

Conference Paper

Community-based integrated care: myth or must?

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Abstract

Issue. In spite of the many efforts that have been made to rationalize and improve the functioning and the quality of health care delivery in industrialized countries, too limited a degree of success has been achieved so far. This paper argues that this limited success originates from a lack of coherence among the various strategies and instruments developed to rationalize and improve the delivery of health care.

Addressing the issue. This fact can be shown by reducing the complexity of today's health care into three levels of decision making: the primary process of patient care, the organizational context, and the financing and policy context of health care systems. Distinct rationales exist on each of these three levels of decision making as actors have their own perspectives, cultures, disciplines, and traditions concerning the delivery of health care. These differences can often result in ambiguity of goals, conflicting interests between decision makers, bureaucracy, poor information transfer, and limited use of the available scientific knowledge on all three levels. In such a context, rationalization and quality-improvement efforts are frustrated and will have limited effectiveness. Therefore, the various rationalization strategies and instruments on all three levels of decision making should be embedded in our health care systems in a synergistic way.

Demonstrating the proposed solution. Community-based integrated care is a promising approach to addressing this issue successfully. How this concept might function as a unifying concept for quality improvement will be illustrated by relevant developments in the Academic Medical Center, University of Amsterdam in The Netherlands.

Keywords: community-based care, health services, health systems, integrated care, public health, quality of care

Introduction

Ongoing developments in industrialized societies are dramatically changing the way health care is delivered. In essence, health care delivery has to deal with fragmentation due to these developments. The primary process of patient care has evolved into a multidisciplinary task, encompassing the contribution of various physicians, nurses, and paramedics, who often work in different organizations. As a consequence, co-operation and co-ordination among these professionals and organizations have become essential requirements for delivering a high quality of care [1–3].

Health care systems have not been adjusted sufficiently to address the issue of fragmentation effectively, as is illustrated by difficulties in improving quality of care. Despite the

development of many quality-improvement approaches, limited success has been achieved [4,5]. This ineffectiveness stems from a lack of coherence among the various approaches employed and their underlying theories. Many quality programs are developed in isolation of others and have a limited scope [6–8]. Therefore, it seems worthwhile to carry out an analysis of quality improvement from a broader system perspective [9,10]. The focus of this paper is to provide such an analysis and to elaborate on potential solutions to align the various efforts and to improve the quality of care.

The analysis will be framed by making a distinction between three levels of decision making to rationalize the functioning of health systems; decisions on the level of the primary process of patient care (micro-level), on the level of the organizational context (meso-level), and on the level of the

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financing and policy context of health care systems (macro-level). Ideally, there should be a link between the decision-making processes on these three levels, resulting in synergistic actions to improve the quality of care. In reality, this ideal is hampered. It will be argued that the rationales underlying these decision-making processes currently result in ambiguity of goals, conflicting interests of various decision makers, bureaucracy, poor information transfer, and limited use of the available scientific knowledge.

To bring these co-existing rationales together we discuss the potential of 'community-based integrated care' as a unifying concept. Originally, this concept was introduced as a vision of how health care organizations and health systems should address the changing demands of society [11,12]. However, community-based integrated care can also function as a concrete strategy to synergistically embed all quality-improvement efforts within our health systems. Community-based integrated care provides an outlook on the way the various rationalization strategies could be combined by taking the reduction of fragmentation in health care delivery and a consistent focus on the health of the community as the starting point. Therefore, we will argue that the concept of community-based integrated care should be interwoven in all quality-improvement efforts.

The paper is based on an exploration of existing theories and knowledge in the literature. It starts by analyzing the incoherence between the three levels of decision making, describing and identifying the different rationales behind each process. Subsequently, the concept of community-based integrated care will be explained by describing what it is and how it functions. Finally, the application of the concept of community-based integrated care to the three decision-making levels will be discussed and illustrated by referring to relevant developments and projects in the Academic Medical Center (AMC) at the University of Amsterdam. The discussion highlights the consequences of our proposition for today's quality improvement efforts.

