker & Adam 1998).

Current ways of thinking about collaboration

The literature on collaboration in healthcare is small, though growing. Most draws on two approaches, derived from older research into collaborations in businesses and public policy formation (Kanter 1994, Walker 1996, Walker & Adam 1998). The first consists of the *characteristics of good collaborations*. For example, Kanter (1994) says that "... in business, successful networks of alliances have three fundamental characteristics. Firstly, the partners gain benefits that are greater than a simple deal. The relationships open up new options for the future and opportunities that were not originally foreseen. Secondly, the relationships involve collaboration, or working together to do things the partners could not do alone. It is more than simply exchanging resources, whether that be facilities or referral of patients/clients. Thirdly, the relationships are not controlled using formal organisational mechanisms, but are negotiated through interpersonal relationships."

The second approach describes the *characteristic stages of collaborating* (in Walker 1996). The idea is illustrated in Table 1.

Table 1: Characteristic stages of collaborating (Walker 1996)

Phase	Basis	Achievements
Phase 1 Establish the conditions for the partnership	<ul style="list-style-type: none"> • Personal reputations • Prior relations • Organisation reputations 	<ul style="list-style-type: none"> • Uncertainty declines • Expectations and obligations become clearer • Cooperation enhanced
Phase 2 Conditions for building	<ul style="list-style-type: none"> • Mutual economic advantage • Trial period • One partner initiates progress 	<ul style="list-style-type: none"> • Rules and procedures • Clear expectations • Reciprocity • Trust
Phase 3 Integration and control	<ul style="list-style-type: none"> • Operational integration • Strategic integration • Social control 	<ul style="list-style-type: none"> • Development of collaborative activity

Difficulties with using the current thinking

At first reading, these descriptions seem sensible. The difficulties only become apparent when we put ourselves in the place of someone *inside* a collaboration. Questions a manager or participant might typically ask are as follows.

- How do we work out what people we need? How do we involve them?
- How can we get people to agree on a direction?
- How well are we doing? Could we do better? How?
- How can we get people to trust one another?
- How do we cope when staff change?

The current literature does surprisingly little to answer such questions. This is not because the research is 'wrong'. Our own collaboration had the same characteristics and stages. Rather, the researchers write from a position that readers, asking questions such as those above, are not in. They describe projects *after* they have been set up or completed, when all is going well. However people looking for advice are, by definition, at a stage *before* they are collaborating well. The researchers describe *what* a successful collaboration looks like, without explaining *how* people collaborate successfully. They describe collaborations from the *outside*, collaborators though see things from the *inside*. What collaborators need are not new facts, but new ways of looking and thinking.

New eyes and a new way of looking

We can look at a collaboration as though it were a human body (Morgan 1986). Like a body, a collaboration contains dissimilar 'organs' (collaborators, organisations, skills, resources), working together towards a common goal. Different 'organs' have different functions, each usually carrying out some function no other does. The life of a collaboration is in the interaction between the 'organs'. A good collaboration is a fit, healthy body.

New ways of acting

The metaphor of a body is more than a neat literary device (Lakoff & Johnson 1980). It is a powerful way to help people organise how they think and act. It helps sort out expectations, decide what questions to ask and where to look for answers, plan action, and assess performance. It imposes order and structure by labelling parts of the group: like who 'heads' the group and who is at its 'heart'.

It suggests lines of reasoning. For instance, *if* a collaboration is like a body, *then* it will be conceived, born, grow up, mature and finally die. Thinking this way prompts people to consider what resources they will need at different stages, how long each stage might last, and when the collaboration has developed enough to move from one phase to the next.

The metaphor also helps people think about what a healthy collaboration needs. The human body can survive the loss of some organs, although it may need a transplant or prosthesis to help. The same is true of collaborations. For instance, some research stresses the importance of face-to-face meetings (Gray 1989). Face-to-face communication is normal in groups, like kidneys are normal in healthy bodies, but it is not essential. Just as a person can survive on dialysis, so a group can function with limited face-to-face contact—although it may need support, such as briefing notes or e-mail correspondence, to function healthily.

