HEALTH NETWORKS. STRUCTURE AND MANAGEMENT. IMPLICATIONS FOR SOCIAL ECONOMY

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Summary

This article starts from a systematic analysis of specialized literature on the subject of health care services and networks integration, trying to offer relevant explanations to better understand the organization system of services within the network. To begin with, the article brings forward the institutional and spatial dynamics that leads to the network type configurations. Then, there is an analysis of the processes and measures which can serve as planning instruments available to the policies, shaping some principles for the management of networks within the health area. Finally, the article presents some configuration models of the health networks, recorded by the specialized literature and discusses the link between the natural evolution towards these new management organization forms and the new principles of social economy as a systematic evolution of the state`s organization. From the methodology point of view, the article has resulted from searching, selecting, evaluating and summarizing some works focused on the health systems economy and policies within the area of health

Key words: *health network, health system, management of networks*

1. Network structures

According to the World Health Organization, "from now on, due to the limited resources, the countries shall be constrained to open to new solutions and ways of thinking (Kickbush, 2003, p.383). These reasoning results into a recommendation: *to take account of an integrated health system, or, in other words, health must be considered as a whole and not just a "care service" or as an industry with providers and customers* (Fleuret, 2009). From this perspective, the creation of networks seems to be the "universal solution", the paradigm of the XXI century

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(Bailly, Bernhardt and Gabella, 2006 p. 58). Despite all these, the development of health networks does not take place in the same ways and conditions. Specialized literature is abundant in concepts that are available for health networks: integrated care, integrated services, case management, continuous care, coordinated care, comprehensive care etc. (Nolte and McKee, 2008; Kodner, 2009, Shigayeva and so on, 2010). Furthermore, the health system thus set up and managed, namely following the rules for "networks" as they are accepted by literature, are different in terms of the management systems, regulation norms, management norms and financing flows, the mixture between abilities and qualification, political, institutional and professional structures, and also the cultural values. But, all models, can come under some unifying principles dictated by the natural evolution of a society and by the public government`s assimilation of new requisitions. We are talking, first of all, by a *demographic component* of this evolution, including the problem caused by the population growth and by the change in the structure of the population that involves also an increase of the services` complexity and volume. For example, the aging of the population, doubled by the progress of medicine, changes the percentage of the care services typology by loading the primary assistance system and relieving the secondary system. Second of all, there is a *geo-economical component* that regards the territory coverage and the access of all communities to the services, and also the equitable and complete financing of the system in the new economical conditions (the economical crisis in general and the chronic sub financing and health crisis). Likewise, the new technologies and the scientific progress add new dimensions to the health system and create new services. Finally, there is a *social component* determined by the needs for assistance, by the principles of social economy and by the welfare status which are assimilated in the modern states as being mandatory (at certain extents) and which pronounces upon the necessity to insure the access to health services of the large categories of population and of the vulnerable social groups. In this way, the health system becomes a part of the social insurances system or, at least, the two interfere within their areas of interest. All these components have pushed the health systems towards a community management (in a social sense) and a

local management (in a geographic sense) as levels at which it is easier to ensure efficiency and equity given the conditions of this complex situation. For this purpose, it is fully just to use networks.

In modern times, people are frequently confronted with the idea of "networking", both in work activities and in less official contexts (networks of friends, social networks). In general terms, networks suppose a spatial performance of nodes and lines. Nodes are those points which are established extensively within the network, gather the main players and can/transmit information and perform actions. Nodes are united and linked by lines that ensure the diffusion of services and informational flows. Both nodes and lines display a physical, material dimension (physical and logistics infrastructure) and a "logical", immaterial one, linked to organization and procedure. In these contexts, the "sociograma" of a network may vary almost on a daily basis, but a certain probable pattern remains constant. Grandori and Soda (1995) ask for this reason whether is possible to develop a classification for the patterns formed by networks.

Strictly in the relationship with the service area of health, the networks suppose a c*oordinated integration of services taking into account the institutional component and the dimension and the spatial limitations.* This definition cannot offer an explicit image of the network`s organizational nature. What is, for example, the structural difference between an information network in the area of health and a home care delivery network? From these examples we could extract the association criteria between organizations that result in various setups. These criteria would be a useful tool for choosing the correct type of network for the processes and activities being provided.

