Assessment of Health Students Performance by the Community Using Perceived Quality of Care Model

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ABSTRACT

The trend in medical education and in general, among health professionals, is based, on the current changes of health systems aimed to improve relevance, equity, and cost effectiveness of health care. With respect to human health resources, there is lack of agreement among the competence level, performance and the needs of both the system using them and the target population. Therefore, it is important and necessary to consider both the community and health services as partners in the task of defining these changes and in the provision of health services to meet the above mentioned criteria.

The main purpose of this partnership is to encourage efforts to promote, oversee, and apply the actions in each one of the instances in order to improve training of human resource, strengthen local health systems, and empower the communities. Human resource competence and performance, the capacity to provide services, and the degree of community participation and commitement to health, are key elements in improving service quality.

The philosophy of current curricula reform at the Valle University stresses the partnership relationship between academic institutions, services centers, and the community, in the training of health professionals. The proposed investigation focuses on the community-based training aspect of student performance assessment and its relation to the health care system and academia. Specifically, the study will focus on designing valid and reliable instruments for community assessment of student performance, using both qualitative and quantitative aspects of data collection and analysis to assess "patient satisfaction" as an indicator of quality of care.

The results of this study demonstrate that the proposed assessment activity will allow the educational and health services institutions to have relevant and dynamic information as feedback for planning and adjustment of their programs. At the same time, it will allow the community to participate in an effective way in aspects related to their health care. The results of this study will be used as a basis for producing guidelines for involving communities (users) in the health care students evaluation process.

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RÉSUMÉ

La tendance de l'éducation médicale, et en génèral, parmis les professionnels de la santé se base, entre autres, sur les changements actuels des systèmes de la santé, lesquels cherchent d'amméliorer la pertinence, l'équité, et les coûts du système de la santé. En ce qui concerne les ressources humains, il y a un manque d'accord entre le niveau de compétence et d'accomplissement et les nécessités aussi bien du système qui les utilise et de la population d'objectif. Donc, il est imortant et nécessaire de considérer aussi bien la communauté que les services de la santé comme associés dans la mission de définir ces changements et dans approvisionnement des services de la santé pour satisfaire les critères cités avant.

La principale intention de cette Association est celle de réunir les efforts pour encourager, surveiller et appliquer les actions sur chacune des circonstances pour amméliorer l'entraînement des ressources humains, pour renforcer les systèmes locaux de santé, et pour fortifier les communautés. La compétence des ressources humains et le degré d'accomplissement, aussi bien que la capacité de rendre service, et le degré de la participation de la communauté, son les éléments essentiels pour améliorer la qualité du service.

La philosofie du curriculum actuel à l'Université del Valle souligne la relation d'association entre les institutions académiques, les centres de service et la communauté, dans l'entraînement des professionnels de la santé. L'investigation proposée se centre surtout sur l'aspect de l'entraînement basé sur communauté, de l'accomplissement de l'étudiant et sa relation avec le système et l'académie. Spécifiquement, l'étude aura comme but créer des instruments valables et dignes de confiance pour que la communauté puisse évaluer les accomplissements de l'étudiant, tout en utilisant les aspects de qualité et de quantité dans l'accumulation de l'information et l'analyse pour évaluer la "satisfaction du patient", comme une indication de qualité ou dáttention.

Les résultats de cette étude ont démontré que l'activité d'évaluation proposée permettra aux institutions d'éducation et du service de la santé d'avoir des informations permanentes, pertinentes et dynamiques, pourpouvoir préparer et régler leurs programmes. En même temps, ils permettront à la communauté de participer d'une manière effective dans des aspects relatifs à leur santé.

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Les résultats de cette étude seront utilisés comme base pour produire un système qui implique la communauté (les usagers) dans l'évaluation des étudiants de la santé.

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Chapter 1

INTRODUCTION

General context.

This section provides a general idea of the different aspects that have motivated the present study, specifically the philosophy and principles underlying the Partnership Model and the context in which the educational program is developed in Colombia.

The consolidation of democracies in Latin America (80s and 90s) came together with policies targeted towards globalization of the economies and free competition of products with those of stronger economies and from highly developed technologies. The creation of subcontinental trade blocks or networks has not escaped our legislators and administrators which provide mutual advantages for competitiveness of our products in our own markets and provide the capacity to deal and negotiate with other trade blocks outside Latin America. Consideration has been given to the possibility of homologation of social security systems to enable Latin American visitors in other Latin American countries to receive health care at the presentation of the social security carnet issued in its country of origin.

All the above initiatives are beginning to impact on the culture and economies of our countries. Jointly with the above, a progressive deterioration of the economy is taking place especially for those populations in the low and middle income strata. This fact has a repercussion in the capacity of said populations to satisfy their basic needs, health among them, health has become a marketable product.

Colombia does not escape the above trends, there is an increasing trend towards privatization of Health Care Services - which a decade ago were an inalienable responsibility of the State. During the 80's strategies were developed geared towards political and administrative decentralization and to the relief of the functions of the state.

The political and administrative processes related to territorial re-ordering in the country and the search for decentralization and relief in the management of the resources including

delivery of services, have led to the creation of Communes and Districts in the different Municipalities.

In 1991, as an expression of the strengthening of democracy, a new National Constitution was enacted in which ethnic and cultural diversity is recognized as a national trait, a reorganization of the duties and rights of the state is made and a strengthening and expansion of the duties and responsibilities of the citizens and the communities is included. Likewise, it entrusts upon the citizens the responsibility of the design, execution, follow up and evaluation of its own Local Development Plans, including the health plan.

Law 100, 1993, that reform the health system displaces the subsidizing responsibility of the state as far as health supply is concerned, to subsidize demand. On the other hand, the doors are open for free competition in the supply of care services.

All the above changes are in agreement with the new conception of health. The concept of health and the ways to bring it about, have been expanded considering health as the result of the capacity of peoples and government to create and preserve healthy environments. The focus is not only on the illness presence and the means to reduce it, but also on the real possibilities available for individuals, communities, and our countries in general to maintain optimum health conditions.

All these changes taking place demand knowledge and ability from the providers, policy makers and communities as users, to take part of the political-administrative decentralization process, and the new approaches for health, which consider health promotion, holistic care, social participation and health education as key elements in the provision of care.

Since 1992, the Faculty of Health at Valle University began a new phase in its academic life. There was a great deal of discussion based on questions and self-reflection in the faculty concerning the professional quality of the students, the need for the university to be responsive to political, economical, and technological changes in society, the organizational changes in the health care system, and the changing epidemiological profile of the population. This discussion resulted in recommendations for academic reform designed to meet the needs of a changing society.

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This discussion coincided with an invitation from the Kellogg Foundation to Valle University to participate in a "New initiative of Health Professional Education jointly with

the Community," (Una Nueva Iniciativa para formación de profesionales de la salud en unión con la comunidad, UNI). This invitation is a perfect opportunity to study the process of change since the philosophical approach of this project coincides with the philosophy underlying academic reform.

One of the aims of the UNI project is to establish a partnership between the community, service institutions, and academic centers, for the formation of human resources in health. The development of participative planning and assessment of the activities achieved by the above mentioned groups is designed to help achieve this objective. Community involvement in the formative task of the human resource group is relatively new. However, this is not the case with the services that are involved in the educational assistance programs. Although relevant and important, community participation has not had a similar level of development. More recently, the role of the community is only now attracting the attention of scientific and technical communities.

In spite of all efforts and improvements made in the educational assistance programs, community and service participation was rated as one of the weaker points of the educational programs in students' academic assessment. This rating was conducted during a workshop held in 1992 in Cali Colombia on "Academic Analysis" organized by the Faculty of Health at Valle University. This finding is in complete agreement with the UNI perspective, and its importance is central given the trends in education and the curricular reforms that are taking place in many teaching institutions, specifically those concerned with the health professions. These changes must be accompanied by alternative ways to monitor them and to establish their effectiveness in the teaching-learning process.

Rationale for the study.

It is important to take into account not only changing health care needs, but also how are they going to be accounted for, how we can identify them, who should identify them, and how we can match the needs of communities, health services and educational institutions. In this regard Wilkes (1994), pointed out that physicians need to understand the health care system from the patient's perspective, the health care providers' perspective and from the insurers' perspective. As such, medical educators need to develop creative ways to incorporate this material into an already overcrowded curriculum. The challenge is how we are going to collect this information in a permanent manner, so that we can use it at the right

time; what methods are the most efficient and reliable. These are the questions that must be answered to accomplish our objective of matching health needs with the health care provided.

One possibility as has been suggested in this study, is the involvement of communities (care users), health providers, and academic staff, in the evaluation of the health care program and more specifically in the assessment of health care students' performance. This study deals mainly with community perceptions of the quality of health care provided by students, therefore, it will be focused on qualitative assessment.

It is important to keep in mind that learning, teaching, and assessment must not be viewed as isolated concepts. According to educators, effective teaching, learning, and assessment are all part of the same educational process.

Figure 1, gives a schematic model of the relationship between the academic institution, health services, and community practices. As we can see, the three bodies interact. Within this model community -based teaching centers are created or strengthened, by a process wherein a part of the students' education is redirected through one of these centers to focus on primary health care. This partnership relationship will only be successful if there is a relative match between the users of the services (communities) and the providers (health services) in terms of their expectations of health services. In order to achieve this match, there has to be a constant monitoring of the needs and expectations of the community so as to provide feedback to the Academic and Service Institutions for training improvements. This in turn will help produce better professionals for health services.

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Dynamic assessment is important and useful in ensuring the readjustment of curricular plans and community expectations, and for service institutions to monitor quality control. This assessment would introduce a certain dynamism to the educational processes and contribute to reflection and analysis. It is assumed that if the university does not have the capacity to assess health care students, then it cannot effectively participate in the overall academic, professional, and social education of students.

Since this model and the current academic reforms foresee the inclusion of the analysis of the dimensions of students' performance not present in previous assessment procedures, new assessment instruments and methodologies have to be created. The development and testing of methods to assess the performance of health students, is the main goal of this study. The definitions of performance indicators and the methods used to assess different analysis categories will be developed with the assistance of instructors, the members of the communities, and health service users. We have chosen quality of care measured by "patient satisfaction" as an indicator of performance.

As will be seen later, patient satisfaction depends not only on human resource performance, but also on other conditions, such as: service accessibility, physician-patient relationships, a balance between the needs and care expectations of society, taking good care of patients

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and the communities involved; the ability of work teams composed of several different professions to create a more integrated perspective of each particular situation, and finally the ability to establish efficient communication.

However, these aspects are not a part of the current evaluation agenda. It is believed that this research will provide valuable information to the academic community as a way to monitor the health care training program. This effort will be a step forward in closing the gap between academic centers, the health institutions where graduate students work, and the community where services are focused.

Although student performance assessment can include: a) the assessment of student learning; b) the community's perception of students; c) the instructor's perception of students; d) and the students' perception of their own performance, the present study deals with the assessment of (b), the community's perception of students and (c), the instructor's perception of the students, within the context and the objectives of the training program. Instructors and community members will vary depending on the type of instructors involved and the nature of the community involvement. The aspects related to (a), assessment of student learning and (d), students perception of their own performance, are part of additional studies and the results from those studies will be used to complement those of the present evaluation.

Research question

Given that the involvement of the community in the partnership training program for health education is new, it is important to know to what extent student involvement in the community-based program meets the expectations of instructors, community members, staff from service sectors, and the students themselves. Identification of specific matches and mismatches will assist in our realization of what needs to be changed in the design to correlate community (user) understanding. In order to explore this research, specific instruments will be developed and modified for use, creating a dynamic interactive evaluation where teaching, learning, and evaluation are closely related.

Objectives

General objectives:

a) To produce guidelines for the development of student performance assessment procedures in community-based health care training programs.

b) To evaluate the extent to which a correlation exists between services delivered by health students and the community expectations (users) regarding quality of care.

c) To evaluate the reliability and accuracy of the instruments used to collect information (questionnaires) for the evaluation of student performance from the community.

Specific objectives:

1. To design assessment methods of health students' performance, taking into account both the instructors' and the community's criteria.

2. To apply statistical methods to explore the degree of concordance between assessments of the health students done by instructors and by communities.

3. To identify internal consistency of the items used to assess the different traits in the evaluation activity.

4. To provide the results to decision makers in academia and in health services to assist in the planning of the health student's training program, and in the improvement of the health care system.

Chapter 2

LITERATURE REVIEW

The literature review consists of five sections. The first section describes the Partnership Model and the Training Program: the second is related to the trends in medical education; the third describes the concept of competence, performance and their relationship; section fourth covers the quality of care concept and its relation to performance, and finally, section five deals with the application of the concept of performance within the health professions.

Section 1: The partnership model and the community training program

The model describes the interrelationship of three components: the University, the Health Systems, and the Community. This interrelationship should improve training of health professionals; strengthen health services, in such a way that coverage can be increased and the quality of care is enhanced; and empower people to take care of their own health. Within this strategy, each component supports each other to accomplish their own mission, and simultaneously, they are strengthened and empowered to achieve the objectives and goals that have provided the thrust for this initiative.

As was mentioned before, the effort is called UNI, "A New Initiative for Health Professionals Formation, jointly with the Community". The educational intervention based on the partnership model, is justified in light of the results of the critical review of traditional educational-assistance programs implemented in the previous decade. This analysis shows that although some achievements were attained, the development of these programs includes mistakes, which are quoted by the theorists behind the UNI initiative, (Kisil & Chaves, 1994).