Collaborations, like bodies, grow. They are 'conceived' when people see they need the help of others. During the 'gestation', potential participants bring together the 'organs' (people, organisations, resources, and skills) they will need. Collaborations are 'born' when participants formally agree to collaborate. During the 'early growth' of the group, people learn to work together, coordinating 'limbs' and 'organs'. Only when the group has learnt coordination is it 'mature' enough to work productively. As in a natural body, growing takes time and resources.

As the collaboration develops, new participants may become involved and the goals may shift. Either change can involve trauma to the group. Unlike a machine, which can go back to work as soon as a cog has been replaced, bodies require time to regrow, as new people and organisations are integrated into the group.

The health of a collaboration depends on good interactions between its parts. Good communication (good interaction) is crucial, particularly early on when participants are first learning to work together. Many collaborations employ a manager to coordinate (and regulate) communication.

The organs need to be in balance. Although different participants may contribute more or less, so long as all are content, the collaboration will remain healthy. If one organ begins to over- or under-perform, the whole collaboration can suffer. Communication is how the body assesses its well-being, checks interactions, diagnoses problems, and restores itself to health. Strength and fitness develop only with repeated practice.

New ways of assessing

The metaphor suggests new ways of assessing a collaboration. The current research looks at collaborations from the outside—like a doctor checking a body for pulse or temperature or symptoms of disease. Like a trip to the doctor, such assessments are only occasional.

However, collaborations also assess their health and fitness from within constantly, just as people are constantly aware of their own physical health. And just as what people say is a primary source of information about physical health for a doctor, so it should be when assessing a collaboration. However, assessing how a collaboration ‘feels on the inside’ is largely absent from research.

Collaborating to manage polypharmacy

The remainder of this article is about the Divisions National Consortium for the Quality Use of Medicines in General Practice (DiNCQUMGP, pronounced ‘DinkumGP’) and its first project, to manage polypharmacy amongst older people. It describes the first two years of collaboration as people saw it from the inside. We used a carefully structured protocol to interview eleven key participants on their experience, and we have included their words throughout. We have used their words to explain, in particular, how people worked together and what made the partnership work.

Conception and gestation: the idea of collaborating

Polypharmacy (prescribing multiple medicines to a patient) has long concerned many in the health sector. Polypharmacy contributes to higher mortality and morbidity amongst the elderly, and increases the risk of adverse drug reactions (Nolan et al 1989, Roughead et al 1998). Managing polypharmacy better will reduce the risk to patients and the demands on health budgets.

DiNCQUMGP was initially conceived to help GPs—who encounter polypharmacy daily (Rango 1982)—to manage polypharmacy amongst their elderly patients. We have reported the achievements of our collaboration—improving the Quality Use of Medicines—in Bolton, Tipper & Tasker 2001. But the project was not conceived in an instant. Several participants had been concerned about polypharmacy before DiNCQUMGP was set up.

GP 1: “[I became committed] initially through personal experience with patients,the alarm that I got looking at their medications prompted me to do a pilot study.”

In the earliest stages, a few motivated individuals came together through personal contacts, discussing what could be done. When they realised there was a real opportunity to achieve something, they quickly involved others they knew were also passionate about polypharmacy and the quality use of medicines. As the new people became involved, they in turn suggested others they knew through their personal and professional networks, or that they had worked with before, whose expertise and involvement the group would need in order to succeed.

GP/Divisional Administrator: “I wasn’t altogether surprised by the people that turned up. I’d worked with many of them, and our common interests helped in those early days with relationships. There was already a level of trust and knowledge that made it comfortable.”

Over several months in late 1997, people were invited to join the growing group. In the process, the collaborators began to refine what they might do about polypharmacy, how they could work together, and what resources they would require.

The birth of DiNCQUMGP

DiNCQUMGP was officially 'born' at a meeting of participants in 1998. Organisations represented were:

- four Divisions of General Practice: Central Coast (CCDGP) and Central Sydney (CSDGP) in New South Wales, and Fremantle Regional (FRDGP) and Osborne (ODGP) in Western Australia
- the pharmaceutical company, Merck Sharp & Dohme (MSD)
- NSW Medicines Information Centre (MIC)
- Health Insurance Commission (HIC)
- Integration SERU, Department of Community Medicine, University of New South Wales
- Area Advisor, Quality Use of Medicines, South Eastern Sydney Area Health Service.