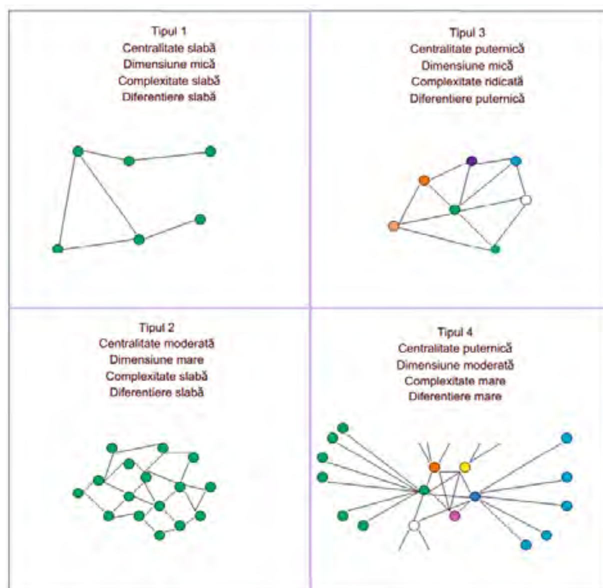
Hage and Alter (Warner and Gould, 2009) have developed two typological formats associated to the analyzed networks within the area of health and social assistance. First of all, based on the study case analysis, they have presented a *descriptive typology* of the inter-organizational relationships and then, using the results of their own reaserch in the field of health and social assistance systems, they have generated a more *technical classification* of the network structures.

From the *descriptive* point of view, networks can be placed on a complexity level axis depending on the relational status between the

members that was classified by the authors in three stages: obligation, promotion and production. *Obligation* sums up to the ordinary exchanges within social networks (and practically speaking is assimilable in the market): people are found in various transactions that force them to maintain some informal connections between individuals. The situations of minimum complexity require little coordination. *Promotion* involves more formality and the need to have a more robust communication. Finally, the networks that imply *production* have complex requirements such as advanced degrees of cooperation and coordination.

Technical classification refines this conjecture to four basic types resulted from a double dimension axis: the *degree of differentiation* (heterogeneousness) and the *level of centralization and integration.* To make things simpler, the authors did not take into account the network`s dimension, because it does not influence technical typology, but still they have considered dimension as being attributable to the type of network resulted from the technical class. For example, a diverse and very centralized network must be of small dimensions. Also, the authors have assimilated complexity with the degree of differentiation. Picture 1 presents a graphic illustration of this typology.

Picture 1. *Structural typology of structures, adaptation from Hage and Alter (Warner and Gould, 2009)*



2. The management of networks

Another aspect for understanding the organizational nature of the network type is the decryption of the coordination mechanism of the activities among the entities with interests and various possible or even adverse objectives. It is obvious that networks need a management of their internal operational mechanism. In general terms, management refers to the decision making process within administration or within organizations. Its main functions are: to formulate the direction of the strategic policy, to generate information and methodology, to influence the regulations and to allocate and ensure responsibilities. If we refer to public services, these take place at different levels (national, regional and local) and may comprise the systems as a whole or only some sectors of the systems.

For networks, management gains certain particularities. For example, we ask the question *how can purpose and objective be generated and preserved within a network* as long as there are more power centers and stand-alone institutions? Basically, in this case, the answer refers to coordination and control matters, which means also government, but it is applied on different areas. If, for hierarchies or for the market, the experience is quasi-common, because the role of the authority and of the price mechanisms is known, for networks, the perception of management is quite a vague concept (but not the perception of its necessity). There are, of course, a series of coordination and control mechanisms that are common to other organization forms, but the cooperative mechanism has the highest percentage, this meaning all the agreement forms and contracts, doubled by the facilitation measures of the intra-network flows (cooperation can slow down some processes because of negotiation). Grandori and Soda (1995) include here all the stimulation measures, information systems and also the planning and the control of results.