1. The educational assistance programs did not take into account the partnership with the community as an agent directly involved in its own health.

2. Health services, as postulated in the Alma Ata conference, should consider total coverage which requires community involvement. In spite of this, the community was not given a different role by shifting its current role from object to the subject of the health care system.

3. Health services did not completely benefit from this partnership with the university, largely in reference to continuing education and research of service models.

4. The university effort for extension of assistance without taking the local health system into account, was not successful because of a lack of continuity with the programs. The programs were developed by different faculties without articulating efforts, lacked health infrastructure, and often, using the community for teaching and research, without including real community participation.

5. The isolation between the different health workers was constant. No learning opportunities were created for work groups; practical learning was limited to occurring within the institution. Community-based care, the risk concept, preventive approaches, and the family approach, all of which could have been better learned at the local level and in the community were not sponsored.

Finally, the authors suggest that the greatest concern was that universities failed to endorse the concept of "sectoriality."

As a response to the situation described above, the interrelation of these three components is proposed so that through a collective effort by communities, health systems and universities, better opportunities may arise to develop new health care models, innovative educational models, and creative models for community participation.

With respect to the education of professionals, our educational model adopts the criteria indicated by Kisil and Chaves (1994): (a) education of professionals should involve college students from the health professions, who have studied medicine or nursing, but the involvement of other disciplines such as dentistry, physiotherapy, nutrition, psychology, pharmacy and social work is highly desirable; (b) instructors from different health disciplines should participate in community activities; (c) rotation through the community should be done in a way that the student acquires the knowledge, attitudes, and abilities to act as a professional; (d) development of local health systems with at least two levels of care. Primary care program shall involve the work of interdisciplinary and multiprofessional groups, and systems to refer patients to hospitals in more complex instances; likewise, the local system should include health sponsoring activities such as self-care, environmental protection, risk prevention, and basic care.

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The Community Training Program

As was already mentioned, one of the main features of this program is the partnership among universities, communities and the institutions providing health care. In this way we are working with the philosophy defined by Talen, Graham and Walbroehl (1994), as "doing with" instead of "doing for" or "doing to".

There are many aspects to community training programs, but for the purpose of this investigation the focus will be on one aspect called the rotation. The rotation is part of the training program of the students from different health disciplines and as such, is not isolated from the rest of academic activities. However, the rotation bears its own objectives, organization, resources and pedagogical methods designed for the student to achieve the proposed learning objectives.

In the case of students' rotations in areas covered by the UNI project, the mission is to focus on providing the students with opportunities to apply the knowledge, and experience gained in a multidisciplinary fashion in various practice situations.

From the research perspective, rotations should be seen as an example of operational research, where the technical and administrative feasibility of programs is investigated, and where the creativity and involvement of different groups is harnessed to create technologies, to make programs feasible, and implement them in institutions. In this sense, rotations may be thought of as an educational program, a permanent participating research program, a health service program, or as all of the above.

Rotation planning includes the following aspects:

a. Consensus dynamics involving instructors, students, service and community representatives in order to define <u>rotation objectives</u>, necessary resources, assessment forms, and the use of assessment results, **figure 2**.

b. This consensus becomes the <u>mission</u> that will shape and guide rotation experiences. With the mission in mind, the group must consider the practical aspects of rotation, such as: the number of families to be assigned to each group of students, time and emphasis to be invested in home visits, group dynamics, and workshops. With respect to workshops,

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issues include inpatients' direct attention, the teaching methods to be used, follow-up and assessment.



Figure Nº 2. Diagram of process involved in the assessment of students performance

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c. Once the mission and activities to be developed are defined, a balance between the necessary and available resources for rotation will be established. With this information, the necessary adjustments will be made for the planned activities to be carried out.

d. Definition of minimum requirements and conditions to implement the rotation:

<u>Instructor's characteristics</u>: As learning is both a process and a result which has more to do with the student's performance than with the instructor, he (she) has to provide significant experiences that motivate the student to reflect upon his (her) actions. Under an experienced instructor's coaching, these opportunities for reflection are the basis for learning, providing the student with the necessary tools to respond to similar future situations. Three factors have to be taken into account: comprehension and understanding of the roles students play during rotations on the part of the community and officials; students' sensitivities and motivation through practice; and continual monitoring system that allows for the introduction of adjustments to the plan.

The rotation plan specifies how follow-up and assessment will be done. On the one hand, it is possible to know whether the students have been involved in experiences and activities identified as critical for their development, the kind of problems that have been managed, and the procedures developed, among others. According to Ende (1992), the rotation's social structure, particularly the way residents relate to teachers, clerks, service personnel, and colleagues, should also be considered.

On the other hand, methodologies and instruments should be available to assist in the development of the described activities. The following may be included: "Multiprofessional approach protocols to certain health situations": students and instructors' Daily Record Forms; and students' assessment forms filled out by the community.

Section 2: Trends in medical education and education of health professionals.

The need for a change in the training of health professionals has been recognized by different educators and health and education policy makers, (Garcia-Barbero, 1995; Greenlick, 1995; Talen et al., 1994; Tailor & Moore 1994; Holmes, 1994; Patel, Arocha & Kaufman, 1994; Coles & Holmes, 1994). Part of this recognition results from the rapid changes in the health care system and the need for a different approach to education of health professionals to meet the needs of the population, reduce health cost, ensure quality and allow for the free movement of sufficiently qualified health professionals. Talen et al. 1994, have summarized the trends in health care systems saying that paradigm shifts are occurring on many levels as we shift from an illness care model to a prevention and primary care models; from provider-friendly to client-centered; from hospital-based to community based; from access for the insured to access for all.

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Boelen (1995), pointed out that for the health professional to be able to play an important role in the sector, he\she should be willing and capable of assuming new and greater responsibilities. Also, it is necessary to consider the complementary role of other health service providers. In the definition of new models of health care and new health professional profiles, health authorities, academic institutions, professional associations, and representatives from the consumers of health care need to share a vision that

encompasses the purposes and methods of health development and establish to clear cooperative channels. An agenda should be defined and implemented for the research and development interface between medical education, medical practice, and health care in accordance with the necessities and expectations of each socio-economic context.

As Ezzat (1995) has pointed out, the objectives of health care stated in the Alma Ata declaration emphasizes the necessity of providing equitable services with social justice, which leads to a shift in health service and educational service models. In spite of the commitment made by governments to achieve this objective, the results are disappointing. Numerous studies have attested to this fact, which has encouraged international institutions such as the World Bank to address the subject. The World Bank has indicated the necessity of implementing certain measures, in order to improve the offer from health institutions. These measures include the creation of an environment which enables families to improve their health; urging governments to increase health care spending; and promoting diversity and competence in health care service supply.

The following are some of the changes needed according to Ezzat's point of view: students require exposure to more realistic situations that earich their clinical experience: participation of the communities in medical education; multiprofessional education; curricular options to face information overload; and vertical and horizontal integration of biomedical, social, and clinical sciences.

Other authors such as Ruakan (1995), have referred to trends in medical education in the following terms: " orientation of medical education and medical practice towards the common goal of Health for All imposes new tasks and responsibilities to many sectors. Medical schools are required to identify local and national problems to modify their teaching accordingly".

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One question that needs to be answered is what type of health professionals we are looking for to meet these needs. Greenlick, 1995, pointed out that little had been done over the last 80 years to change medical education in accordance with Flexner's advocacy of the physician's social and preventive functions. To identify the needed changes in medical education the author is responsible for structure and trends of the health care system since 1935 to the year 2005 in the United States of America. Many of the changes mentioned are taking place in Latin American countries, among which is the orientation of the medical care towards disease prevention, more than curing disease; the payment mechanism for the

services, based on employment -based insurance and government -subsidized services, and most importantly, the responsibility of the physician not only to the patient but to the community.

Other competencies required for a physician to practice in an integrated system (Greenlick, 1995) include the ability to manage information and resources: to work as part of a team, and to integrate guidelines and clinical judgment. Although work aimed at investigating these factors is being carried out in other areas of education (Patel, Arocha, & Leccisi, 1994), the implementation of such research in medical education is still forthcoming. On the other hand, Keiser (1994) noted that the health care system of the future will require nurses who are critical thinkers, expert communicators, inclusive and flexible innovators, problem solvers, bridge builders, and outcome focused.

The majority of the aforementioned characteristics have been addressed in international meetings such as the Edinburgh meeting in 1993, in which policy in medical education, curriculum content, learning strategies, and assessment were addressed. It was recommended that curriculum content should be focused on the community and primary health care, making the community a partner in the development of teaching and learning activities. Concerning the communities as partners, Schroeder (1994) pointed out that this approach requires a profound shift in professional values and beliefs, since most professionals are accustomed to medically designed models of health.

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According to Schroeder, partnership implies relationships based on mutual respect, expertise, knowledge, and authority. One important remark the author made is that communities should not be taken as clients or as a passive subject waiting for the services that the professional, as an expert authority, can provide. Schroeder mentioned that improved community health is defined by the community rather than by the professionals and that enhancing the community's cultural and social structures and beliefs is essential. People must be represented in all decisions affecting their health, rather than remaining at the mercy of those regularly attending community meetings.

It has been argued that the assessment of students should be based on competence and social values, and at the end of the course. In assessing students competence, Weiss (1995) suggested that it was important to answer the following questions: Are you certain that the objectives are reasonably achievable by all participant students?; Are the teachers and learners familiar with these objectives? Is there agreement about the teacher's ability to

facilitate the student's accomplishment of the objectives ? If the course takes place in a clinical setting - where much of what is learned is dictated by the problems patients present - are you certain each student will have similar opportunities to meet the objectives? Most of the above issues have been addressed by different teaching institutions such as Maastrich Medical School at the University of Limburgh, Beer-Sheva in Israel, McMaster University in Canada, Newcastle in Australia and New Mexico in the United States.

Recently, additional educational centres have undertaken curricular reform supported by the Kellogg Foundation as part of the Program "Una Nueva Iniciativa para la Formación de Profesionales de la Salud: en Union con la Comunidad", UNI. Kisil (1994), conceives of evaluation as a "permanent process to increase pertinence, efficiency, and efficacy of services and health personnel educational activities, building a close relationship between them, with genuine involvement of communities, on every level of the decision making process related to health and with implementation of these decisions". Likewise, assessment has been considered one of the avenues and mechanisms of community involvement in the activity of other partners, namely, service, and academia.

The changes taking place in health professionals' training demand innovative, effective and feasible approaches and methods in the evaluation activity. Reckase (1993), pointed out that performance assessment is one of the current hot topics in educational measurement, usually when big changes have been taking place in the curricula of different professions. Broadfoot (1994), has argued that assessment is on the agenda because change is on the agenda; there is growing pressure in many countries for the education system to do more and different things, and it is felt that assessment is the key to achieve these changes.

Performance evaluation methods include both quantitative and qualitative information, with the latter deserving more attention for the kind of information it can contribute and the type of analysis it provides (Arocha & Patel, 1990). A number of models that are predominantly qualitative have been proposed and used in evaluations of programs in the health professions, education, and other areas. Qualitative evaluation strategies usually emphasize the study of a project or a program in a naturalistic way, but the two approaches, qualitative and quantitative, should not be dichotomized, but complement one another.

In this regard, Marshall (1993) pointed out that education in general, with its link to the sociocultural context, is still widely considered a soft science and therefore governed more often by opinions than by hard facts. This may explain the widespread tendency to treat

lightly the fate of medical education. With the advent of assessment measures, promoters of medical education reform by intuitive means progressively give way to new leaders guided by research findings. Consequently, medical education will gain respectability as a scientific discipline. Verification of the impact of education on health care will be spurred; understanding between health policy makers, academic institutions, and the medical profession will be improved; and international collaboration will be enhanced.

Wartman (1989), also attracted our attention by asking the following question: "Can we, in a unified way, test and evaluate the effort of this change to better understand its consequences so that its impact can be demonstrated for a large number of institutions, over a long term, and eventually on patients outcomes ?". The concern arises as to whether change does or does not fit into the overall framework of what constitutes medical education. He also noted that the process of professional education is fraught with unexamined assumptions at virtually every level. The author stated that without examination of this assumptions, many of the innovations are likely to fail or have limited effect. One of the examples given is that we need to know how and what to teach in the context of what is good for the patients.

As has been already said, the first step in measuring is to respond to the question about what is to be measured, considering knowledge, skills and attitudes that the student or the professional should have. Other important question we should answer before conducting any assessment activity is how the assessment results will be used, and by whom. The answer to these two questions will give the criteria to establish the standards expected, the methods to apply, and the conditions under which the evaluation should be achieved.

Section 3: The concept of competence, performance and their relationship.

Although the literature reports differences between competence and performance, in many studies there does not seem to be a clear distinction among the assessment methods used to assess one concept or the other, or whether they apply indiscriminately given the potential relationship between them. Therefore, it is important to establish the difference and relationship between the two concepts. It is also important to define their relationship to quality of care and the methods, tools, and conditions used to achieve the assessment activity.

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All of the definitions of competence and performance highlight the ability to achieve an activity (competence), from the action undertaken by the student in a real situation (performance). It must be understood that the relationship between competence and performance is not a causal one. Performance is understood as the result of the combination of many factors which make the student act in a specific way and competence is only one of them. Moreover, the existence of all the components that make the student perform in a specific way does not guarantee he/she will perform similarly in another situation under different conditions and a new assessment context.