Three decision-making levels

Many theories on and approaches to improving the quality of care have been developed over the past decades. Although all of these theories and approaches focus on achieving quality improvements in health care delivery, their rationales and dynamics often differ. These differences can be demonstrated by distinguishing between three levels of decision making: the primary process of patient care (micro-level), the organizational context (meso-level), and the financing and policy context (macro-level).

Primary process of patient care

Decision making in the primary process of patient care concerns the application of knowledge, skills, and technologies to diagnose and treat individual patients. Medical

professionals (especially physicians) decide interactively with the patient what care should be the optimum for his or her interest. This decision-making process has become very complex over the past decades. Its growing complexity can be explained by three major developments.

Firstly, an explosion of available scientific knowledge has made it difficult for medical professionals to make rational decisions based on the latest evidence. They lack the support of an information infrastructure that would enable them to keep pace with the progress in scientific knowledge. Theories such as 'medical decision making' in the 1980s and 'evidence-based medicine' in the 1990s tried to address this issue. On the basis of both of these theories, formalized quantitative methods and instruments were developed to synthesize scientific evidence (i.e. systematic reviews) and to assist medical decision making (i.e. guidelines and expert systems) [13–16].

Secondly, epidemiological transition and technological advancements have turned medicine into a multidisciplinary task. Consequently, the managerial complexity of health care delivery has grown. Every single medical decision initiates a variety of work processes and the involvement of other professionals working in the same or another organization. To effectively integrate their work processes requires a systematic process design. This was the impetus for health care organizations to adopt industrial models (i.e. flow charting and business process re-engineering) to describe, assess, control, and improve care processes [17–20].

Finally, 'patient empowerment' is a major drive to engage patients in decision making about their own care, and is considered desirable and necessary both from a patient and from a quality of care point of view [21,22]. Initiatives are taken to tailor medical decision making to the preferred participatory role of patients. So far these initiatives have materialized in the use of instruments to capture the patient opinion (i.e. patient satisfaction questionnaires, focus-group interviews, and concept mapping) as well as to enhance patient involvement (i.e. practice guidelines, patient decision support tools, and patient organizations) [23–25]. Furthermore, in many health care systems, patient participation and informed consent have been formalized by law [26,27].

Organizational context

Health care delivery is organized into professions and institutions. Decision making on this level focuses on the organization of these. Both are organizational formats for the division of (medical) labor and both have their own intrinsic logic. In professions, labor is divided through the process of specialization, following the logic of professionalism [28,29]. In institutions, the division of medical labor is driven by the assignment of tasks and responsibilities, following the various logics of management science [30,31].

Specialization

Medical professions can control their own work, because they obtained a monopoly to apply a specific body of medical

knowledge in practice. The growing complexity of the primary process of patient care narrows and deepens the specific body of knowledge that an individual medical professional can handle. As a result, professions have the incentive to divide medical labor over more (sub)-specialties. So, the process of specialization is the professional solution for guaranteeing an adequate application of the latest medical knowledge and technologies in the primary process of patient care [28,29].

However, the drawback of specialization is increased fragmentation in medical care delivery. The numerous medical specialties hamper collaboration among medical professionals in two ways. Firstly, as specialties compete over the application of a specific body of knowledge, they are reluctant to share expertise with each other. Their monopoly might otherwise be lost [28]. Secondly, due to societal pressures, medical professions are forced to be more accountable for their own care delivery. Therefore, medical professions develop instruments, such as peer review/audit, *visitatie* (a special form of external peer review [32,33]), profession-owned practice guidelines, indicators, and registries, to monitor and improve their performance. By means of implementing these instruments, medical professions attempt to rationalize their monopoly in health service delivery. As a consequence, an inward orientation is reinforced [34,35].