Networks are very much based also on the availability of the communication infrastructure and on the player`s negotiation abilities. Together they reflect the increased role of the so-called *“social mechanism”* in the preservation of the network`s specific activity. From this perspective, a description of the network management is that it

supposes *a refined, persistent and structured set of autonomous entities that are involved in the network`s product based on implicit and open contracts.* These contracts are "social", not "legal" (Jones, Hesterly and Borgatti, 1997). Some authors expand these contracts on social dimensions and refer to macro-culture, collective sanctions and reputation, while others emphasize trust and commitment (Warner and Gould, 2009). Therefore, selecting or becoming a member of a network already represents the acknowledgement of the fact that there is a competence that shall complete or supplement the network objectives. Therefore, the support of the network depends on mutual trust, inter-encouragement and dedication. Only in the presence of these characteristics we can speak about a so-called *self-reproduction* of the network or about *self-drive*. Practically, the members of the network permanently bring elements of culture and contribute to achieving the objectives, and through successive flows they also refuel the range of needs.

Simplifying, the networks' management matter sums up to the continuous balance between *differentiation and integration.* In theory, any debate on the nature and on the form of integration can be discussed as Coase (1998) formulates his question *(why can`t the entire activity take place in only one organization?)* It is also practically impossible, but less exaggerated, certain authors support the idea that we cannot postulate strict limits for the organization`s dimension (Kickbush, 2003). Despite all these, because also differentiation allows the organizations to reach their objectives, according to these authors, the most successful organizations are the ones that can efficiently achieve a balance between differentiation and integration. This challenge of finding a balance between differentiation and integration and the coordination need that encourages people to work together in an efficient way within an organizational mission common for everyone, highlights some of the fundamental tensions identified in the organizational theory and practice (Jaffee, 2001). Following the modifications made in the social division of work that lead to specialization and differentiation (or to an increased complexity of the system), there is an interdependence in the growth among the more and more specialized organizations and a conflict in the resources they need (Jaffee, 2001).

Other theories place management in a more technical and more liberal context (Bernier, 2003). Therefore, the management of a network is nothing more than a pre-setting of the conditions of interconnection between players and of the removal of obstacles. Based on the idea of the networks` self-drive operational mechanism, management is an activity to ensure the favorable environment for self-development by creating conditions or preliminary steps and by removing the barriers.

The creation of some assistance coordinated chains in the area of health care requires at least three steps (Fleuret, 2009):

- the first step is becoming aware of and assessing the needs of information, access, care and other services. Often the needs are assessed a posteriori by measuring the consumption of services.

- the second step is to remove the partitions that compartment the local system.

- the third preliminary step is to mark the territory of the network.

The idea, expressed in geographical terms, is to ensure that any individual can access a range of services in a perimeter which is reasonable in relation with his life environment. The network, especially the local one, is the response to this necessity, by allowing the providers to divide the tasks and the instruments in order to rationally allocate resources at local level. We also must note that it brings some changes in the behavior and the professional habits, but, in the same time, favors the emergence of some innovative practices that imply a close cooperation between the players. (Fleuret, 2009). The setting of the networks is, likewise, a way to remedy (although the results are not uniform) the increase of health expenses and the reduction of spatial fragmentation. Starting with the 1980s, several Western countries have carried out territorial restructuring actions (Fleuret, 2009), fact that lead to fusions, groupings and cartels with the purpose of externalizing the costs and also of saving the total costs. These restructuring strategies had in view, mainly, the secondary hospital sector (for example closing some departments or hospitals) and lead to an overload of the ambulatory system through the reduction of the hospitalization time and to a bias attitude towards the "extra muros" care. For Bernier (2003), this change, alongside with the reduction of costs through the reduction of the hospitalization time, lead to an improvement of the

basic and specialized services provided at home offered by the health system and by the social services networks. The consequence of starting the implementation of home care is, in fact a substantial change brought to the care delivery classification. For Cartier (2003), the main change was fragmentation that took place through the externalization of some care services, including non-medical or long-term services.

Regarding the removal of barriers, the initial step is to identify them. The biggest challenge at the level of local politics is satisfying the stakeholders. The position and the power that various deciders have at local level represent obstacles that are difficult to overpass given the fact that there is a very large organizational spectrum that includes health services, local authorities, the private sector and the sector of volunteer work. Each organization does not only have separate strategies and an individualized management, but also a professional range that is most often located on various social levels.

It is proved by empirical studies (Jaffee, 2001) that the network type organization is superior to some hierarchical structures, from the efficiency point of view. But, many times, the previous status-quos have a level of social constraint that is acquired by more or less natural evolutions. Therefore, if the place or the region does not have a culture of collaboration and of collective arrangements, it shall not be possible to sediment these kind of arrangements, with maybe the exception of social engineering (Woods, 2001). Going towards the complex problems linked to the health deciding factors in a coordinated manner and with a large number of organizations demands innovative approaches that are able to set social trends.