Chandler and Chapman (1991) stress the ways in which concept of competence serves to pick out particular patterns characteristic of types of personal or interpersonal actions, and all work to situate such patterns of explanation within a still broader framework of other explanatory form. The competence/performance relationship is understood by Chandler and Chapman, as the following: "performance as the effect of which competence is the partial cause, or explicates competence in the light of the performances that exemplify them". For the authors, only the last possibility offers a coherent interpretive framework for characterizing the competence/performance relation. They pointed out that "competence is seen as a causally relevant component in a conceptual equation in which manifest performance is interpreted as some direct function of that competence plus other things". If this statement is true, we could consider competence a requirement for adequate performance. However, the studies searching for this causal relationship have shown that other variables could have a greater influence in performance and we can not be certain that a given competence will result in a desirable performance in the fields we have been testing.

One of the problems of viewing competence-performance in the way described above is that many variables intervene in performance and we can not be sure which variables can be used as better predictors of performance in a given task. Another problem that has been mentioned to establish this causal relationship is the bias for earlier attributions of competence. Related to this argument, Chandler and Chapman, gave an additional explanation saying that "the reason that reconstructive account of competence does not allow for explicit predictions regarding individual attempts at problem solving is that the pattern or type concepts to which they refer, although based on concrete particulars, have not one to one relation with such events. Therefore, they say nothing specific about what particular individuals will and will not perform on a given occasion. More important, because the relation between competencies and their manifestations are not contingent, but

matters of identification, predicting one from the other is in some sense fundamentally incoherent".

Also, Gonnella (1993), commented about the weak relationship between performance at different levels of training, or between training performance and clinical performance, in the studies carried out by the American Medical Colleges and the National Board of Medical examiners. None of these studies has identified any combination of useful predictors of success in practice.

Other authors have provided important clues to clarify the definition and relationship of the two concepts. Usherwood et al. (1995), refer to competence "as to what a person is able to do, and performance as to what a person does in practice". On the other hand, Southgate 1994, has given an extended definition of competence in the medical field that refers not just to ability, but also to the "will, to select and perform consistently, relevant clinical tasks in the context of the social environment in order to resolve health problems of individuals and groups in an efficient, effective, economic, and human manner". In their view, competent clinical behavior includes "the consistent demonstration of appropriate moral and personality attributes", as important factors in their future performance.

Other approach about the two concepts and its relation is brought by Chandler and Chapman (1991). They distinguish two necessary features of competence that are important to recognize. First, they see competence as " a type of explanation, not a type of description. An explanation of competence is characterized by being normative and abstract". Second, they noted is that it is one among several types of explanations that are part of the scientific research. The reason for the last argument according to these authors, is that an adequate scientific theory involving human capacity, requires an integrated set of explanatory concepts and competence models and offers explanations for the universal features of understanding at different levels of development.

Southgate (1993), in attempting to establish the relationship between performance and clinical competence in the medical profession, concluded that competence may be defined as what a doctor is capable of doing (know how), whereas performance may be defined as what the doctor does (shows how) in day to day clinical practice. She refers to the relationship Streiner and Norman (1989) suggested between the two concepts, establishing the correlation between written certification tests of competence and performance in practice, however the author did not find correlations between patient satisfaction scores.

Section 4: Quality of care concept and its relationship with performance.

Although it is difficult to establish a causal relationship between the health professional performance and the quality of care, where the latter is measured by user satisfaction, due to the variety of aspects determining the patient's satisfaction state, it is, indeed reasonable to think that health professional performance affects the user satisfaction with the service provided. This assertion is supported by the criteria expressed by users when during individual interviews and group dynamics they were asked about the aspects that they would take into account to consider the quality of service.

Looking at the quality concept, Donabedian (1990) made the distinction between technology assessment, and clinical research and pointed out that quality assessment is neither of them. "It is an administrative device used to monitor performance to determine whether it continues to remain within acceptable bounds". The author has pointed out that the concept of quality is elusive, undefined, and unmeasured. However, the quality concept and measuring have recently gained importance when a) health costs are increasing sharply; b) the budget is more focused on demand that on supply, the decentralized process has led to the participation of a wide range of service provider institutions, which further hinders the application of quality control processes; c) user satisfaction levels to service are increasingly lower; and d) the legislation in many countries, specifically Colombia, gives rights to citizens so they are able to oversee and control the sector's activities but also to control quality of care and to select the care source that best meets their needs.

For the community to exercise this right, it is necessary to have a definition although not standardized, that creates a "pattern" of health care, that is socially accepted. Ideally, service providers and the community will develop an agreed definition of quality, in order to define desirable criteria and standards, and to facilitate the actions to improve it. Such actions involve not only service providers, but also users and committed institutions.

Although the quality concept involves technical and perceptual aspects related to the service provider performance in its direct interaction with the user and his/her family, this study emphasizes the community involvement in the evaluation of aspects related to the serviceuser interaction. These aspects have been only scarcely developed, in part due to the difficulty of finding methods that can provide reliable and valid information. Therefore,

information on this is not recorded; it is difficult to establish general guidelines that explain different situations.

Graham (1990), stated that "the definition of quality of care encompasses both the technical and scientific aspects of care and the art of care, **figure 2A**. The art of care refers to the manner in which physicians conduct themselves in relation to their patients and is sometimes measured in terms of patient satisfaction. In the same vein, Donabedian (1990) has pointed out that "through interpersonal exchange, the patient communicates information necessary for arriving at a diagnose, as well as preferences necessary for selecting the most appropriate methods of care. The interpersonal process is the vehicle by which technical care is implemented and on which its success depends". Aspects such as privacy, confidentiality, informed choice, concern, empathy, honesty, tact and sensitivity are expected to be present in the care given.

Despite the above aspects being an important part of the quality of care concept, they are usually neglected, both in the provision of health services and in the evaluation process, therefore the providers give little attention in their practice to aspects related to the art of care.

It is impossible to discuss a definition of quality without examining the values of the professionals, the patients, and the institutions. The definition of quality depends not only on values but also on the purpose of the review. "The definition of quality is dynamic, it changes as knowledge, values, and resources change". Donabedian (1990) stated that this definition is narrow or expansive depending on our concept of health and our responsibility for it.

The dynamic concept of quality of care demands dynamic and flexible evaluation methods that incorporate users, providers, and societal needs and expectations regarding the quality of care. This study is expected to contribute to filling this gap, being the first step of an ongoing evaluation process.

As was mentioned before, the quality of care concept encompasses both technical aspects and the art of care. The first part has had a major development, thus the main contribution expected from this study regarding the evaluation of the quality of care is the identification of variables, criteria, and methods to assess what is called "the art of care", measured by patient satisfaction.

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Thompson (1984), defines quality as "the optimal achievable result for each patient, the avoidance of physician induced complications, and the attention to patient and family needs in a manner that is both cost-effective and reasonably documented". This definition refers mainly to the technical aspects of care, but in certain way neglects the art of care mentioned before. Most of the definition relates to the technical aspects of care because few measures are available. According to Graham (1990), patient satisfaction and compliance are closely related to the art of care and can have a major impact on outcome.

The Corporation Professionelle des Médecins du Quebec, has defined quality in medical practice "as the characteristic of the medical act which alters the natural evolution of the state of health through application of scientific principles in response to the patient's expectations". The question is how to measure whether the care given responds to the patient's expectations if these expectations have not been identified. In a parallel statement made by the same authors about medical practice and quality management, it recognizes the importance to consider the patients needs, the competence of physician, and the balance between needs and care expectations of society.

On the other hand, Donabedian (1990) recognizes that in the definition of quality we should be aware of the fact that "it acquires added elements as we move outward from the performance of practitioners, to the care received by patients, and to the care received by communities".

Caper (1993), illustrates another dimension of the quality of care concept. He mentions the challenges to define quality of medical care given the perspectives it brought. Whereas physicians emphasize individual care, policy makers, administrator and epidemiologists focus their attention on the ways defined populations consume medical services. For the latter, the most important feature is the incidence and prevalence of diseases and the utilization of resources for the whole population. This orientation makes difficult the communication between health care providers and policy makers.

Caper also considers three attributes of the concept of quality in medical care, effectiveness, (the intervention work); patient satisfaction, approval of the care and satisfaction with the system, (is the system friendly); and appropriateness, (is a relative concept). The author said that for "individuals high quality of care is care that is effective, appropriate and results in patient satisfaction. For the population, it is care that is effective, appropriate, and

accessible and results in the delivery of optimal services for a great number of people within available resources". As can be seen, the population definition of quality care differs from the individual because it considers accessibility and opportunity cost.

Graham (1990) makes yet another distinction between quality assessment and quality assurance. According to her, the former means measuring the level of quality of care at some point in time, but connotes no effort to change or improve that level of care. Quality assurance, includes the measurement of the level of care provided and, when necessary, the attempt to improve it.

Considering the above definitions, our interest is to improve on a permanent basis the quality of care by having better trained health professionals and to empower communities to control the health care delivery system, in other words, to establish a community based quality assurance system.

The quality assessment activity can face many operational difficulties; as it was already mentioned the need to have a clear definition and specification of the type of decisions that will be made, the reliability and validity of the instruments to measure; data accuracy and the economic and sociopolitical aspects involved in this kind of assessment make it a challenging activity.

Section 5: Application of the performance concept to the evaluation of health professionals

Linn (1994), pointed out that major changes in the nature and context of assessment are underway and have potential implications for technical measurement standards. He addressed the expanded role of the government; the increased emphasis in standards, and the major increase in reliance on performance-based assessment, as the three major changes. On the other hand, Linn, Baker and Dumbar (1991) call attention to the role of the performance-based assessment as an important element in emphasizing problem solving, comprehension, critical thinking, reasoning, and metacognitive processes.

Brown (1992) and Black (1994), have highlighted certain key trends in educational assessment such as: more emphasis on assessment outcomes and how the results can be used in valid and relevant ways; more interest for defining what the evaluators are doing

and why they are doing it; a more encompassing concept of assessment from testing for certification purposes towards strategies that are more closely integrated with the curriculum and which fulfill multiple purposes; the necessity of having a clear definition of what assessment means; the use of statistics to enlighten the evaluation process instead of adding complexity to it, and finally a shift towards criteria oriented towards descriptive assessment, instead of evaluation based on scores and grades which have poor value.

What should be measure? Once we are clear about the concept of quality of care, we have to clearly define what domains and activities we are interested in assessing, who is going to be assessed, what the comparison standards are and the end uses of the results.

Donabedian (1990) considers three categories in the quality of assessment: the structure, the process, and the outcome. These categories are related and all of them give important information related to the quality of care. Although the evaluation of outcomes has the advantage of reflecting the three components, it has the drawback that we can not understand what is wrong with the structure and the process. In order to assess these, one needs an approach to assessment that looks beyond behavioural outcomes into the cognitive structures and belief systems (Sivaramakrishnan & Patel, 1993) of the patient. This type of assessment is currently under development and has not provide easy-to-administer tests yet.

In the present study, we will focus on "patient satisfaction", which can be thought of as an indicator of the outcome of care. In that respect Donabedian (1990) noted that "an expression of patient satisfaction or dissatisfaction is also the patient's judgment of the quality of care in all its aspects, but particularly the interpersonal process. He stated that "whatever the strengths and limitations as an indicator of quality, information about patient satisfaction should be as indispensable to assessment of quality as the design and mangement of health care systems".

<u>Measurement approaches</u>: Southgate (1995) noted the importance to consider the constraints of performance assessment: validity, reliability, standards setting and feasibility. All the former constraints have part of the research agenda of the last decade, but still many questions concerning those aspects remain unsolved. Validity was one of the 16 unsolved problems in educational measurement reported by Wainer (1993). The author refers mainly to the problem of predictive validity, where adequate criteria should be established in order to select those students that will be competent in their professional lives. Related to validity, the author asked some important questions, such as: how do we determine the validity of a

test when it is being used for selection ?: How do we correct for self selection? How are we going to account for personality variables that we feel are important for success. Answers to those and other questions related to the validity of measures and procedures applied to assess performance in professional education, should be given if we want to trust the evaluation process and make reasonable decisions based on the results of the assessment conducted.

Reliability has been defined in practical terms by Streiner and Norman (1989), as the ratio of the variability among individuals to the total variability in the scores; in other words, reliability is a measurement of the variability ratio in scores resulting from a real difference among individuals or raters. The reliability of the instrument in the face of different conditions is an important measure of a method's usefulness, but should not be the only parameter to be taken into account. One conclusion about the instrument's usefulness will be established once it is identified whether the instrument can measure what is to be measured, in other words, the instrument's validity.

To study the validity of the method applied by the community, a study of the validity of the construct of dimension has to be used. Because the variables to be assessed by the community are not physical expressions, but more related to motivations and unobservable behavior, hypothetical expressions of the presence of the variable in the study have to be constructed.

A construct has been defined by Streiner and Norman (1989), as a "mini theory" to explain the relationships between various behaviors or attitudes. The authors refers to construct validity as a wide range of approaches, which are used when the object of measurement is an hypothetical construct. On the other hand, Streiner and Norman, accurately state that the validity of a construct may not be measured with only one experiment, on the contrary, the construct's validation is a dynamic learning process about the construct, making new predictions, and testing them later. This is the objective of incorporating new assessment methods that involve other actors and therefore other insights.