Institutionalization

Within institutions, labor is managerially organized and controlled. Managers divide (medical) labor using procedures and hierarchical structures to operate the primary process of patient care efficiently [30,31]. Following this logic, different institutions arise – dependent on the mix of facilities, technologies, and labor – which have to be located at one place to deliver a specific set of health services [36]. Currently, the location of facilities, technology, and labor has become less directive. Due to the advancements in medical and information technology, basic care can be delivered at several locations. As a result, in-patient care is transferred outside hospitals. This is advocated by financiers, governments, and patients as they consider outpatient care to be more efficient and patient centered [12,37]. Consequently, different health institutions increasingly have opportunities to deliver similar health services.

The process of institutionalization does intrinsically increase competition among health care institutions. Competition stimulates institutions to rationalize their own health services delivery. They have developed instruments to monitor and improve their internal performance and have created mechanisms for external accountability. Examples of instruments that focus on controlling internal work processes are quality circles (i.e. Plan-Do-Study-Act, PDSA), quality systems (i.e. the model of the European Foundation for Quality Management, EFQM), and quality performance measurement (i.e. Balanced Score Card). These instruments are based on the theories of Total Quality Management (TQM) and Continuous Quality Improvement (CQI) [38,39]. To improve the accountability of institutions, instruments

such as ‘certification/accreditation’ and the International Organization for Standardization (ISO) have been set up [33,40].

Thus, both specialization and institutionalization fragment health service delivery as institutional and professional boundaries increase and are reinforced. However, given the nature of the primary process, mutual dependencies have also increased. Therefore, efforts to improve the quality of care should above all promote integration of the activities employed. Institutions seem to be especially attentive to monitoring and improving their performance in relation to others. They explicate responsibilities and tasks for complete care episodes that bridge existing institutional and professional boundaries. For this purpose, approaches like ‘disease management’, ‘clinical pathways’, ‘case management’, and ‘shared care’ were developed [41–44]. In the end, these approaches may result in a more formalized integrated organizational context such as ‘managed care’ in the US and ‘clinical governance’ and ‘primary care groups’ in the UK [45–47].

Financing and policy context

Decision making on the financing and policy level is about the allocation of scarce resources in health care. Since the 1980s, this decision-making process has been dominated by the logic of ‘free-market thinking’ or consumerism [48]. This dominance is reflected in the efforts to introduce some form of competition into the health systems of industrialized countries, which should result in a more efficient allocation of resources.

General concepts such as ‘managed competition’ and ‘managed care’ on the one hand and ‘cost-effectiveness studies’ on the other are adopted and aligned to the nations’ financing and policy context. Managed competition and managed care aim to create a competitive health market, which forces health care providers and financiers to deliver efficient and quality care [45,49]. The methodology of cost-effectiveness studies has been developed to produce scientific knowledge for ranking alternative health interventions or programs in terms of their relative value for money. This information should help politicians and policy makers to decide on which health intervention or program is preferable over the other [50].

However, evidence is accumulating that this emphasis on efficiency (cost control) is at the expense of the effectiveness (quality) and equity of health systems [51,52]. Policy makers and politicians seem to be reluctant to base their decisions on health outcomes (effectiveness) and equity, although both dimensions can be operationalized in measurable entities [53–55]. The reluctance to use available knowledge on effectiveness and equity of health systems seems to be grounded in the absence of endpoints. It is unclear what goals a health system should achieve. As a result, it is impossible to rationally direct health systems on the basis of effectiveness and equity [56]. So, the available instruments to assess the performance of a health system are useless unless the expected outcomes are defined.

Incoherence between rationalization agendas

The increased complexity of the primary processes of patient care has imposed major challenges on the functioning and quality of health care delivery. Providing quality care these days implies a rearrangement of relationships and roles between professionals, managers, financiers, policy makers, and patients. Decision making on all three levels shapes and reshapes these relationships and roles continuously. Therefore, all actors attempt to influence these decision-making processes for their own benefit. They develop instruments to rationalize decision-making processes, consistent with their own perspectives and interests. Table 1 provides a synthesis of the various rationalization instruments and their underlying theories, from which two notions can be derived.