Other organisations that would become involved later as DiNCQUMGP grew were the Department of Health and Aged Care (DHAC), the Consumers' Health Forum (CHF), the Royal Australian College of General Practitioners (RACGP), the National Prescribing Service (NPS), and The Pharmaceutical Alliance (TPA). The last is a group of pharmaceutical companies: CSL, Eli Lilly, GlaxoSmithKline and Merck Sharp & Dohme (MSD). During the polypharmacy program, TPA also included AMRAD Pharmaceuticals (now a division of MSD) and GlaxoWellcome (before its merger with SmithKline Beecham).

Formalising procedures

At the meeting, the group formalised what people had discussed in the preceding months. The participants agreed DiNCQUMGP's aims were to improve the Quality Use of Medicines by general practitioners (GPs) when prescribing for older people, and optimise health outcomes for older people by developing effective partnerships.

The collaborators negotiated a contract covering funding, management and dispute resolution processes. This was signed by each participating organisation.

A key to collaborating well later on was an agreement to communicate openly. This helped people discuss their organisations' needs and express different points of view.

MIC: "We agreed early on that we'd be frank and open, and individually we were all capable of sharing views."

Divisional Project Officer 1: "Everyone was just really honest about what they wanted and what their concerns were. Between the divisions and with MSD ... it was never 'us or them'. ... And same with the HIC. ... There wasn't territoriality or turf wars or any sense of competition. It was all very much cooperation and collaboration and honesty."

To ensure good communication and coordination between participants, MSD provided a Program Manager. At the meeting, the participants also agreed how to manage the funds provided by the four Divisions, MSD, and the GP Branch of DHAC.

GP 2: "[We had] a pretty transparent process. ... The finances were down on paper, and the Divisions all put the same amount of money in. Everybody knew exactly where the money came from and what responsibilities were ... It was always a consensus decision as to what we spent."

To oversee the polypharmacy project, DiNCQUMGP established a National Steering Committee. It included representatives of each participating organisation. The Steering Committee met at least monthly, mostly via teleconferences. It acted as a forum for discussion and decision-making, encouraged a multi-organisation approach using the group's expertise and experience, shared in developing resources and materials, monitored the program's progress and outcomes, and lead its evaluation, and authorised expenditure.

MIC: "We had a sense of structural integrity. By having a national Steering Committee, a program manager, divisional management committees and GP facilitators, we largely resolved our conflicts and genuinely engaged people in our program. The Steering Committee led from the top but its composition and roles meant that Divisions and GPs could resolve issues locally and, if need be, raise their concerns through their representative on the Steering Committee."

Although the existing research mentions communication and formal agreements as characteristics of a good collaboration, it does little to explain why they are so important. Communication, in particular, is treated as a mere tool for exchanging information. This does not explain the importance that our collaborators placed on frank, open and honest communication, or their excitement at achieving it. If communication is merely a tool, what is exciting about using it? The metaphor of a human body provides a much richer perspective. Although people need to communicate to exchange information, it is also the means for bringing together the group, maintaining it and growing it. Good communication is integral to a good collaboration just as a smooth, balanced interaction amongst the organs is a prerequisite for a healthy body.

Getting to know others

Negotiating the Memorandum of Understanding between all participants was the first success that brought participants together. But the first meeting, a full day in Sydney, was also important because it allowed participants to meet one another as *people*, establish a rapport with them, and generate enthusiasm. Although everyone had become involved through personal contacts, many did not know one another and were unsure about the project.

GP/Divisional Administrator: "At our initial face-to-face meeting, many of us were still asking "Who are these people? Can we work together?"

In hindsight, the all day face-to-face meeting was crucial. The usual means of communication for the group had to be done by teleconferences and e-mail because the project involved people working 3000km apart. The agreements made in the all day meeting were unlikely to have been reached as quickly and effectively in two-hour teleconferences and e-mail. Getting people together early on gave everyone an idea about those they were talking with, their commitment, their passion, and how much they could be trusted. Bringing them together helped make people feel part of a group. For many, this was a key moment in the collaboration.

GP 2: "That first meeting was, as far as I was concerned, the real significant moment. I met quite a lot of people who I didn't know. I knew some but probably a minority of the people. ... I thought that day when we all got together and got a real idea [of what we would do] was the thing that energised me and made me feel that, yes!, we were into something really worthwhile."