Experts and community judgements about the characteristics that the student must have on every dimension to be assessed will be taken into account for the definition of this construct. For more accuracy, most items related to the dimension to be assessed will be included. An additional advantage of "construct validity" is that it allows the assessment of

both the theory and measurement method at the same time; for example, the leadership concept becomes credible as well as its measurement instrument or scale.

There are different methods to evaluate students performance, but at the same time, there is concern about the accuracy, efficiency, and applicability of these methods to assess domains that are not related to clinical competence. It is important to consider the reliability and validity of the evaluation methodologies. Goodwin, 1984, pointed out the different approaches regarding the relevance of measuring reliability and validity in qualitative studies. According to her, some methodologists considered this assessment irrelevant arguing that validity is important but reliability is not. They considered the researcher in qualitative evaluation as the instrument and thus the measuring instrument is not independent from the researcher; others have considered that validity and reliability are relevant but that empirical estimation is difficult or impossible, and finally, there is a group that considers validity and reliability important and should be estimated in qualitative studies.

One consideration for the validity of the study refers to the domain under study and the setting where the learning activity is taking place. In this regard Patel and Cranton, 1983, found that different disciplines facilitate different types of learning and that there is no significant transfer of learning among disciplines. In their study they found that "factual knowledge and problem-solving were facilitated by different disciplines, but at the same time they are the most difficult to transfer from one discipline to another. On the other hand, the interpersonal and technical skills and attitude towards health care showed more evidence of being transferred".

According to the authors, transfer of learning depends on the clinical discipline and the domain of learning studied. The ability to perform tasks depends on the environment in which the tasks are performed, therefore, no generalization can be made from the study of one subject area or or specific aspect of student learning to another.

Instruments to measure performance-competence in medical students

There are different evaluation methods to assess students' performance which can be categorized as quantitative and qualitative, and will be described below.

Regarding the advances in the area Gonnella et al. (1993), pointed out that "since performance testing is adopted as the new mantra of the cognoscente, the Observed
Structured Clinical Examination, <u>OSCE</u>, the standardize patient SP, and the Simulated Clinical Encounter SCE, have become the salient acronyms of the 1980, and 1990s replacing the Patient Management Problem PMP, so popular in the 1960-70". Both the OSCE and the SCE have the advantage of presenting an examination with standard series of realistic stimuli and of making it feasible to test large numbers of candidates in an objective manner on standardized material. However, like other instruments each is limited in the types of tasks, problems, or skills that can be sampled in the chosen format. The relevant question for all the tests is: what can we conclude about an individual 's competence on the basis of his or her responses to a particular performance test? The same questions of extrapolation, validity, and feasibility that have haunted more conventional testing must also be answered by these newer instruments.

Swanson, Norman, and Linn (1995), stated the lessons learned in the application of performance based assessment in the health professions in the last decade. They started with the application of tests based in realistic performance situations, which do not guarantee a fair evaluation. The reason for that is the complex relationship between the context and construct dimensions of the task being evaluated, where skills do not take the same form in all contexts. One way to overcome this problem is considering what they call a construct-driven performance assessment, rather than task-driven approach, because according to them, the construct guides the selection of relevant tasks. The second lesson refers to the difference of the student's behavior when he/she is facing a real or simulating situation. According to the authors the performance is better in a simulated situation than in a real one. A third lesson learned from these experiences concerns the scoring. This has been a difficult task due to the inconsistency of the raters in scoring the same student.

The fourth lesson is the inability to predict performance based on past assessments.

It is important to consider the context where these have been achieved. The fifth lesson is related to the correlation between different performance-based assessment methods, which produce variable and interpretable results.

It is important to expand slightly on the lesson related to the impact of the assessment of teaching and learning processes. There are consequences that are unpredictable, with benefits and side effects for the educational system, for the students, and for the teachers. Therefore, when new assessment methods are introduced, a system to monitor them should also be established, in order to identify the benefits and the non desirable consequences of

it. Finally, the authors mentioned that neither traditional testing nor performance-based method assessments are good by themselves, they suggest a combination of methods over the application of a single one. It is important to consider that the best option for method selection and application should depend on the skill to be assessed and the context where the assessment is going to take place.

One of the problems that has been mentioned in applying methods based on summary measures is the difficulty to generalize or extrapolate the results of performance in a specific domain within a context that includes different aspects of the performance assessment. As an alternative to overcome the problem of summarizing the assessment of knowledge and skills in one mark, Mulholland (1988), recommends the use of the <u>profile system</u>. The topics under which observations are made relate to specific tasks or more general underlying aspects of competence. It is important to bear in mind that the aim of profiling is more informative, thus, instead of summarizing the different elements of the competence assessment, it gives information about each of them separately, i. e. knowledge, and skills demonstrated in situations different to what the student has been exposed to. In this way, it provides the students, the tutor, and the outsiders, with information which can guide further learning, teaching, and selection.

Another method that has been suggested but has been applied more in the monitoring of health institutions is the <u>audit</u>. The earliest use of the term audit in medicine is attributed to Codman (1916). A medical audit, was described by Slee in 1974 as "the systematic evaluation of the quality of patient care as seen in medical records"; the term was defined more widely in National Health Service (NHS) in 1989, as the "systematic critical analysis of the quality of medical care including the procedures used to diagnose and treatment, the uses of resources, and the resulting outcome and quality of life for the patient". The medical audit was seen as central to the enhancement of the quality of care , and an essential part of the training of junior staff. Gonnella mentioned that "audit is generally deemed to be more useful in identifying extreme individual deficiencies and widespread deviations amenable to educational or other regulatory interventions. Because of the variable interpretations to which it is subject and the large numbers of cases required to reach a stable estimate, there is a considerable hesitation about using chart audit for purposes assessing overall individual competence and predicting future performance".

The <u>questionnaire</u> has been considered as an important tool for collecting information for assessing student performance by external evaluators such as the community. Sullivan et al.

(1995), compared various methods of collecting self reported health outcomes data, and found that patients with low literacy skills and lower education and income levels, and those who report fair or poor visual function appear to be the most suited for the interviewer assisted method of data collection. However, if patients who have difficulty completing a self administered questionnaire can be identified, they can be routed to an alternative data collection strategy, such as an interviewer-assisted method, in order to maximize efficiency of data collection and data quality.

The <u>focus group</u> technique allows the collection of mainly qualitative information, tapping different aspects of the educational program. Carey et al. (1994) pointed out the need to develop methods to analyze focus group data in such a way that the impact of the group context in the analysis be considered. The authors defined the focus group technique as using a semistructured group session, moderated by a group leader, held in an informal setting with the purpose of collecting information on a designated topic. Underlying this technique is the rationale that, with proper guidance from the focus group leader, group members can describe the rich details of complex experiences and the reasoning behind their actions, beliefs, perceptions, and attitudes. The major pitfall of this technique is the censoring and, conforming, which occurs when persons adjust their own behavior in response to their impressions of other group members. The analysis of the focus group data depend on the availability of other sources of data. It has been mentioned that in order to capture the individual and group pheromena, the researcher or evaluator needs to examine three levels of analysis: the group level, the individual level, and third, a comparison of the individual level with the group data.

Clinical judgment has been considered the foremost attribute in the study of physician performance. There is a long tradition in this area (Elstein, Shulman & Sprafka, 1978; Patel & Groen, 1986; Norman, Coblentz, Brooks, & Babcock, 1992). This research has been aimed at finding out the characteristics of clinical and problem solving showed by physicians and medical trainees (e.g., students, medical residents). However, there are a number of factors that although affecting the judgment process have not been taken into account, such as affective sensitivity and values. In this regard, Southgate (1993) points out that competence comprises cognitive and interpersonal skills, and moral and personality attributes that have to be defined locally. These are important issues that should stimulate research in behavioural science to improve patient care.

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One important aspect that is often not considered in the evaluation of the student training is their ability to cope with stressful situations, mainly for the medical students or health professions. Wolf (1994) found that professional socialization takes place in an environment which has been characterized as rigid and dehumanizing. The author mentions six psychological needs: "attachment, individualization, self esteem, criticism, internalized security and self expression and creativity, which are stifled and frustrating during medical schools, appear to be central to the successful resolution of the identity and intimacy developmental crisis".

I would like to finish this revision on the performance assessment, by quoting Marshall (1993), who emphasizes the "link of medical education with medical practice which will lead medical education to extend its responsibility beyond curriculum development. The challenge of setting standards that allow the measurement of quality in medical care and in medical education will foster the creation of new alliances between medical schools and the health sector. The study of the correlation between student performance and excellence in professional practice opens the way for a basic interrogation of the capacity of a medical school to respond to the society's health needs, since reflection on educational outcomes can not be isolated from reflection on outcomes of medical schools interventions in research and in health services delivery".

From prior comments concerning health care quality assessment, we can conclude that there is agreement among different authors in the multidimensional characteristic of the quality concept and therefore in the variety of factors involved when we try to define or assess it. There is relative agreement between the providers and the users in the criteria applied to assess the quality of care provided, specifically those related to interpersonal relationship. This was demonstrated in the evaluation of student performance according to community perceptions of quality of care.

An important difference between the two approaches, that of the user and that of the provider, is the emphasis given to the variables involved and the methods of assessment. The community focuses on perceptions of patient satisfaction (qualitative data), and the providers on technical aspects of the service provided, hard data (quantitative).

From the student perspective and in community based teaching programs, the students are usually assessed on technical aspects related to competence or performance in the hospital setting, rather than performance in the community setting. Some potential explanations of

this behavior could be the availability of quantitative methods, the importance given to curative care, the lack of feasible and effective methods to conduct qualitative assessment, and, time constraints since qualitative studies are time consuming.

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Chapter 3

METHODOLOGY

1. Rationale of the student performance assessment model

The evaluation of the students' performance by the community, will be done using "user satisfaction" with care received, as the core indicator of the quality of care. Although medical performance has been recognized as a key element with respect to user satisfaction, it is known that quality of care does not depend exclusively on service provider performance, but rather various aspects such as, health institutions infrastructure, degree of user commitment and involvement, type and degree of problem seriousness, and user expectations.

It could be thought that medical performance, in our case by the student, is in turn conditioned by these aforementioned factors and therefore, a partial analysis that does not take into account these aspects of health care quality would provide incomplete information. It would therefore be inappropriate to make decisions related to educational and service programs.

The evaluation levels of quality of care suggested by Donabedian (1990) have been considered in this study, **Figure 3**. The figure shows four analysis levels, which could also be considered intervention levels. At each individual level care is provided by practitioners, in our case medical students. The <u>individual level</u> includes the analysis of two types of performance, the technical and the interpersonal one. Another analysis level is the <u>institutional</u>, which provides insight on institutional information to offer amenities to users; a <u>group</u> level of analysis consists of the user and his family, who identify the degree of student contribution and family contribution in observing the recommendations or treatment plan given to the patient. Finally, the community level analyzes care received by the community.

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Given the character of the evaluation proposed, which is more focused on perception than on "hard data", and on the student's attitude towards community health problems, rather than individual clinical cases, as well as on the student's performance during

multiprofessional practice, rather than unidisciplinary care, the present evaluation is focused on the last level, without neglecting the information supplied by the others. Within this same level, student performance or care provider will be emphasized.



As was previously noted, performance has two dimensions, the technical and the interpersonal. The community will participate mainly in the latter. The technical evaluation will be carried out by instructors from the health faculty using specific instruments. The information on the other levels will be obtained by other sources such as institutional records, focus groups, and student participation in specific studies such as the evaluation of local health systems where the students have compiled and analyzed information on the institutional level. **Figure 4**.

It is necessary to understand that the assessment activity as proposed in this study, transcends the application of such tools as the questionnaire. Our assessment is an interactive process in which each participant has a role to play and a contribution to make.

Thus, although the structured questionnaire is a key element within this activity, it could not fulfill the objectives of the assessment alone.



Figure Nº 4. Environment of the assessment

It is thus necessary to ask which is the most effective manner to obtain the community's permanent and active participation in the evaluation of the students. It is also relevant to ask whether the data resulting from the evaluation are going to be managed in order for the evaluation to fulfill its objectives.

In order to answer these and other questions, several activities are planned:

A. Meeting and interviews with the families where the student rotation is conducted, to explain the evaluation objectives and importance, define the dimensions to be assessed, grading criteria, and the methodology to collect and analyze information. For example, which aspects will be considered in determining whether one student has shown concern for the user. Variables and indicators to be considered in the assessment of each of the dimensions will be obtained, and depending on the frequency they are mentioned, the more important ones will be listed.

B. Group meetings with community representatives will be held, to discuss the indicators obtained in the above exercise and to reach an agreement about the importance of assessing different dimensions and the methods to obtain information, as well as the scores to grade each variable.

Likewise, meetings will be held with instructors and students to inform them of the importance of the survey and encourage their participation. The use of the study's result, repercussions, and the importance of their commitment will also be discussed. This last point will be worked out with the faculty's academic committee for this assessment to be integrated in academic planning.

C. Design of the forms to collect information: One of the critical aspects in this activity is the necessity of designing material that is easily interpreted and applied by the community, especially for people who are less literate, without decreasing validity.

D. Test and adjustment of the scoring forms: A test will be made that takes into account comprehension of the material, ease of completion, and completion time. Suggestions for improvement will be welcomed from all the participants. This can be done by replacing terms, or re-phrasing some questions, etc.