Firstly, the rationalization theories and instruments originate from different perspectives and disciplines. Secondly, the theories and instruments focus on a different level of decision making and address different dynamics in health care systems. So, multiple rationales co-exist on the three levels of decision making in health care. Ideally, there is coherence between these co-existing rationales. It would lead towards a more consistent design and functioning of health systems, within which the contributions of each actor are effectively and efficiently embedded, in accordance with societal values on equity. However, in reality the different rationales will more often frustrate coherent and consistent decision making. An overall vision, which embeds all theories and instruments in a meaningful way in our health care systems, is lacking.

This analysis from a broader system perspective is not new. However, our analysis differs by taking the primary process as the starting point. Most other analyses seem to be grounded solely in the logic of management science. Within these analyses, the incoherence among all rationalization agendas is conceptualized as an implementation problem. It is argued that a comprehensive multilevel change strategy to successfully implement instruments to improve the quality of care is lacking [7,8]. However, the instruments, which have to be implemented, are constructed from a managerial perspective. More specifically, the problem is with the instruments and their underlying rationales rather than with the implementation. So the question is how can these instruments be reconciled with the co-existing rationales? Freidson [29] tries to address this problem by balancing management science, professionalism, and consumerism. Still, he does not address the consequences of the co-existing rationales for the efforts to improve the quality of care. This has actually been done in the report of the Committee on Quality of Health Care in America [10], but this report takes a system approach that lacks a consistent public health orientation.

Public health goals provide the ultimate orientation of the 'health production process' that takes place in the primary process of patient care delivery. As our analysis shows that all rationalization strategies to improve the quality of care

relate in one way or another to the dynamics within the primary process of patient care, a public health orientation seems to be crucial to direct the various rationalization strategies to the same goals. However, to meet these goals in industrialized countries, integrated-care arrangements are indispensable. So, an overarching vision within which a public health orientation and integrated care are combined provides fertile ground to unify the various rationalization strategies to improve the quality of care. The concept of community-based integrated care is such an overarching vision.

Community-based integrated care: a unified rationalization agenda

Community-based integrated care consists of two formerly unattached concepts: community-based care and integrated care. Recently, it has been argued that the principles of both concepts should be jointly embedded in our health systems [11,12,57]. Essentially, combination of these concepts promotes integration of public health functions, medical care functions, and social services on a local or regional level. It is assumed that such a community-based integrated health system is better equipped to meet the multiple demands of society. This assumption can be explained by describing the principles of community-based care and of integrated care.

Community-based care features a health system that is based upon and driven by community health needs. Moreover, it is tailored to the health beliefs, preferences, and societal values of that community and assures a certain level of 'community participation'. It is assumed that such a community approach maximizes health outcomes in two ways. Firstly, taking the health needs, beliefs, and values of the community as the starting point will result in locally or regionally organized health services that are the most beneficial (given the available resources) for the health status of that community. Secondly, it will enhance the engagement and compliance of communities with their own health care system [58,59]. The concept of community-based care builds on traditional public health approaches promoted by the WHO [60]. Recently, this approach was renewed by introducing terms such as 'responsiveness' and 'stewardship' [61].

'Integrated care' is conceptualized as the methods and types of organization that aim to reduce fragmentation in health care delivery by increasing co-ordination and continuity of care between different institutions [2]. In the primary process of patient care 'integrated care' should lead towards the adoption of a patient-care orientation within which integration of multiple care episodes is the aim. Medical decisions have to be taken in an organization that enables decision makers to integrate activities with others. In this way, medical decision makers can design a complete, efficient, effective, and co-ordinated care process interactively with the patient. To operate 'integrated care' in the primary process of patient care requires the fulfillment of preconditions on the organizational and health system level [12,57].