Consumer: "The most significant moment for me actually was the face-to-face meeting in Sydney because [although] I had heard everybody on the telephone, it really was great to put faces to names and it was such a positive and cooperative atmosphere. I was really blown away by it."

Another factor important to building trust and commitment was that the Divisions and MSD had provided funds. This not only made collaboration possible, but also showed the faith of key participants.

GP/Divisional Administrator: "I think that the funding [that MSD] provided may have been important ... in the sense that use of money is a lot about trust ... If somebody [else] is putting in a packet of money then that makes you feel a bit more comfortable about the money you are risking as well."

The importance of beginnings and of getting to know people as *people* is largely overlooked in the existing literature. Because the current research describes characteristic attributes or stages of collaborations, it tends to overlook the human and dynamic aspects of working together. Thinking of a collaboration as a growing body highlights the importance of the early stages of development, particularly as the 'organs' first develop and begin to work together.

Growing up: Learning how to collaborate

What people did that helped the collaboration

Two factors were crucial in learning to collaborate. The first was the willingness of people to contribute, even at the beginning when most people did not know one another. This willingness inspired others, which in turn built trust and commitment.

GP 3: "There was incredible goodwill. Somebody would say, "look I'll take that on board and do it" [and] they would actually take the burden on of writing a submission or setting an agenda or whatever it was."

The second factor was the way people communicated.

GP 2: "The level of communication was probably what stopped [any potential] friction, and also the fact that tasks tended to be shared out."

Factors that participants said helped them communicate well were: (1) the resources DiNCQUMGP had to arrange meetings, teleconferences, and occasional face-to-face meetings (2) regular teleconferences and e-mail bulletins, (3) the willingness of people to speak candidly and work through problems, (4) everyone's passion to manage polypharmacy, (5) people's willingness to acknowledge and value the expertise of others, and (6) the personalities of those involved.

Divisional Project Officer 2: "A lot is personality-based. Everyone had their own agenda but not at the expense of everything else."

HIC: "There were no egos popping up ... everyone was working cohesively".

GP 3: "Everybody was committing and they didn't seem to carry any baggage with them from other commitments ... There was a commitment to the program itself, and they really wanted it to succeed. I think there is a lot to be said for the people involved."

Learning to trust

As people worked together, they got to know other participants, saw their passion, and appreciated their expertise and personalities. This helped build trust. The more people trusted, the more they were prepared to speak openly and contribute themselves.

Divisional Project Officer 3: "There were some people who really had such a level of knowledge and expertise that you could not help but trust them. The fact that individuals who were given responsibility for tasks fulfilled them helped build trust. I think our accomplishments generally helped build trust because we were all working together and the participation in teleconferences was always very good and the face-to-face meetings were excellent too. Everyone stayed involved in the process throughout."

Trust did not appear instantly. It took some people months to achieve the level of confidence they have now. Trust was a product of good experiences, both in meetings and from working together.

GP 3: "We have achieved [unity] by this trust and I couldn't imagine the sort of goodwill that existed when we met in Brisbane."

Trust, a focus on polypharmacy, and good communication allowed people to talk through contentious issues:

Consumer: "There were certainly conflicting viewpoints at times and ... people had different ideas, but it never came to be a major problem. We seem to be able work through the differences."

GP 1: "People were not afraid of speaking up. We all respected each other. We had debates, but they were amicable."

Although the current literature notes that trust is important for collaborating, it usually overlooks the time, effort, persistence and goodwill needed to create it.

The Program Manager's role

The Program Manager was crucial for helping geographically separate people communicate and work together. Although communication between individual DiNCQUMGP members was often done informally by phone, communication at the group level was done mostly in regular teleconferences and occasional face-to-face meetings. The Program Manager had regular contact with all participants before meetings to make sure work had been done, and people had the information they needed. Regular contact with the Program Manager helped people feel part of the group and ensured they were kept up-to-date.

GP 3: "A large part of the success has been [the Program Manager's] chairmanship of the committee, having someone full-time driving the agenda and making sure things happened at a certain time. ... It was really important that every month that the agenda got put out, that it be minuted..."