E. Instrument application: Each family will be supplied with a form to "grade" the student's behavior at different times when the family or any of its members gets in touch with the student during the rotation time.

During data collection, separate meetings with instructors, students, and the community will be held in order to follow-up the process, clarify misunderstandings, make adjustments, and document the methodology.

For greater accuracy, the following procedures will be followed: Training of the personnel involved in data collection; application of the assessment forms to each student in at least two different situations in order to assess the same dimension in context at different times. Each form will include a picture of the student besides his/her identification. In order to avoid a carry-over effect caused when the elapsed time between two measures is short, it is recommended that each student be assessed at a convenient time; this time is still under study.

Both qualitative and quantitative methods of data collection and analysis will be used. The basic idea is to initially design some criteria based on the written objectives and characterizations of activities where the subjects will be involved during the rotations. This semi-structured questionnaire/checklist will be field tested and modified based on the qualitative information acquired during the pilot testing phase. The basic idea is to develop valid and reliable instruments which can be used easily, and furthermore to design a set of guidelines for future studies of this kind.

<u>Questionnaire</u>: This will be designed based on the objectives of the rotation and the suggestions made by the community. It will be used to gather information on attitudes, reactions, and perceptions from students, community members, and instructors. A three point rating scale will be used for the questionnaire. The questionnaire will be semi-structured so as to collect both quantitative and qualitative information.

<u>Interviews:</u> Based on the questionnaire, small samples of subjects will be selected for detailed interviews to obtain in-depth information on "Why" rather than "What". This information will be used as a supplement to the first instrument. The questions to be discussed will be selected from the analysis of the questionnaire. This way, the interview information will be used as a qualifier for the questionnaire information.

<u>Comments</u>: Some specific comments will be solicited from the subjects to fill in the gaps in the information collected from other sources. This method will be useful in obtaining information not available from other sources.

The questionnaire will be tested for content and construct validity. The content validity will be provided by using experts in the design. The construct validity will be provided by the theory that the categories used in the questionnaire reflect the changes that are expected in student behaviour with the introduction of the community based program. As was mentioned before, these changes have been identified by the community, representatives of the health services institutions, and curriculum planners. In addition, reliability of assessment methods applied by the community and the degree of agreement with instructors' assessment will be tested. The instructor group includes service officials that have participated in the instruction activity.

There are two study variables: The first is the reproducibility and accuracy of the assessment method used by the community; the second is the degree of concordance among

the assessment results of the community and the assessment results of the instructors responsible for rotation.

2. The evaluation context

The Research Site

Colombia is a republic located in northwestern South America, with a population of nearly 37,000,000. It is a republic headed by a president elected every four years by universal adult (18 and older) suffrage. It is divided in 32 political divisions or departments and one special district.

The country is bordered by Ecuador and Peru on the south, Brazil and Venezuela on the east, and Panama on the northwest. It has extensive coastlines on both the Pacific and the Caribbean. With an area of 1,138,914 sq. km, Colombia is the fourth largest country in Latin America.

Most Colombians are Mestizos (Indian and Spanish descent) or Mulattos (a mixture of black and white). Whites constitute an estimate 20% of the population, blacks 4%, and Indians 1%. Patterns of settlements have changed since world war II. Sixty five percent of Colombians now live in cities, with about 35% of the country's people in ten cities that have over 200,000 inhabitants. The population growth rate has also increased, from 2% annually in the 1940s to 2.8% in 1975.

Through the 1980s, however a decline in the birth rate indicated that growth in the near future will be smaller, in fact in 1991 it was 1.9%. Life expectancy in 1992 was 69 for men and 74 for women; infant mortality was 31 per 1,000 live births; the literacy rate was 87% of the adult population.

Concerning economic activity, Colombia's steady economic growth was interrupted in the mid-1980, by a large foreign debt and a negative trade balance. Subsequently however, despite internal violence, the economic picture brightened in the 1990s: the country negotiated an agreement on debt and again attained a trade surplus.

In the mid-1980's coffee was the most profitable agricultural product, with sugarcane, cotton, and rice following in importance. Banana plantations cover extensive areas along the coast; and corn is a widely grown crop. Almost 95% of the world's emeralds come from Colombia, which is also Latin America's most important gold producer. Oil reserves were bolstered in 1984. Columbia's coal deposits are the largest in Latin America, and it is also rich in platinum.

The research programme is to be carried out in two sectors of the city of Cali. As of October, 1993, the census results indicated a population of 1,783,556 inhabitants, thus rendering the city as the second largest in the country, population wise.

The Municipality of Cali has 20 communes in the urban area, housing 98.5% of the total population, and the remaining 1.5% live in the 15 districts of the rural zone. According to data from the Office of Epidemiology of the Health Secretariat of Cali, the population is divided as follows: 56.8% lower class; 26.3% middle class; and 16.9% upper class.

The Project is being developed in Communes 7 and 20. Commune 7 has a population of 107,000 (6.2% of Cali's population), and it is located in northeast Cali. Commune 20 has a total population of 60,000 (3.5% of the total population of Cali). Geographically, C20 is characterized by steep slopes and valleys with erodable soils and a flat central area. The predominant socio-economic strata are: low-low 36%, of which half live in absolute poverty; low stratum 11%; medium-low stratum 14%; and high income stratum 39%. **Table 1**.

The main five causes of mortality according to the Health Secretariat in Cali, in these two communes are: ischemic heart disease; homicides; cardiovascular diseases; motor vehicle accidents; and respiratory diseases. Causes of morbidity include acute respiratory infections; acute diarreheic disease; helminths; sexually transmitted diseases; and dental diseases. Commune 20, has a background of community work and inter-institutional coordination in social development projects, this is not the case in C7.

	COMMUNE 7	COMMUNE 20
Population	107,000 inhabitants (6.2% of Cali's total population)	60,000 inhabitants (3.5% of Cali's total population)
Families given direct attention	150	300
Social level	1 and 2 (low and middle low income families)	1 and 2 (low and middle low income families)
Main causes of mortality	 Ischemic illness of the heart. Homicides and injuries caused by other people. Brain - vascular illnesses. 	 Homicides and injuries caused by other people. Brain - vascular illnesses. Ischemic illness of the heart.
Main causes of morbidity	 Acute respiratory infection. Tooth sickness. Genital organ sickness. 	 Acute respiratory infection. Acute diarrheic illness. Parasitosis.
Healh organization	1 Hospital. 1 Health Center. 3 Health posts. (first level of complexity).	1 Hospital. 1 Health Center. 4 Health posts. (first level of complexity).

Table 1, Socio- demographic information of the work areas

The Academic Space

Valle University is a public entity with a population of 20,000 students, out of which 1,504 belong to the Health Faculty, and it comprises eight Faculties distributed in two areas in the city of Cali and nine faculties outside town. The Health Faculty comprises six schools and eight Study Plans; 470 instructors, of which 75 % are part timers.

All the Academic Units of the Health Faculty participated in the UNI Project: Medicine and surgery, nursing, odontology, human rehabilitation, bacteriology, and clinical laboratory. physical education which recently joined the Faculty, does not yet participate.

University graduates are well accepted in Colombian society. Residents of the Medicine School were ranked first place on the annual evaluation made by the Colombian Association of Faculties of Medicine ASCOFAME (in 1993). The school of Medicine is one of the 100 schools selected by the World Health Organization worldwide to participate in a reform of medical education, and was one of the six institutions selected in Latin America, and the only one in Colombia.

3. Research design

A cross sectional survey was conducted to collect information about medical students performance in community based programmes in two areas of Cali, Colombia, to explore and explain facts related to community involvement in health students assessment activities. The results of this survey were expanded using in-depth interviews and comments from focus group discussions held with a sample of participants. Statistical methods are being used to assess the accuracy of the main instrument in collecting information.

4. Target group

<u>Student Population</u>: The findings from this study are applicable to Health Sciences students whose experiences in community programmes are similar to the ones carried out by the School of Health of Valle University through the UNI Project. Although initially the plans were to evaluate all students from different disciplines who underwent rotations in multiprofessional teams in the communities assigned to the UNI Project, in practice only the medical students were considered. The reason was due to the fact that the community - represented by families included in the programme- recognized the medical students easily , but not those from other disciplines. The fact that no photographs of the students servicing those families were available, made their identification difficult.

Due to the characteristics of the rotation experiences, which are planned in such a way that all students have access to the same teaching, faculty, and physical resources, all students are exposed to similar experiences with the community served, as well as with the health service staff and faculty members from the School of Health. In total, the study included 25 of the 34 medical students in commune 20, and 25 out of the 36 students in commune 7, a figure that was not planned. The total percentage of medical students assessed in the two communes was 71%. The average number of students assessed by the same family was two (2).

5. Data collection

The key instrument used to compile information was a semiestructured questionnaire designed with the central cooperation of the two communities where the project is being developed. In addition to community participation, we had cooperation from the health service personnel and from faculty members responsible for the community programme in the selection of the variables to be assessed, and the measurement scale.

The above information was complemented by other methods such as <u>interviews and group</u> <u>discussions</u>. The latter gave the opportunity to gather comments and suggestions for improving the questionnaire and the assessment process. Compilation of information was made by four research assistants, (two faculty members and two social workers), who were under the supervision of the main researcher.

Questionnaire Design

a)Selection of variables for evaluation

In order to select the traits and items for evaluation, the objectives of rotation were taken into consideration in aspects related to the knowledge and attitudes that should be acquired by the students during rotation. Consideration was given likewise, to the community's expectations with regard to health services and to the students' activities. This latter point was approached through consultation with people from the community, as well as with faculty members and officers from the Health Secretariat. From the said consultations, a list of variables or subjects was obtained related to: a) Type of minimum services that ought to be provided; b) knowledge of the students; c) adequacy of care; communication and information; and leadership, **figure 5**.

As can be seen in the previous figure, each one of the variables are related to each other and to the type of service provided. Student's knowledge, adequacy of care provided, communication, and leadership are bounded by academic factors such as the curriculum, available resources, community commitment and participation, and monitoring of the



evaluation results. Curricular planning KNOWLEDGE KNOWLEDGE KNOWLEDGE KNOWLEDGE COMMUNICATION AND CARE COMMUNICATION AND INFORMATION LEADERSHIP

> Community and

institutional involvement

program. The previous components will be modified and adjusted in accordance with the evaluation results.

Figure 5. Performance community perception of quality of care: Evaluation context.

b) Selection of items to measure each variable

Resources

After the identification of variables, an exploratory study was carried out through interviews and consultation with representatives from the community, the university, and the service sector, in order to identify those items which would help to measure each variable, accordingly to their criteria. The list of items provided by the community was broad and very similar at each site, thus facilitating the development of a single instrument for assessment of the two sites where the project is being developed. Although some of the items suggested by the community to measure each variable related to quality of care are repeated, it was decided to leave them for the first application of the questionnaire, and to subsequently study their relevance to the questionnaire.

The community considers the <u>minimum services</u> that the health care student should provide are: blood pressure and pulse checking, general examination, educational talks, participation in meetings with the community, and participation in other activities accordingly to the problem under study. The previous activities were also identified by instructors plus others of clinical nature.

Figure 6 summarizes the criteria that the community identified as necessary to measure user satisfaction with respect to each one of the variables. One of the most difficult variables to measure due to the ambiguity of its definition and measurement, is <u>knowledge</u>. This was part of the study because it was mentioned by the community as one of the most important factors in user satisfaction with the care received. When asked about the factors, the community members would take into account to determine whether a student had the necessary knowledge to provide service, they answered the following: security demonstrated by the student (perception), whether the student asked how the user feels, whether he/she asked about other aspects, whether he/she asks many questions, whether he/she asks too rapidly, whether he/she asks in an orderly manner, and finally whether he/she provides recommendations for health care. Finally, they referred to health improvement after the care received. This means summarizing and relating knowledge Vs improvement of health conditions or final outcome.

Note how technical variables were replaced by variables related to intermediate performance as an indirect measure of the degree of knowledge. Ability was measured with attitude during the provider-user relationship.

A review of the previous items for measuring knowledge indicates that caution should be applied when making decisions based on the evaluation results of this variable, given the ambiguous character of the questions. This is evidenced by answers such as "the student asks many questions", which may be considered appropriate in some cases and necessary in others, however we cannot know which is the ideal situation.

The evaluation results for knowledge are very useful in exploring the perceptions and satisfaction levels of the community with respect to the services provided in the rotation, but they should not be used to discriminate among the students to grade them individually. The information is very important for educating and sensitizing the community about what the student is able or unable to do and also for monitoring community practice.

When asked about the adequacy of care received, the community identified important characteristics interest as; friendship, willingness, consideration, security, listening, respect for opinions and beliefs, punctuality, and satisfaction of the care provided. This list is a mixture of behavior and results. For example, satisfaction with care may be the result if satisfactory performance was shown on all the other factors.



Figure 6. Community perception of quality of care: Criterias for assessment

With respect to the fifth variable in this study, <u>communication and information</u>, the following were identified as important aspects: to greet politely, to talk clearly, show trustworthiness, to encourage talking, to inform the patient when the next visit will take place, to say good-bye, to make himself/herself understood, to use the educational material for explanations, to give clear explanations, and to provide the necessary recommendations. The previous criteria are considered important by instructors and are indicated in the literature as important components of good communication.