Table 1 Rationalization theories and instruments on three levels of decision-making in health care

Level of decision making	Dynamics in health care system	Rationalization theory	Rationalization instruments
Primary process	1. Explosion of available knowledge and technologies	Medical decision making Evidence-based medicine	Expert systems Guidelines Systematic reviews
	2. Increase of managerial complexity	Process control	Flow charting Business re-engineering Case management
	3. Increase of shared decision making between patients and professionals	Patient empowerment	Citizens' juries Patient decision-making support tools Satisfaction questionnaires Focus-group interviews Concept mapping
Organizational context	1. Specialization	Performance monitoring	Peer review/audit Profession-owned practice guidelines Indicators <i>Visitatie</i> ¹ Registries PDSA
	2. Institutionalization	Internal performance monitoring and improvement (TQM, CQI) External performance monitoring and improvement Inter-institutional performance monitoring and improvement	Clinical pathways EFQM Balanced score card Certification/accreditation ISO Shared care Disease management Case management
Financing and policy context	1. Striving for efficiency	Macro-economic theories	Managed competition Managed care
	2. Striving for effectiveness	Medical technology assessment Public health theories (epidemiological needs)	Cost-effectiveness studies Outcome measurement/indicators Effectiveness studies
	3. Striving for equity	Theories on risk and income solidarity	Insurance/tax based system Co-payment

PDSA, Plan-Do-Study-Act; TQM, Total Quality Management; CQI, Continuous Quality Improvement; EFQM, European Foundation for Quality Management; ISO, International Organization for Standardization.

¹*Visitatie*, a special form of peer review.

On the organizational level, professional and institutional borders have to be exceeded by formalizing co-ordination and co-operation into new organizational structures. In these intra- as well as inter-organizational structures, responsibilities for specific care episodes are explicitly allocated to certain professions and institutions. This allocation has to result in a clear division of medical as well as co-ordinating tasks for complete care episodes.

Finally, the legal structures and financing system should stimulate the realization of integrated care, by introducing adequate (financial) incentives. At this time, few (financing) systems are consistent with the primary process of patient care and the organizational context of health care delivery.

Therefore, the development of integrated care is often frustrated rather than stimulated.

Although community-based integrated care is primarily a vision of health system design, it can be used to unify efforts to improve the quality of health care delivery. The public health orientation within community-based integrated care provides the required endpoints to define, assess, assure, and improve the quality of care. On the basis of community information on health needs and beliefs, local targets to improve the quality of care can be set. As these targets will be shared between decision makers, the various efforts to improve functioning of the local health system can be reconciled. Moreover, these efforts will be focused on aligning

the primary process of patient care to the needs and beliefs of the community. This makes decision makers on all levels responsive to the dynamics in the community as well as in the primary process.

Using community-based integrated care in this manner prevents the dominance of management science over other rationales. Within each rationale, the thinking of community-based integrated care can be adopted without changing the nature and dynamics of the rationale itself. In other words, the concept of community-based integrated care directs all decision-making processes to the same goals, without prescribing the content of the processes itself. So, any effort to improve the quality of care is theoretically effective, as it will fit in the overarching community-based integrated-care framework.

Applying community-based integrated care in practice

The potential of community-based integrated care can be illustrated by the developments within the AMC, which introduced such an approach in the mid-1990s [62]. Although community-based integrated-care thinking has not yet diffused widely throughout the AMC, the policies enacted provide a clue as to how the concept can be operationalized to unify the various rationalization strategies. These policies are captured by the overarching policy term, the ‘academic population’.

The emergence of the academic population

The history of the AMC reveals that the community-based integrated-care approach emerged logically as a result of ongoing debate about the localization of patient care, medical education, and scientific research in the Amsterdam region. Over time, this debate resulted in the conviction that integrated organization of patient care, medical education, and scientific research in the Amsterdam region should be established to meet future demands. Such an integrated organization was realized over two stages [63].

Firstly, in 1983, two old city hospitals merged and moved to a completely new building, within which the Medical Faculty of the University of Amsterdam also resides. Secondly, in 1994, the hospital and the Medical Faculty were integrated, which resulted in the desired integrated organization [64].