Woods (2001) classifies the obstacles that intervene in the integration processes, according to the following scheme:

- *Structural obstacles*: related to the fragmentation of the responsibilities for delivering services between agents and sectors and the possible competitions between systems and sub-systems.

- *Procedure obstacles*: they regard the differences in the planning spheres and the production cycles, the differences in the budgetary cycles and procedures, differences in the information systems and confidentiality and access etc.

- *Financial obstacles*, meaning the differences in the financing mechanisms, differences of stocks, flows and financial resources.

- *Professional obstacles*: competitive ideologies (depending also on the socio-professional position), opposite professional interests, different values, autonomy, inter-professional competitions, professional egos even within the same sector, the security of employment etc.

- *Obstacles of status and legitimacy* – conflictual interests between organizations, autonomy, inter-organizational competition and legitimacy differences between selected structures and administrative structures.

Some other possible obstacles can be discovered in contextual situations: the work (over)load of a sector, part of the network; the inconsistency between health and other systems as objectives and priorities for the community (conflicts between systems for allocating resources); the general understanding, implicitly, the expectation that the health authorities are only ones responsible, the conflictual culture, the lack of cooperation.

The obstacles that impede integration have a parallel in the concept of "limitations". For specialized literature, the "organizational limits" is a familiar term. In the 1970s, Aldrich and others have developed the concept of "*limits"* as a development factor of the inter-organizational area (Williams, 2002). In short, a barrier means something that cannot be penetrated, resistant to change. In the institutional management, barriers can be very convenient as a mean to guard the rights and to define the responsibilities. Human services, most of the time, fall into this category. On the other hand, when we analyze aspects such as the integration of some activities, the *limit* is a much more useful and permissive term. The limits can be elastic, penetrable or can offer the possibility to adapt or diffuse and exchange. In achieving integration through means other than the formal association, the "cover of limits" replaces the "removal of barriers". The residual problem remains in the question regarding who or what makes these limits extend or expand. Warner and Gould, (2009) identify four emergent areas of competency where the limits are elastic or are difficult to be established with precision:

- The relationships between the members of the network: communication/understanding and resolving the conflicts/lack of trust.

- The non-hierarchical management based on influencing/negotiation/brokerage.
- Interdependencies that do not exist/dimensions are not specified.
- The management of the roles and responsibilities – do not exist / dimensions are not specified.

Given these obstacles or limits, the management of networks must involve the coordination need. Coordination is described as the *quality of the relationship between the human players within a work system.* Often it is equal with cooperation. But the network`s quality is a wide term that could include technical and communication related aspects. Hage and Alter (Warner and Gould, 2009) define coordination as *an evolutionary process that, starting from some presets, through cooperation reaches its climax with integration.* Thompson (Warner and Gould, 2009), also, indicate the fact that integration depends on the coordination process at various organization levels: *administrative coordination* and *operational coordination* on the "horizontal" coordinate and the coordination between the level of the regulatory, executive, management, practitioners and the large public on the "vertical". Even the proliferation of the services compels the service providers to operate as a coordinated system through the increased number and type of (inter)dependencies.

In short:

- Not all the forms of integrated action can be reached by removing barriers
- We must think both in terms of barriers and of limits.
- Limits can be "elastic" through communication and coordination.
- Coordination involves understanding dependencies and the design range of the processes that have integration as their result.

As a consequence, the management of an integrated delivery system for health services supposes the following: joining some different visions, missions, organizational structures and cultures, avoiding useless and destructive competition between the service providers, creating a multi-disciplinary approach of the decision making process, promoting a collaborative approach for service provision.

3. Practical models of integration in the health sector. Linking the networks with social economy

Selecting the most adequate structure depends on the objectives of the participants and the financial, legal and political factors. The basic organizational models can be classified depending on the integration extent and on the financing system. The level of integration, as shown above, depends on the market, on the cooperation ability, the political factors, legal considerations, financing, personnel needs, resources and the care needs of the population and on the assistance duties of social economy.

Integrated systems can be formed as joint ventures (Sanders, 2006). A joint venture is a legal agreement between two or more entities with the purpose to deliver a new service, product or both. In fact, a *joint venture* is a filiation relationship between entities, one giving to the other the right to perform a service from its portfolio, with all its attributes. The parties of such an agreement usually share the risks and the benefits that come with association (Sanders, 2006).