One last variable identified to measure quality of care is <u>leadership</u>. When trying to gain insight on the meaning of this variable we perceived that the community meant a student with ethical behavior, solidarity and committed to others. The items identified in this variable are present in the previous one, for example: showing concern for the user and his family, self-confidence, responsibility, honesty, friendliness, getting along with others, to be respectful, to fulfill promises, to encourage the family to be concerned about its own health, and to show enthusiasm.

The criteria for the assessment of each of the variables provided by faculty and health service representatives was limited on the items related to interpersonal relations but included more technical criteria. The fundamental difference between the two lists reflects the importance or emphasis given to items which required measuring. While the community identified attitudinal aspects related to the behaviour of the student towards the community, the faculty and officers selected mainly those items related to the performance of the student with regard to the application of the procedures and following of rules.

Notably there are similarities between the criteria provided by the community with respect to students performance, and the criteria of the rotational program and the objectives of community practice. This close relationship could be the result of having two years of contact with these communities as part of an educational intervention. The question remaining is the reproducibility of the method in other contexts. Another consideration is to what extend the criteria would be different for evaluating user satisfaction with the care received, in case services provided by the students are different.

The questionnaire mainly compiles the feelings and expectations of the community, given that the community is the main protagonist in the evaluation. In this study we shall identify whether the same variable, measured with a different criterion - that is, from the standpoint of the community, service officers and faculty, provides matching results.

Initially, we considered applying the Kuder Richardson internal consistency coefficient as an additional criterion for the selection of items. However, it was decided to apply the questionnaire with the items indicated by the community, and upon obtaining the results to try to improve the tool by applying the said internal consistency coefficient; in this case, a rule of thumb stating that the degree of correlation of each item to the total score must not be below 70%. If it was below this mark, the item ought to be excluded.

With the comments and suggestions from the discussion carried out at the individual and group levels during this initial stage, a first version of the questionnaire was designed, which was later revised by representatives from the community, the university and the health services. Upon reaching agreement on the content and format for the questionnaire, the instructions for filling it in were designed. During group dynamics, comments and suggestions were compiled with regard to the methodology for evaluation, specially on strategies to turn it into a permanent activity retaining its validity.

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Ouestionnaire testing

Testing or evaluation of the questionnaire was performed to obtain information to allow identification of those aspects to be corrected, added or deleted, in order to improve the understanding of the questions and facilitate the response.

a) *Objectives*: 1) To identify the degree of difficulty of families in completing the students evaluation form; to identify the motivations and expectations of families that participate in the students assessment; 2) identify aspects to be considered in order to increase understanding of the format and facilitate its completion; 3) to identify potential limiting factors for the development of the evaluation, including cultural, logistic, economic, and communications; 4) to select the items in the variables, which shall serve to construct the questionnaire for assessment of students by the community.

The test includes the following: Instructions and Guidelines for the field worker responsible for questionnaire testing; Questionnaire checking format; Instructions to complete the questionnaire.

b) Participants in the questionnaire testing

*Colleagues with knowledge of evaluation, in our case, faculty members who participated in the rotation, and two social workers responsible for coordinating activities at each site.

*Potential users of information generated by the questionnaire. They participated in the revision of the questionnaires and were represented by professionals from the social sciences area, located at each one of the two sites where the programme is developed. Likewise, the coordinators of the Community, Academia, Service and Communications components participated.

*A sample of potential informers. The selection of the informers was made in such a way to select people with different backgrounds, but having characteristics similar to those who will carry out the assessment (e.g. age, gender, socio-economic status, ability to read, geographic location).

c) Instruments

A check-list format was delivered to each person responsible for the test, which contained $\overset{\circ}{\rightarrow}$ the different variables to be considered in the questionnaire. The information gathered in the

check-list format was complemented by the observations obtained through interviews and group discussions.

The check-list format supplied information to respond to the following questions: *Does each question measure each item intended to be measured?

*Are all words clear? Should there be words which are not clear, questions were asked with regard to replacement words. Another aspect assessed was the number of questions and length of the questionnaire. Observations were made as to tiredness on the part of interviewees.

*Are instructions for completion clear? Identification of understanding of each question was made either by the responses obtained or by the need to expand information.

*Were questions interpreted in a similar manner by all surveyed?

*Does each closed question have a response applicable to all families surveyed?

*Does the questionnaire produce a positive impression so that people feel like answering it?

*Were the questions correctly answered? Were any questions not answered or were the answers difficult to interpret?

*Did any part of the questionnaire suggest biases on the part of the researcher?

*Were questions presented in a logical order?

*Was the time spent in completion adequate accordingly to informers' opinion?

*Was comprehensives of the questionnaire assessed, identifying the need to include additional questions to measure each variable under study?

*What was the time invested in reading each question and in reading the full questionnaire.

d) Procedure

At each one of the two Communes, 30 invitations were extended. Appendix 1. Sixty house calls were made in order to personally explain the objectives of this activity and motivate

people to participate. Two social workers, one educator from the Health Post, and two members from the faculty of the School of Health went to the area.

Contacts were made with 25 families corresponding to 83% of those eligible from Commune 20; the rest did not respond due to people not having been at home, or having moved away. In Commune 7, 100% of contacts were made.

The meeting was started with an orientation session on the activities to be carried out. The goals of which were to remind participants of the objectives of the call and the importance of the community's participation in students' assessment with regard to the Community, Service and the University, stressing the benefits derived therein. Afterwards, it was requested that people complete the questionnaire, after giving instructions for filling it in, and in accordance with the instruction-guide of the research assistant for solving doubts and concerns.

There were two issues in the meeting: first, the application of the test, and second, the development of a group dynamic to learn how people reacted who were surveyed for the questionnaire and the assessment activity.

For the first issue, the group of participants was divided in two groups: one group could comment on any concern related to completing the assessment format; and the second group was asked to fill-in the form as they understood it, without help from the coordinators.

The purpose of the above procedure was to measure the feasibility of performing the evaluation without having to resort to personal interviews. This is a technique which is not completely feasible due to the scarcity of human resources and difficulty in displacement as well as logistic problems. The questionnaire was delivered to each one of the members of the family participating in the testing. The form was to be individually completed in order to give ample time for each to read it and answer it in the presence of the research assistant. For the second issue, and having the check-up form available (Appendix 4), a meeting was held with the whole group to obtain a general impression about the questionnaire and request recommendations.

c) Results

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The first group (guided survey), started the meeting with 26 people from UNI families from the two communes. Later on, a meeting was held with the second group (non guided survey), made up by seven people (females) from six UNI families. It must be pointed out

that the methodology foreseen for the work in a non-guided second group, could not be applied in commune 20, due to the fact that not all families arrived on time.

Thirty two (32) family representatives out of the 60 invitations extended attended (**table** 2). When inquiries as to the absence of the others were made, the answers included: conflict in the hours scheduled and transportation to the meeting place, occupation, child care, and safety issues.

Number	_	%
	4	12.5
	8	25.0
	5	15.6
	8	25.0
	6	18.8
	1	3.1
2		100
	Number 2	Number 4 8 5 8 6 1 2

Table 2. Questionnaire testing, features of respondents

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Sex:	Number	%
Female	29	(91)
Male	3	(9)

Study Level:	Number			
Primary school	(Complete)	12		
Primary school	(Incomplete)	8		
High school	(Complete)	-		
High school	(Incomplete)	10		
None	-	2		
Average home visit		16		
Average member/fam	6			
Number of responder	nts who were more in			
touch with the studer	nts	30		
Not answer		2		

Completion of questionnaire. The majority recognized having had some difficulty in completing the first and final parts, due to their writing skills. Also, there were terms with which they were not familiar, such as: sufficient; motivation; assessment; initiative; feminine; masculine. Twenty persons indicated that it was the first time they had filled in a survey.

Nine participants (28%) made repeated consultation either with colleagues or coordinators. Two (6%) indicated they could not read or write, thus support was afforded by the research assistant in the completion of the questionnaire.

When the questionnaire was evaluated the comments from both groups, that is the guided and non-guided surveys, indicated that they had similar degrees of difficulty in completing it. In general, it can be said that people in both groups did not have great difficulty in understanding the questionnaire. It is necessary to keep in mind that the level of schooling for the majority includes primary school.

The average time for completing the questionnaire was 33 minutes, ranging between 20 and 45. Informers indicated that the time spent in this activity was adequate, as was the number of questions. The presentation of the questionnaire, the design of the questions and the way of answering motivated the informer to complete it with enthusiasm.

All the informers interpreted the questions in a similar fashion and the difficulties were related to the same questions. Those questions were repeated elsewhere in the survey or were stated in such a way as to introduce ambivalence.

It was also indicated that the questions did have a logical and sequential order. Each variable and its corresponding item was presented in one page, with adequate font size, enhanced and readable, thus facilitating the reading.

g) Recommendations

It was suggested that we include the photograph of the student in the assessment form. The students must carry their color badges with their names, with the color indicative of their discipline.

A requirement is for families to be aware of the importance of supplying complete and correct data, as requested. This is achieved through the motivation, sensitization and

induction dynamics which must be carried out at the beginning of each semester. For long term motivation of families, it is recommended that assessment results be used to make adjustments to educational programmes in such a way as to improve the quality of services and teaching.

It is recommended that families learn about what happens to the information supplied by them, and of the decisions and changes made based on it. A list of the families involved in the Project, including their addresses, and those of the multidisciplinary student team assigned, should be available. The format must be delivered personally at the family home, thus allowing greater contact and commitment, and easing the assessment follow-up and completion, without any pressure (time, people, or space), and facilitating corrections when needed.

A time span must be allotted to families for completion of the questionnaire, in such a way as to prevent forgetting about it, or to hasten the process of consultation and evaluation of the student's performance.

It is recommended that the introduction written on the questionnaire should be more general and carry a simple and short message because people spent most of the time reading the first part of the questionnaire which refers to the introduction. It is suggested that it be read aloud and handled by the Faculty member or the person responsible for the assessment.

The instructions for completion of the questionnaire to be used by the person responsible for the assessment must include specific instructions indicating the data be filled in by him/her, before delivering the questionnaire to the family.

As far as family data is concerned, the item sex should be changed as follows: your are a: Man_____ Woman____.

The schooling data should describe all courses, per schooling level: Example.: Primary 1 2 3 4 5

Change the formulation of alternatives towards a personalized format: Example: Alternative: "Does not know" changes to "I do not know".

It is suggested that the headings of questions for each variable by shorter. With respect to the instruction, the suggestion is to change the use of a cross(+) and to use and (X) instead,

since all participants used them, despite the instruction. Shorten as follows: "Place an (X) according to what you believe". In general terms, the structure of some items should be modified in such a way as to improve their understandability.

h) Observations and Comments

Families easily recalled the names, profession, semester, and day of household calls by medical students, and also described their attitudes, physical characteristics and activities performed with them, etc.. This did not happen with other professionals members of the team, who had performed very specific interventions such as: physical therapists and bacteriologists.

Eleven families expressed their desire to assess medical students who had already finished their rotation in the project 10 months ago, which is indicative of the above.

Approximately 20 people expressed the desire to share the assessment process with the rest of the family, because they could add to the data requested and/or someone else in the family could write the information required.

For all families, this was their first experience with house calls from health care professionals on a regular basis. Assessing activities, knowledge, and attitudes allowed families to recall their experiences with the programme such that they could excuse flaws such as the suspension of activities post-turn and vacations of medical students, etc.

Responsibility and appropriation of the assessment process was observed, which allowed families to contribute their impressions and concerns, making them feel like a real and important part of the Project.

Five persons not belonging to the Family Project came along with the guest families, and participated by actively helping them in the completion of the questionnaire. Should this situation occur again, there shall be opportunity to expand the number of persons and families participating in the evaluation. With this, we shall be creating an educational programme so that the community participates not only in the assessment of students, but in the whole quality control of the services delivered, applying their own criteria.

Application of the Ouestionnaire

The questionnaire, adjusted in accordance with the findings of the pilot was applied (Appendix 3). During its application the following instruments were used: Instruction Guide: Introduction Format to the Questionnaire to be used by the Research Assistant.

The same questionnaire used by the community was used by faculty members of different Plans of Study to evaluate the students involved.

a) Procedure

A listing of 110 families was obtained between the two communes users of the Project, including addresses, and also the identification of the medical student delivering care. This was not a random selection, because the geographic location of the households was taken into consideration, as well as the access, and the closeness of families amongst them, with the goal for the students to be exposed to similar services and working conditions as much as possible.

Considering the experiences during the Pilot Testing, in which logistics, displacements, and schedule problems for attending the orientation meeting regarding questionnaire completion were observed, it was decided to do house calls and to give individual or group instruction as per the geographic locations of dwellers.

It was indicated that the completed questionnaire would be collected the following day at the home, and those who had the opportunity could drop it at the health posts in their respective communes during the time in which the research assistants were there.

b) *Information gathering*

There were some difficulties in the collection of the completed formats. On the date agreed, the majority had not completed the questionnaires, thus a new deadline was decided on. Some of the people responsible were not at home, a family had lost the questionnaire, four representatives of the families were illiterate, thus two others were interviewed by the research assistant and the other two were helped by their neighbors.

For those not meeting the new terms granted, the decision was made to wait while the task was completed, and in other cases, it was decided to return in 15 minutes to collect the completed form.

Seventy five per cent (75%) of respondents to the questionnaire had the most contact with the student.

All forms were checked at the moment of collection, to solve problems with different questions and see to it that all had been answered.