The integration of clinical wards with university departments went relatively smoothly as patient care, medical education, and scientific research can be executed in the same clinical setting. This natural relationship did not exist for public health departments (i.e. Social Medicine, General Practice, and Occupational Health), which naturally have an outpatient orientation. So the question of how to integrate these three core functions in an outpatient context arose. This issue coincided with the development of integrated care within the Dutch health system [65,66]. In this context, it was opportune to introduce the policy of an ‘academic population’, which encompassed (over time) the following

relevant policies: developing evidence and community-based guidelines, stimulating integrated-care arrangements, enhancing community participation, establishing clinical leadership, and adapting a public health orientation.

Developing evidence- and community-based guidelines

In 1998 the ‘Center for clinical practice guidelines’ was founded in the AMC. The task of this center is to stimulate the practice of evidence-based medicine within the AMC. The expertise of the center is used to conduct, promote, and support the development and implementation of practice guidelines. The center is strongly related to the Dutch Cochrane Collaboration, which also resides in the AMC [67].

In addition to evidence from scientific literature, evidence is also sought from practice in the AMC. Thus, the guidelines should be tailor-made for the population that the AMC is serving. Against this background, research is conducted on risk factors, health status, and the health beliefs and perceptions of the adherent community.

Stimulating integrated-care arrangements

Since the adoption of a ‘community-based integrated-care’ approach, the AMC board has encouraged departments within the AMC to set up integrated-care arrangements with external providers in the adherent region. This bottom-up strategy has resulted in 25 innovative projects (Table 2). These projects focus on redesigning and formalizing care processes for the diagnosis and treatment of a certain patient group and/or disease.

Enhancing community participation

Three different policies to enhance community participation are enacted in the AMC. Firstly, since 1999, focus-group interviews with (ex)patients have been conducted. In these interviews (ex)patients discuss their experiences of the quality of care received. Medical and nursing staff are also present at the meeting, but are not allowed to participate in the discussion. The idea is that medical professionals will start reflecting on their own professional behavior as they are directly confronted with the perspectives of their (ex)patients. Consequently, these reflections should lead towards more patient-centered decision making in the primary process of patient care. Secondly, satisfaction questionnaires to capture the patients’ opinions are executed and reported annually. The results are synthesized into a list of dimensions for improvement. All departments are obliged to choose two dimensions from this list and to develop a systematic strategy for improvement. Finally, the instrument of client counsels is used to formalize the participation of patient organizations in decision-making processes on the organizational level. The AMC has (in)direct connections with the client counsel of Dutch academic hospitals and the Round Table (a regional platform of around 17 different patient organizations of elderly people) [67].

Table 2 Integrated care arrangements of the Academic Medical Center, University of Amsterdam