Partnerships are another form to be followed. There are *open partnerships* where control is equally managed by the partners, each of them keeping their autonomy and share the risks and the losses and *limited partnerships* where there is a main partner and one or more limited partners. The main partner holds the management of the whole partnership, and the associated partners are responsible only for the limit of the added investment.

Some possible forms of partnership recorded in the literature of those countries that have certain advanced integration forms (Beckham, 1993; Rosenbaum and so on 2011):

- *Referential arrangements* – where the parties distribute or recommend services one to the other based on a preferential basis.
- *Co-localization arrangements*, where a provider, based on a partnership, agrees to offer assistance in another location (of the partner), but nothing is modified in the status of the partners.

For example, a doctor from an institution goes to provide treatment in a mental diseases hospital.

- *Non-exclusive contractual arrangements* – where a medical center or several partners contract together a service or equipment in order to operate for the benefit of everyone. For example, a medical center can go into a partnership with a family planning center and can use the logistics and the infrastructure for common programmes. Each part remains stand-alone, but collaborates for a certain service (or they can apply for a common financing project). A particular form of this type is the *leasing arrangements* that allow some entities, usually hospitals, to control a service without a massive capital investment or without the need of a new organization.
- *Umbrella type arrangements* – several health centers commit to multiple collaborations and common planning based on affiliation. The partners remain independent, but agree to collaborate for various purposes (for example, they can join their electronic information systems or the laboratory services).
- *Integration strategies between partners* – these also involve legal arrangements through which the big partners commit to develop some formalized partnerships (excluding the taking over of control). For example, the local authorities in association with a regional hospital agree to adopt a strategy at regional level – this type of affiliation can have legal or administrative implications for a community, but does not also imply the control over the entities
- *Practice groups "without walls".* Such a group means a network of practitioners that have created a stand-alone entity with a juridical status, but each of them keeps their own practice location (similar to referential arrangements, with the difference that this is a contractual form of association). It can hold also a central structure of goods and equipments available to the partners and management facilities and administrative services. The basic idea is to link various locations that can provide complementary services or to diminish or annul competition between similar functions.
- Creating *new centers* or transforming some institutions into health centers based on some agreements between smaller entities. For example, the transformation of a hospital that went into liquidation into a health center or the expansion of a social assistance centre towards medical services.

- Creating *new non-medical centers* separated but managed or affiliated to some health centers – this covers those situations where the medical institutions need non-medical services and agree to purchase or set up such services. There are many types of entities with a special purpose formed by the medical institutions in collaboration with other providers, either for profit or for non-profit: for example management organizations, networks of providers, patients, education and prevention centers, family planning centers, anti-drugs centers, pharmaceutical centers etc.
- The maximum integration level can be reached by the *corporatist type arrangements* or the so-called *integrated provider.* A corporation offers centralized management and therefore the benefit of limited responsibility to those assigned to it. An integrated provider offers a comprehensive, corporatist umbrella for the management of a diversified system of health services. The system includes hospital(s), groups of practitioners, health plans and other health care operations. It has the capacity to serve various levels of health care and services for patients from various geographical areas. The big change that this system brings is the implementation of a health plan. With this addition, the word integration reaches its entire meaning (Demetriow, 1997). In all the other collaboration forms, the entities either look for a service or a payment. The integrated provider is both a provider and a payer because it involves the patients in the health plan, establishes and collects premiums and provides care services. As a consequence, all services are integrated on the vertical. The high extent of integration allows the physicians to get involved in the strategic planning activities at the level of the administration. Other advantages include: an improved collection of information and the integration of the operational statistics, the consolidation of the assessment activities and of the use capacity of cost control. Doubled services are very much reduced at this integration level.