As was ment oned before, the rationale for not evaluating the rest of the students was that families had little recall due to the scarce contact with them, or due to long periods without visits. In these cases the families refused to provide information, thus reflecting to certain degree the commitment of informers to provide accurate information.

In practice, three medical students were not recognized by the families because of the reasons mentioned above. On the other hand, in the same household there might be 3 or 4 families who had been visited by the same student, thus implying that the same student would be assessed by more than one family. This might be indicative of flaws in the distribution of the families and in the scheduling of activities.

c) Observations and Comments to the application of the questionnaire.

There was receptivity, motivation, and interest by the majority of people in filling out the questionnaire.

Families felt they were participating in the Project, with great sense of belonging. They considered the questionnaire to be well designed, provide a positive impression, and be organized in a logical sequence.

The average time spent in completion was 33 minutes, and the community considered it acceptable. In general the questionnaire did not prove difficult to complete, the families assured us that it was easier to do than what they thought at the beginning. As far as filling in the questionnaire, results are satisfactory, taking into consideration that this is the first time that this work was performed.

It is believed that once the families become familiar with the process, the information could be expected to be more reliable, and completion less cumbersome.

With regard to the 110 families selected from the two communes, information was obtained only from 94 (85%). Of the other 16, 3 had moved away, 3 had not been re-visited by the

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students, and 7 did not turn in the questionnaire, see **table 3**. From the total of 94 assessments made, 44 were from commune 20, and 50 from commune 7. The responses given by the community and those given by the faculty in charge of managing the practice in each commune of interest, were matched.

	СОМ	MUNE 7		AUNE 20	TOTAL		
DATE	#	%	#	%	#	%	
* Total UNI families	129	41	186	59	315	100	
* Participating families	50	38.8	44	23.7	94	30	
* Total medical students	36	51.4	34	48.6	70	100	
* Total medical students evaluated	25	69.4	25	73.5	50	71.4	

Table 3, Families and students participating in the evaluation

In both communes, 25 students from the Medical Studies Programme, were assessed. An equivalent number of students were assessed by the faculty responsible for rotation.

According to students' opinion, the evaluation helped them improve self-esteem when families acknowledge their contribution, and also allowed them to review problems, if any.

To differentiate the responses by category of informer, we shall herein refer to "informer" when referring to responses provided by families visited; and to "faculty" when the informers are professors from Universidad del Valle responsible for orienting the practice in the communes.

d) Impressions obtained through familiy interviews

Experience with the evaluation allowed for a close examination of families, and learning about their expectations and concerns related to the Project.

This experience also permitted the disclosure of affection, admiration, and gratitude towards the students with whom the programme was shared.

It also provided the opportunity for direct contact with the families and to show the current status of the Project, shedding new light for the organization and preparation of work plans.

The evaluation process generated a sense of solidarity in the families because it allowed them to cooperate amongst themselves in the completion of the questionnaire.

Three members of the Family Project who are community leaders and who participated in the evaluation, suggested that the procedure should not include dropping the questionnaire off for later collection, because people wait until the last minute to fill it in and turn it in. Although the study was aimed at evaluating student performance, the information as it was thought, covered other aspects of the educational and service program, and most importantly, it created participative work dynamics which closed the relationships between the three partners, university, service, and community.

Proposals were presented regarding health promotion procedures that would facilitate communications with the community, and improve the quality of care. The desire to continue in the Project was expressed, and some neighboring families manifested their willingness to participate. Some informers stated they felt "strange", and "surprised" at having to evaluate their "physician". Other indicated the possibility of consulting with other family members for the evaluation, and even to send it with the student being evaluated, despite instructions to the contrary.

e) Recommendations

Any family in the programme must be able to assess students who carried out interventions. At the moment of assessment, the family must have received a minimum of three Home Visits.

Three assessments per semester would be ideal in order to have a more reliable evaluation as well as a larger amount of information. Faculty must coordinate the evaluation and faculty members ought to be responsible for the continuous realization of this activity, to be able to make a follow-up and introduce corrections as needed. This enables exerting direct control on the work developed by the student.

It is important to take into consideration that the results of this evaluation apply more to decisions related to the rotation programme (interdisciplinary groups), than to actions geared at the individual student; however, this cannot be excluded in specific cases.

The information written on the questionnaire must be reliable and should be handled with responsibility by the interested party. This information must be shared and analyzed by the community, the health institution officers and the faculty, in order to make the necessary alignments.

The photograph of the student in the format, and the carrying of the badge, are a must to facilitate identification during the evaluation process.

The results of the evaluation must presented in weighted percentages of the overall assessment of the student.

Data analysis

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Given the fact that experience is lacking regarding the community's participation in the evaluation of students from the health area, the results of this study shall permit expanding the information not only with regard to the aspects to be taken into consideration in an evaluation, but also on the importance of those, depending on: the characteristics of the surveyed, the time and intensity of the exposure to the student, and the geographical location.

The analysis shall be: stratified per geographic area- communes 7 and 20, in order to establish the differences between the two, should there be any, and afterwards to obtain total data from the two areas. Four levels of analysis have been considered, which meet the study objectives.

Data analyzed corresponds to the total number of students assessed, but the fact that in some cases evaluation was made by more than one family, should be taken into consideration. In this case, only one evaluation should be included in the results, which was randomly chosen between the families who assessed the same student. However, the agreement between families assessing the same student was established.

Level of analysis

a. Raters agreement

One of the aspects of interest in this study is related to the possible agreement between the scores of the students' evaluation performed by the community and that by the faculty. To

respond to this issue, Kappa statistics will be applied, which measure the concordance between evaluations of two raters. Kappa statistics shall be used for measurements of agreement corrected by chance agreement. The Kappa statistics reflects not only reliability but accuracy, provided that the error in the two measurements is independent, in other words, the same error does not tend to be repeated.

b. Families agreement

The degree of concordance between information supplied by more than one family participating in the evaluation of the same student is established by applying the Kappa statistic.

c. Internal consistency

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> The questionnaire's internal consistency evaluation as a measurement of its reliability shall be made using the Kuder Richardson Internal consistency coefficient KR20, given the categorical characteristics of the variables in this study, and assuming that all the items have the same degree of difficulty. The Kuder Richardson method is easy to administer, since it is based on a single measurement. With this coefficient we shall find out how intercorrelated the items are, and each item with the total. The analysis of internal consistency identifies whether or not the items are measuring different aspects of the same trait. Should that be the case, the items should correlate moderately to each other, and should have a high correlation with the total score, according to Streiner and Norman (1989).

> It is expected that the assumption required to apply KR20, regarding the complexity of the items can be met in our case, given that the families identified the items to be included and were involved in the design of the questions.

Streiner and Norman (1989)recommend that before discussing the method to measure internal consistency, other points should be accounted for. Usually, what is done is to add up all the scores. However, this can be done only when all items measure the same trait or variable. If the items were to measure different attributes, it would not be logical to sum them to form a total score. On the other hand, should one item be highly correlated with a second one, then the latter question would add little additional information. Hence, there is a need to derive some quantitative measure of the degree to which items are related to each other, the internal consistency of the scale.

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With this information the scale can be improved by eliminating the items with little correlation, or those near the extremes. Also, to improve the true variance, other categories can be added to the scale, increasing the number of items in the test, and applying the questionnaire to more heterogeneous groups. Kelsey (1986), indicated that internal consistency makes sense ¹f the primary aim is to describe a trait, behaviour, or disorder, but not necessarily if the goal is to discriminate between people who have an attribute from those who do not. In our case, this is applicable because more than measuring the difference between one student versus another, the interest is to measure to what extent a group of students have the trait under study, to introduce adjustments into the education programme.

d. Accuracy of questionnaire

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Another objective in this study is measuring accuracy of the questionnaire. Regarding accuracy of the measurement, Kelsey (1986), pointed out that, in the absence of a criterion measure, some sense of the quality of one's measurements can be obtained by comparing multiple imperfect measurements to each other, rather than by comparing them to true values. Thus, rather than assessing the accuracy of the measurements, out of necessity one settles for assessing their reliability.

In our case, as both variables and questions that were part of the questionnaire and of other methods to obtain information, were based on the community and staff perception of the doctor performance to provide quality service, we could assume that from the questionnaire methodology, the criteria and questions used in this study reflect what is to be measured. Nevertheless, we are comparing results of the evaluation made by the community with that performed by faculty staff, in other words we are doing inter-rater reliability. In practical terms, we can assume that reliability can be assessed by estimating what proportion of the variation in measurements is not due to a true change in the concept (construct) measured.

To have a construct available to measure the validity of the questionnaire for assessing students is a difficult task, because the criteria for measuring each one of the variables could apply to a different rationale, that of the community and of faculty or that of one family and the other. In fact this was shown in the interviews held with the staff and the families. Thus, it was decided to measure reliability of the questionnaire as an indirect measurement of its validity. However, it is necessary to keep in mind that if low reliability exists, the accuracy of the questionnaire will also be low, but unfortunately, high reliability does not necessarily indicate a high accuracy.

Chapter 4

DESCRIPTION OF FINDINGS

This section is divided into two parts: The first part is a description of the results of the questionnaire completed by the community and the staff; and the second part describes and analyzes the questionnaire reliability for each one of the study variables and categories, considering both internal consistency and concordance among raters with respect to each one of the items in measuring each variable.

Descriptive analysis

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Informers identification.

The first part of the questionnaire mentions identification of students and informers, which is described below.

Informers' Traits:

Informers are persons selected from the total of families covered by services provided by students from the School of Health. These families dwell in the Brisas de Mayo neighborhood in Commune 20 (C20), and in the Puerto Mallarino, Andrés Sanín, and Siete de Agosto neighborhoods in Commune seven (C7).

Average age of informers from C20 is 36.8 years, while in C7 it is 39.2 years; nine out of ten informers are females, in both communes; average schooling in C20 is 4.2 years versus 5.7 for C7; at C20 there was an average of 6 house calls, while in C7 it was 10.3. In each commune about nine of every ten informers were the persons who had closest contact with the assessed family.

Type of services

The evaluation of components II to VII of the questionnaire, is presented here in comparative terms per commune. Likewise, comparisons are made between assessments given by staff, and confrontation between the responses from them, versus those from the community.

The evaluation of this component (table 4), indicates that systematically the responses provided by the C7 community, favour the assessed students when compared to those from C20. While 72% of those surveyed in C7, report that pulse was measured, 50% of those surveyed in C20 answer the questions positively. Thus, a similar relation is kept with respect to the blood pressure measuring.

	% COMMUNE 7								% COMMUNE 20						
	COMMUNITY STAFF					<u>_</u>	COMMUNITY STAFF			FF					
ITEMS	yes	no	D o n t K n o w	M ia sl iu nc g	yes	sno	Don't Know	M i V s a s I i u n c g s	yes	no	Donis nissis Kinow g	V a l u) c s	/es	no	D M o i V i' s a t s l K i u o n s w g
a. Did the student check blood pressure.	72	28			92	4	4		50	50			79.2	16.7	4.2
b. Did the student take the pulse	72	28			92	4	4		542 _.	45.8		-	79.2	16.7	4.2
c. Did he/she physically examine the whole body or some part of it?	80	16		4	92	4	4		79.2	20,8	8	ļ	91.7	4,2	4.2
d. Did he/she give educational talks?	96	4			36	4.8	3 1	6	83.3	16.'	7		58.3	33.3	s8.3
e. Did he/she participate in meetingswith the community ?	56	32	8	4	52	44			54.2	33.	8.34	4.2 5	8.3 4	41.7	
f. Did he/she perform other activities?	36	48	12	4	24	60	16		33.3	54.	2 12.5		20.8	8 66.7	12.5

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Table 4, Type of services

On the other hand, the evaluation made by faculty maintains the same trend, 92% of the faculty at C7, had students that did measure blood pressure, while 79.2% of faculty in C20 report that the students performed that activity with families. Exactly the same proportions are maintained for assessment of pulse measurement in both communes. There is a discrepancy of almost 20 percent in the responses obtained from informers and those from faculty. In this case the difference may be due to the fact that the latter makes reference to the overall activities developed by their students, while the former makes reference to activities performed in the family.

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No significant differences exist in the proportion of families reporting having had physical examinations performed by assessed students. About 8, out of 10 interviewed in each commune, indicate that in fact a physical examination was performed. Likewise, in the evaluation of students by faculty, this trend is maintained, since for 92% of faculty in both communes, the students did perform the said activity. Despite the fact that there were differences in the perception of faculty versus that of informers, the difference was not striking. The cause of the difference between the two raters regarding these items could be due to the fact that the faculty exerts greater control over this activity than over others, such as educational talks.

Ninety nine percent (96%) of the informers from C7 indicated having attended educational talks during the calls made by students, while in C20, 83.3% reported that the assessed student gave educational talks. For faculty in C7, only 36% of students offered educational talks, while for those of C20, 58.3% did offer them. The evaluation difference between community and faculty in C7 is 60 percent, while in C20 it is 25. These differences are very large, disclosing a possible lack of support or monitoring on the part of professors towards students during their practice with the families.

In both communes, about 55% of those surveyed reported that students participated in community meetings. A similar proportion appears in the data presented by the faculty. Practically, one out of every three students performed other activities with the families during the house calls, for instance: dialogue with families, delivery of some medications, taking laboratory samples, playing with children. According to the faculty, about two out of every ten students did perform additional activities.

Adequacy of care

The evaluation of adequacy of care was made on the following terms: interest of the student in the health of the family; kindness; respect; personal appearance; and satisfaction of the family with the care provided by the student, all summarized in 11 items, (table 5).