Project	Focus
Transfer office	Improving the co-ordination of patient transfers from the Academic Medical Center to other health services.
Transfer beds in nursing home	Improving the efficiency of rehabilitation care for patients with a hip replacement and vascular surgery by discharging to transfer beds in a nursing home.
Transfer ward in nursing home	Low care and rehabilitation ward for hospital patients waiting for discharge to other health services.
Case management of chronic psychiatric patients	Improving the quality of shared psychiatric care by case managers (i.e. team of registered psychiatric nurses).
Disease management diabetes care	Improving the quality of diabetes care by integrating health services in the Amsterdam region.
Dialysis care network (DIANET)	Improving the quality of dialysis care by merging clinical wards, home care services and 'dialysis hotel'.
Stroke service	Disease management of stroke.
Outplacement of pediatric care	Improving quality of pediatric care at home by both care protocols and training/coaching of parents, general practitioners, and home care nurses.
Outplacement of after-care thrombosis patients	Improving quality of deep venous thrombosis after-care at home by shared care between general practitioners, thrombosis services, and clinicians.
Outplacement of pain management of cancer patients	Improving quality of pain management with spinal catheter at home by shared care between general practitioners, home care services, and clinicians.
Outplacement of rehabilitation consults	Consultation of rehabilitation physicians in nursing homes.
Home care high-risk pregnancies	Monitoring high risk pregnancies at home by midwives.
General Practitioner-desk (HAG-desk)	Development of various shared care protocols by clinicians and general practitioners together.
General Practitioner Information Network (HAG-net)	Linking the electronic patient records of general practitioners practices to the information network of the Academic Medical Center.
General practitioner and managed care	Evaluation of the effect of managed care on the implementation of quality systems in General Practice.
Virtual Electronic Patient Record facilitating shared diabetes care (ZONAR)	Evaluation of the development of information technology to facilitate shared diabetes care between hospitals and general practitioners in the Amsterdam region.
Perinatal mortality audit (PARIS)	Evaluation of the effect of perinatal audits on the perinatal mortality in Amsterdam.
Thrombosis and emboli research	Evaluation and improving the quality of deep venous thrombosis care in general practice.
'Out of Hours' project	Evaluation and improving the general practitioners referrals to the Emergency Room of the Academic Medical Center.
Smoking behavior and its determinants among immigrants	Exploration of smoking behavior among two generations of Turkish, Surinamese, and Moroccans to improve the quality of health prevention.
Cardiovascular risk profile among Surinamese individuals (SUNSET-study)	Evaluation of cardio-vascular risk profile in the Surinamese population of Amsterdam Southeast.
Ethnicity and health among children in the academic population	Evaluation of differences in the quality and accessibility of children living in Amsterdam Southeast.
Informing chronically ill children and their parents from ethnic minority groups	Evaluation and improving the provision of information to children with asthma and their parents of ethnic minority groups.
Association of Health Care Providers in the Amsterdam Region (SIGRA)	Improvement of the quality and efficiency of health care in the Amsterdam region by means of co-ordination and co-operation.
Association of Co-operating Health Care Providers Amsterdam Southeast (ZIZO)	Improvement of the co-operation and co-ordination between health care providers and professionals in Amsterdam Southeast.

Establishing clinical leadership

To overcome the potential tension between professionalism and management science, the AMC has chosen 'clinical leadership'. This means that all clinical departments and divisions are headed by a medical professional. Physicians are therefore challenged to take up management responsibilities. They have to manage synergistically the patient care, education, and research activities of their departments and/or divisions.

Adapting a public health orientation

With the adaptation of the 'academic population', the AMC board has explicitly chosen a public health orientation. The division of public health should take up a leading role in the realization of the academic population by directing a great deal of its research and educational activities to the adherent community. This has resulted in links with the public health agency (GG&GD) and with the regional financier (ZAO) that reside in the region. Furthermore, epidemiological and health services research is undertaken to gather community information on health needs, demands, and beliefs on the one hand, and the functioning of integrated-care arrangements on the other. As a consequence of the ethnic diversity of the population, many research activities focus on the needs and demands of ethnic minority groups [68].

The 'academic population' policy of the AMC illustrates how a comprehensive set of policies might be enacted to adapt a 'community-based integrated-care' approach. The individual policies fit in with each other and make sense in that they push the various rationalization strategies towards the same goal. Although it has to be clearly stated that the 'academic population' is in its early stages and does not yet operate as a fully developed 'community-based integrated-care' network. On the other hand, the existing projects in combination with the overall typology of the AMC provide fertile ground for further development of 'community-based integrated care'.

Discussion

For the past decades the concept of 'quality of care' has served as a unifying notion in helping us to identify and monitor the structure, process, and outcome of health care delivery. Although the past ten years have brought an initial clash between the classical quality-assurance approaches (with their roots in medicine) and the more modern quality-improvement approach (rooted in industrial process control), there seems at present to be agreement on the fact that care processes need careful engineering, execution, and continuous evaluation.

The conceptualizations of quality experts in health care such as Donabedian (structure, process, outcome), Williamson (health accounting), Brook (outcome measurement), Eddy (explicit method in medical decision making), and Berwick (application of CQI techniques) all result in instruments and activities that try to rationalize health care delivery through

measurement and management. The analysis presented in this paper shows that the resulting rationalization strategies are pushing the various decision-making processes in health care in different directions.