As a conclusion, the key to select the best organizational integration model is to fit the integration level with the model that allows reaching the objectives and the mission. All the form mentioned above, despite the obvious diversity, have some common traits. Regardless of the

public authorities` involvement or the participation in these configurations, all institutions suppose a voluntary association with a purpose that, although does not exclude profit, addresses the general interest. The economical motivation is a real one, but it has in view to render efficient some community performances financed through the insurance systems related means that do not exclude, subsidiarily, the profit gain. From this perspective, health networks align to the development trend generated by the implementation of the *social economy* concept in public policies. But the exclusive *community* and/or *local* dimension of these organizational forms seems even more significantly connected to the social economy model. Whether they are corporatist type arrangements, or public interest centers or just referential networks, these organizations serve small territorial areas and address the communities. It is obvious that this calibration is based on some economical efficiency arguments, but it is also linked to the improvement of access and the access equity for the vulnerable community groups. In fact, these network forms can be assimilated to social enterprises defined in a new sense as *organizations that apply commercial strategies in order to maximize the environmental and welfare services, rather than to maximize profit for the involved shareholders*, different from the older senses that was placing social enterprises exclusively in the area of charity services (Ridley-Duff and Southcombe, 2011). Having mutual cooperation organization and social activities that also involve social responsibility continues to be a characteristic of these systems.

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References

1. Bailly, A., Bernhardt, M., și Gabella, M. (2006). *Pour une sante´de qualite´en Suisse. Economica*, p. 161-183.

2. Beckham, J. (1993). *The Architecture of Integration. Healthcare Forum Journal*, 56-63.

3. Bernier, N. (2003). *How health care reform impacts social policy and social redistribution. Canadian Review of Social Policy/Revue Canadienne de politique sociale,* 52(fall/winter), 51–66.

4. Cartier, C. (2003). *From home to hospital and back again: Economic restructuring, end of life, and the gendered problems of place-switching health services*. *Social Science & Medicine*, 56(11), 2289-2301.

5. Coase, R.H. (1988). *The Firm, the Market and the Law. The University of Chicago Press*, Chicago.

6. Demetriow, A. (1997). *Integration Models. Texas Health Law Conference.* Austin.

7. Fleuret, S. (2009). *Networks in local health systems: towards new spaces? GeoJournal*. Springer Science+Business Media B.V.

8. Grandori, A., și Soda, G., (1995). *Inter-firm networks: Antecedents, mechanisms and forms. Organization Studies,* 16(2), 183-214.

9. Jaffee, D. (2001). *Organization Theory: Tension and Change*. New York: McGraw-Hill Higher Education.

10. Jones, C., Hesterly, W., și Borgatti, S. (1997). *A general theory of network governance: Exchange conditions and social mechanisms. Academy of Management Review*, 22(4), 911-945.

11. Kickbush, I. (2003). *The contribution of the World Health Organisation to a new public health and health promotion. American Journal of Public Health,* 93(3), 383-388.

12. Kodner, D. (2009). *All together now: a conceptual exploration of integrated care*. *Healthcare Quarterly* 13 (Spec No), 6-15.

13. Nolte E, McKee, M. (2008). *Integration and chronic care: a review*. Nolte E., McKee M (eds). *Caring For People With Chronic Conditions:A Health System Perspective*. Maidenhead: Open University Press, 64-91.

14. Ridley-Duff, R. J. & Southcombe, C. (2011). *The Social Enterprise Mark: a critical review of its conceptual dimensions*. *The 34th Inter-*

national Small Business and Entrepreneurship Conference. Institute for Small Business & Entrepreneurship. Sheffield.

15. Rosenbaum S., Zakheim, M., Leifer, J., Schulte J., Margulies R. (2011). *Assessing and Adressing Legal Barriers to the Clinical Integration of Community Helth Centres and Other Community Providers*. Commonwealth Fund pub. no. 1525.

16. Sanders, M. (2006). *Joint Ventures Involving Tax Exempt Organizations, 2005 and 2006 Cumulative Supplement.* Englewood Cliffs, N.J.: John Wiley and Sons.

17. Shigayeva, A., Atun R., McKee, M., și Coker, R. (2010). Health systems, communicable diseases and integration. *Health Policy and Planning* 25, i4-i20.

18. Warner M., Gould N. (2009). Integrating Health in All Policies at the Local Level: Using Network Governance to Create 'Virtual Reorganization by Design' în . Kickbusch (ed.). *Policy Innovation for Health*, Springer Science&Business Media, Geneva.

19. Williams, P. (2002). The competent boundary spanner. *Public Administration*. 80(1), 103-124.

20. Woods, K. (2001). *Development of integrated health care models*. *International Journals of Integrated Care*. 1. Disponibil on-line la http://www.ijic.org/archive.html.