The Program Manager also made sure DiNCQUMGP members had good records of decisions and activities: an important task in a group that met in person only rarely. Participants received regular e-mail updates and

minutes of all meetings. As well as facilitating work within DiNCQUMGP, the Program Manager did important work liaising with outside groups, and keeping DiNCQUMGP members aware of issues. The Program Manager also managed the budget. About a year into the project, the original Program Manager left and another person took on the role. This involved not only a new face but a new way of operating.

GP/Divisional Administrator: "I think we were very fortunate that [the change in Program Manager occurred]. [The first Program Manager] was one of the leaders from the front. It was really great to have somebody pulling and setting some direction in the early days when we were still a bit kind of tentative. But I suspect that if [she] had continued she would have actually got in her own way, and so that change [of Program Manager], although it seemed horrible [and] very threatening at the time, was possibly the best that could have happened."

It took time for both the new Program Manager and the other participants to establish new relationships and get used to working in new ways. This is a finding quite overlooked in the current literature. But the metaphor of a body suggests why time is essential. Like a body that has been injured or undergone surgery, a collaboration needs time to heal. The whole group needs to divert energy and resources into developing new relationships. And the remaining parts of the group may experience some trauma, as they lacked the support they formerly had.

Maturity: working together on polypharmacy

Collaborating to bring about results

To manage the polypharmacy project, DiNCQUMGP created several new groups. Each Division set up a committee to manage the project locally. Each committee included a facilitator or 'champion' to recruit interested GPs. The DiNCQUMGP Steering Committee also set up a data sub-committee to manage evaluation. It also consulted other organisations including PHARM and the NPS that had an interest in the Quality Use of Medicines.

To help coordinate activity in the rapidly expanding group, DiNCQUMGP developed protocols to introduce and explain the project. Like the change of Program Manager, it took time for people to learn to work together, develop trust, and build up good relationships.

GP 3: "[I joined DiNCQUMGP] after it had been launched. ... I just sat in on the teleconferences the first two or three times, because I really didn't know what the agendas were and I didn't have a total feel for the project. It took me a little while to find out who everybody was and what we were doing."

Building enthusiasm

Although the project, and particularly the data analysis, involved extra work - much of which was done voluntarily - it also gave people a sense of shared accomplishment. But even before the project had results, reviewing forms, seeing GPs complete workshops, getting positive feedback from GPs, and seeing the high return rate of review forms all helped build enthusiasm and increase commitment.

MIC: "I think that the completion of the program in full by the [participating] GPs, and of having all those sets of forms, and the high participation throughout, and getting to the point of sending off all the various forms from my GPs ... that was a significant moment."

In April 1999, DiNCQUMGP brought participants together to present the findings and discuss future directions. The positive results were very encouraging. Like earlier gatherings, being able to meet people face-to-face for a whole day also did much to draw people together.

GP 3: "When we got together, meeting the other people and seeing the initial coding, you [could] actually see that things were getting together ... It was really exciting to see."

GP 2: "That [meeting] got us going again ... Maybe because this was a whole day focused on this perhaps is somewhat different from ... an hour-and-a-half of a teleconference."

Assessing the collaboration

The polypharmacy project finished in late 1999. DiNCQUMGP though will continue, and has begun work on other projects with the support of its participants.

GP 2: "It is still well and truly going on and ... it is actually extending and other people want to join us, and who are indeed already joining the activity."

The results of the medication reviews showed the method worked well. DiNCQUMGP also wanted to evaluate the collaboration itself. So the Program Manager interviewed key participants, using a carefully structured protocol developed by an independent researcher. In the interviews, participants were asked about their experience collaborating together, significant moments, how people worked together, and what they valued. People assessed the success of the collaboration in many ways.

GP 2: "Success in a consortium is often quite nebulous. I think the fact that basically people have got on well together, that people have presented collaboratively at meetings and have gone collaboratively to meet with other people to present the business case..."

Divisional Project Officer 3: "I thought that the fact that we have existed for two years ... and that most of the original players are still part of the consortium, was a good indication of success. I thought the fact that we had actually completed the first phase and produced a report also shows you have got a product that is something to show for your effort. I think ... the profile of the consortium is also a good indicator. ... I think the fact that we've still got new ideas and projects happening, so we haven't just come to a grinding halt after the completion of the first phase; there are still things happening."