For quality in health care to serve as a unifying concept it is necessary to link the striving for quality of care to the core goals of health care as they are reflected in the traditional concept of public health. This re-orientation is essential to prevent the ideal of quality in health care from resulting in a variety of technocratic and bureaucratic fields around instruments such as accreditation, guidelines, and breakthrough series. Community-based integrated health care can be the new label for this traditional public health orientation. It can help us to design, execute, and evaluate health care delivery systems that produce the products we want them to deliver. To achieve this aim six points seem to be essential.

Firstly, the existence of an overall vision of (public) health on the level of a specific population (either national or regional). This vision should embrace the needs, health goals, and health belief and value systems of the community. It seems evident that in most health care systems, (regional) governments should hold this vision. In essence it means that the design of the health care system is regulated within the constraints of a vision that sets the conditions deriving from the health situation of the population it is designed for to serve. National quality policies should therefore not only focus on the form ('there shall be quality systems through self-regulation') but also on the content ('the health care system shall produce health').

Secondly, practice guidelines need not only to be evidence based but also organization based. The present focus in the development of practice guidelines is on evidence-based medicine, using them as a vehicle for systematically synthesized scientific knowledge. Although this function is extremely important it should not hamper the managerial function of a guideline. The guideline should not focus solely on independent decisions but should be constructed in parallel with the actual health care delivery process as experienced by the patient. Furthermore, the guideline development process should be fed by empirical data (internal evidence) from a specific health care setting as well as by 'external evidence'. Algorithms and flowcharts are therefore as important as underlying structures for guidelines, as are decision trees. In many countries, national practice guideline programs (focusing on EBM and the 'what should be done' question) will exist alongside local protocol development initiatives (focusing on the 'who should do it when and where' question).

Thirdly, we should shift our attention from numerous quality projects to health system redesign. Optimizing care delivery in the various components of the health care delivery chain will not result in better quality on the whole. Therefore, more attention on health system design and the development of quality systems on the health system level is needed. The starting point for these quality systems should be patient groups and/or diseases rather than existing institutions or professional groups. This redesign goes with major re-allocation of responsibilities in health care and will run counter to the dynamics of professionalization and institutionalization.

Nevertheless, some serious health system redesign seems warranted in several industrialized countries, as the present care delivery arrangements are not fit to address the health problems of populations experiencing the morbidity and mortality patterns of the fourth period of epidemiological transition.

Fourthly, bureaucracy should be prevented and treated. Many recent quality initiatives run the risk of turning into a bureaucratic exercise. This happens when the 'improvement paradigm' turns out to be a new 'control paradigm'. Although political processes are difficult to influence, stakeholders in health care should be wise enough to see that new bureaucratic control mechanisms will at the end of the day result in increased overhead costs and not necessarily in better quality. Trust and accountability seem the best guarantee against such bureaucratic developments. In this respect it remains to be seen whether the incentive of competition will increase or decrease the mutual trust relations between stakeholders in health care.

Fifthly, to integrate the three aspects of decision making on the level of the primary process, clinical leadership is essential. This will require health care professionals to have management skills. It is not good enough to make the right clinical decisions, it is necessary to manage the whole care process for which medical professionals are held responsible.

Finally, financing systems should follow the goals of the health care system and not be based solely on macro-economic reasoning. In many health care systems, debates on financing are high on the political agenda. Very seldom are decisions on changes in health care financing based on health goals that should be achieved at the macro-level of the health care system. Health services research has given us evidence about the potential effectiveness of financial incentives. It seems logical that after health system redesign, evidence-based financing and reimbursement methods that enforce the mission of the health care system are chosen.

It is unrealistic to expect that the design and execution of a perfectly rational health care system is possible. However, it is also naive not to recognize the inconsistency in the existing rationalization agendas underlying our quality improvement policies and activities. Community-based integrated care may serve as a label to reinforce the traditional values of public health and help to keep 'quality in health care' a unifying concept.

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