Many participants emphasised how they had grown to trust other participants, admired their expertise and willingness to contribute, and how much they looked forward to working together again. The following comments indicate just how successful they felt DiNCQUMGP has been.

GP 1: "Enthusiasm of people working together. ... Friendship: I can pick up the phone and talk to anyone."

Divisional Project Officer 1: "Every day I feel the legacy of DiNCQUM ... every day we build on in other areas. It is something that we constantly cite and reference. ... Doing the right thing at the right time with the right people is really been what it's been about. I think we have got flexibility, we can change, nobody is ideologically dogmatic in any sense."

GP 3: "Wonderful experience, terrific project I think that we've been doing a great job. I think the relationship is just terrific; we are actually getting results; things are rolling; we are getting more funding; people are great. It is fantastic."

HIC: "There was a pride in being involved in DiNCQUM."

There were five achievements, apart from reducing unnecessary polypharmacy. DiNCQUMGP wrote a proposal to HIC for a separate item in Medicare under medication review; participating GPs changed how they did medication reviews; participants are looking for opportunities to work together on other initiatives; ties were strengthened between Divisions; and we worked across Australia, from a local to a national level.

Participants repeatedly pointed out that they could not have achieved the results if they had not collaborated. Apart from the exciting experience of working together, this is the major attraction of collaborating again.

GP 2: "The physical numbers that we have been able to get things up to statistical significance by having enough patients and enough doctors involved that we can actually pool numbers and come up with something that a single Division on its own could not possibly achieve - measurable changes."

MIC: "Informal networking between professional colleagues; this would never have occurred without DiNCQUMGP."

GP 2: "Somebody would always have an idea. That was one of the values of the numbers. If you were doing it with a very small group ..., you tend to have a little bit of a mind set and it is hard to think laterally or outside of what you have been doing. Whereas with a quite a large group and with a diverse group somebody would always come up with something. ... People often came up with one or two possibilities that we could actually toss around."

At the end of the polypharmacy project, the collaborators found they enjoyed working together so much they did not want to stop. DiNCQUMGP had outgrown its original reason for existing, and had a life of its own. Working together became an end in itself for some participants. They found funds to extend the original polypharmacy project, and have since begun work on other projects thus drawing new people and experience into the group.

Conclusion

At the beginning of this paper we said that we had not intended to present any new facts. What we wanted to do was suggest a new way of looking at and thinking about collaborations. DiNCQUMGP showed all the *characteristics of good collaborations* and it went through the same *characteristic stages* described in the research literature. There were other aspects of collaborating not described in the literature, which were important to DiNCQUMGP's achievements. Our new metaphor of collaborating as a human body provides new insights into collaborating well. It is a powerful, intuitive way to think about and plan a collaboration.

Some of those aspects of collaborating that were crucial to DiNCQUMGP's successes were:

- The group allowed itself time to 'grow up' and learn to collaborate, before it started the polypharmacy project.
- Just as the life of a body depends on the interaction between its organs, so communication (the interaction between participants) is crucial to the life of a collaboration. Having a Program Manager, regular teleconferences, e-mail bulletins and reports were all essential for keeping the group moving.
- Just as strength and fitness requires constant training, so trust and commitment (the strength of a collaboration) only result from constant work and practice between the participants.
- Like a body, DiNCQUMGP needed resources to function (money, time, goodwill and generosity) without which it could not have survived.
- Like a body healing itself after surgery, it took time for people to adjust when newcomers arrived, particularly into the crucial Program Manager's role.

The metaphor also encourages us to look at what happens in collaboration as people on the inside see it. This shows us not only *that* trust and commitment developed, but also explains *how* they developed. The metaphor also explains *how*, by collaborating, people can do what they could not otherwise do alone, and how they learn, gaining new insights and wisdom.

The metaphor turns our attention to what it *feels* like to take part in a collaboration, in the words of those that take part, and treat their insights as a primary source of evidence for assessing the health of the group. While there is a place for an external assessment, like a trip to the doctor for a check-up, this will only be an occasional event for most groups.

DiNCQUMGP has learnt how to coordinate all its parts to achieve results that no single part could have done by itself. The polypharmacy project has demonstrated what can be done working together. Now DiNCQUMGP has begun to flex itself again on Quality Use of Medicines programs.

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