According to one hundred percent (100%) of the surveyed families in both communes, students were always kind; respectful, and were always in good mood. The faculty opinion differs a bit from the said perception, because for them in both communes approximately 80% of the students showed the said traits. The difference perhaps lies in the fact that professors consider care delivery to families plus the attitudes of the students in the
preparatory and orientation meetings, individual monitoring, and other activities related with the practice in the community. Another explanation for this discrepancy could be the difference in criterion in grading each dimension. A concrete case is the treatment of the families; while students and families could make jokes and to greet using common terms to facilitate communication, faculty members could be more conservative in this regard.

As a whole, it is observed that the evaluation made by informers from C7. favors students who delivered care in that area, when results are compared with those obtained in C20. While 100% of those surveyed were located in Andrés Sanin, Puerto Mallarino, and Siete de Agosto neighborhoods, it was reported that students showed interest in the health of the family, offered security and listened carefully, spending sufficient time with them, and had good personal appearance; at Brisas de Mayo 83.3% of the students were found to show interest in the health of the family members, 91.7% always provided security to the family, 95.85% listened to the problems or situations expressed by the family; 54% promptly attended the appointments; 87.5% spent enough time to provide care, and 95.8% had a good personal appearance, according to the zone informers.

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Table 5, Adequacy of care

	-	% COMMUNE 7						% COMMUNE 20									
		COMMUNITY					STAFF			COMI	MUN	IT	Y	STAFF			
	ITEMS	A 1 w a y s	Sofe Ties	N c v c r	MV i s 1 i u n c g s	A 1 w a y s	Some Times	N c v c r	MV ia si iu nc gs	A I W a y S	Someri eri mes	N c v c r	MV ia sl iu nc gs	A l w a y s	Some Times	Never	MV ia sl iu nc gs
The	student:	•••••••••••••••••••••••••••••••••••••••			•	<u>. </u>			•								
a.	Showed interest for your health	100				80	20			83.3	8.3		8.3	58.3	33.3	8.4	
ь.	Was friendly	100				76	20	4		100				83.3	16.7		
c.	Was in a good mood	100				76	20		4	100				87.5	12.5	5	
d.	Was considerate	100				84	16			100				91.7	8.3		
е.	Oilered security	160				64	36			91.7	4.2	4,2		83.3	16.	7	
f.	Listened attentively	100				68	32			95.8	4.2			79.2	20,8	3	
g.	Respected your opinions and beliefs	96	4			80	20			95.8	1	4.2	:	73.9	26.	1	
h.	Was punctual in the	76	20	4	,	44	56			54.2	41.7	7		37.5	41.7	20.8	3
L	Spent the necessary time to listen to you carefully	100		,		64	36		•	87.5	8.3			62.5	33.3	3 4.2	
j.	Had good appearance	100				80	20			95.8	4.2			91.7	83.3	3	
k. 1	Nere you satisfied with his/her care.	96	4			70.8	29.2			100				75	25		-

Apparently in commune 20 and in commune 7, a student did not respect the opinions and beliefs of the members of a family. The way the questionnaire is structured does not allow us to identify the reason for this.

Something that ought to be improved is the system for granting the appointments of the families with the student, because for the informers in C20, 54.2% of students always attended promptly the appointments, while for the informers in C7, 76% of the students attended promptly the appointments.

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Significant differences were consistently observed between the two communes under study, but it was found that 100% of C20 (Brisas de Mayo) informers, were satisfied with the care delivered by the students assigned to their families. And 96% of the C7 informers, expressed full satisfaction with the care delivered by students.

In overall terms, it was observed that the evaluation by faculty scored below that of the community by about 20% with regard to the "always" category. Likewise, it was observed that in seven of the eleven items, the faculty in commune 7 give ratings below to those given by the faculty in commune 20. Perhaps the requirements by faculty in C7 are more stringent than those of C20, and this is reflected in the perceptions in favor of the students rendering their services in this area.

Knowledge

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Knowledge assessment is shown in to of the confidence in the student's knowledge, the way of asking questions to the familie they perceive or feel, organization, haste and the recommendations made for health c

One hundred percent of the families who assessed students in the two areas, consider students that were asked questions related to their responses in an orderly manner. In turn, 88% of faculty in C7 think the same thing as the families, and 54.2% of faculty in C20 agree on that, (table 6).

Again, it was found that families in C7 made a positive evaluation of the knowledge of students assigned to that area, compared to those of C20. Significant differences were observed in favor of students assigned to C7, with regard to: a) confidence in their knowledge; b) recommendations made regarding health care, and c) taking their time in asking questions.

According to faculty, nine out of every ten students assessed, gave recommendations to the families regarding health care, both in commune 7 as in commune 20. Apparently the students rushing to ask the questions during calls were those assigned to the Brisas de Mayo community, and according to faculty, 20.8% of students hastened through the questions, while the families said that only 12.5% did so. Families in C7, indicated that 8% of the students asked questions rapidly during the call, while the faculty in this commune considered that there was no haste during the inquiring.

Table 6, Knowledge

		% COMMUNE 7						_	% COMMUNE 20				
	со	COMMUNITY				STA	FF	со	MMUNI	TY	STAFF		
ITEMS	Y e s	N o	D n t K n o w	MV ia si iu g	Y e s	N o	Don' N K B O W	MV i a Y s I P i e s g s		$ \begin{array}{c} M V \\ i & a \\ s & 1 \\ s & 1 \\ e \\ i & e \\ n & e \\ g & s \end{array} $	N o	D MV n i a t s l K i e w gs	
The student:													
a. Was sure about his knowledge	100				76	8	16	83.3	16.7	91.	7 4.2	4.2	
 b. Asked you how you were teeling 	100				92	8		95.8	4.2	87.	5	12.5	
c. Asked about other things	88	8		4	80		20	87.5	12.5	87.5	5 4.2	8.3	
d. Asked many questions	96	4			80		20	87.5	8.3 4.2	87.	5 4.2	8.3	
e. Asked questions hastily	8	92				96	4	12.5	83.3	4.2 20.	8 66,7	7 12.5	
 Asked questions in an organized manner 	100				88	12		100		54.3	2 12.5	33.3	
g. He/she gave you recommen- dations to take care of your health and your family's health.	100	.*			96		4	87.5	12.5	91.7	4.2	4.2	

From the families visited by medical students in C7 neighborhoods, 88% considered that their health had improved after the care provided by the students. 58.3% of C7 neighborhoods, have the same opinion. This indicator reflects a highly significant difference between the two zones, which is directly related to the trends observed in the other items submitted for evaluation.

Information and communication

With regard to information and communication, ten items were considered for evaluating the interaction of the students with the families assigned. This includes: Greeting and saying good-bye; clarity of speech, confidence, motivation for dialogue, use of visual aids in the orientation of the families; clarity in the explanations, and delivery of necessary recommendations for health care.

All of the informers for both communes indicated that students always greeted the families upon approaching them, always offered confidence, and always said good-bye. This means that empathy was achieved and thus, closeness with people, broadening intervention possibilities, (table 7).

		% COMMUNE 7							% COMMUNE 20								
-		CO	мм	JNIT	ry	D	OCE	NT	S	COMMUNITY DOCE				ENT	S		
	ITEMS	A l w a y s	S o m e T i m c s	N c v c r	M i V s a s l i u s l n e g s l g s l 1 s s l 1 s s l 1 s s l 1 s s l 1 s s s l 1 s s s s	A I w a y s	Some Time s	N c v c r	M = i = V = S = S = S = S = S = S = S = S = S	A l w a y s	S om e T i m e s	N c v c r	M i s l i s l n s	A I w a y s	Some Times	N c v c r	M i V s a s t i u n e g s
The :	student:				I								1				
a, G	reeted	100				S 8				100				100			
b. T	alked clearly	100				76	24			95.8				91,7	8.3		
c. S	howed trustfulness	100				80	20			100				75	25		
d. E	ncouraged you to talk	96	4			48	52			91.7	4.2	4.	2	75	25		
e. Ir w	nformed you when he/she yould be back	96	4			52	44	4		62.5	25	8.3	4.	2 45.8	41.	7 12	.5
f. S	aid good - bye	100				84	12	4		100				91.7	8.3		
g. N	fade himself / herself understood	100				72	28			91.5	7 4.3	4.	2	75	25	;	
հ . է թ	Ised leaflets or brochures to rovide explanations	40	24	20	16	4	12	84		20.8	8 37	.541	.7		37,	5 62	:5
i. P	rovided guide and clear xplanations	96			4	76	24			87.5	5 4.3	2 8.	3	66.	7 33	.3	
j. F	rovided the necessary advice	100				88	12			87.:	5 8.3	3 4.	2	70.8	3 29.3	2	

Table 7, Information - communication

As a whole, upon making the evaluation of communication and information, it is observed that students at C7, received a better evaluation by the community than those in C20. The largest differences lie in: a) information regarding future appointments; b) use of educational material during the call (brochures, or explanatory booklets); c) advice regarding health care; and deability to make him/herself understood,

In five, out of the ten items assessed, it is observed that faculty members' assessments differ from those of the community, and it is seen that, systematically, the community's grades were higher than the faculty's.

Despite the above, it is observed that for both communes there is consistency between the positive responses given by faculty related to greeting, saying good-bye and offering confidence during the call. The weakest items according to faculty are: a) use of teaching material; b) information on the next visit by the student to the families; c) motivation to dialogue; and d) effectiveness of the explanations. It is quite clear that these aspects should be strengthened during the induction process given to students who will practice in the zones under study.

Leadership

For students' leadership evaluation, 10 items were defined which identify the commitment, confidence, respect, honesty, affection, good relationships, responsibility, promptness, and concern for the situation of the family members.

It is observed that 100% of informers from both communes perceived the students assigned to their families as being respectful. Likewise, all the informers from C7, indicated that students were confident, honest and responsible in their actions (table 8).

The pattern found in the other aspects that were evaluated is repeated (I to V), in the sense that the community in C7, better evaluated the students who rendered services there, in comparison with the rating given to those assigned to Brisas de Mayo, in C20. The largest differences are detected with regard to responsibility, commitment to the family, fulfillment of promises to the family, and striving for the family to become concerned about their own health, and aonesty.

It must be stressed here that part of the respect for the communities where work is carried out, lies in the fulfillment of promises made and - although memory is frail-, people do not easily forget promises. Thus, it must be noted that during the induction period with new students, they should be advised "not to make promises that cannot be fulfilled", since this will go against the intervention strategy and the image of the University.

Table 8, Leadership

			%	COMI	NUN	IE 7			% (CO	MIM	UNI	E 20)	
_		CON	AMU	JNITY		STA	FF	со	MM	UNI	TY		STAI	Ŧ	-
	ITEMS	A I w a y s	S m T e i m e s	N M e sa v sl e iu nc r gs	A l w a y s	S o m t e i m e s	N i V e s a v s l e i u e n g s	A I W a y s	S mT ei m e	N v e r	M i v s l i e g	A I w a y s	S mT e ⁱ m c s	N ^M e s v s e i r n g	V a l u e s
The	e student:														
a.	Showed deep concern for you and your family.	88	8	4	68	32		62.5	20.8	12.5		54.2	41.7	4.2	
b.	Was self-confident.	100			68	<u>32</u>		95,8		4.2		75	25		
c.	Was responsible.	100			72	28		83,7	8.3		8.3	79.2	16.7	4.2	
t.	Was honest.	100			92	8		91.7	4.2		4.2	91.7	8.3		
g.	Was friendly.	96		4	48	52		100				83.3	16,7		
h.	Got along nicely with other people.	96	4		60	40		95.8	4,2			79.2	20,8		
i.	Was respectful with people.	100			92	8		100				87.5	12.5		
ŀ	Met commitments acquired	84	12	4	76	24		75	16.7	4.2	4,2	58.3	37.5	4.2	
k.	Made you and your family concern about your health.	92	8		88	12		79.2	12.5	4.2	4.2	66.7	29.2	4.2	
١.	Was enthusiastic and encouraging.	96	4		48	52	an a	91.7	4.2	4.2		62.5	29.2	8.3	

No significant differences were observed between the two communes regarding the leadership variables mentioned above. The elements best evaluated by faculty are honesty and respect for others, and good relationships with other members in the family.

According to the evaluations made by faculty, to improve medical students' leadership abilities during the practice with communities, emphasis should be made on the following: a) constant trust and willingness towards work performance; b) thorough fulfillment of commitment made to families; and c) achieve family involvement and concern in the health of its members.



Differences in the scores given by the families and by faculty are within 20 points on average, for all items. Agreement between the way of thinking of families and faculty about performance by students, is greater in commune 20.

General aspects

The following were evaluated as general aspects: a) comments about the student; b) other aspects that families would like to see the student tackle, and c) the way how the informer and his/her family felt when being cared for by students.

a. For 83.3% of families in C20, the comments made about the student's performance were positive, but for families in C7, 96% were positive. Kindness and concern of the student, interest in doing his/her job well, respect, confidence and clarity on plans of interest to the families were commented on. Other based their positive comments on the fact that medications were delivered to them. 54.2% of students assessed by faculty in commune 20, received positive comments; and in commune 7, 64 % students evaluated by the faculty received similar comments. The rest were rated either negatively or as average. Only 12.5% of families in C20 made "fair" comments about performance by the medical student, while in C7 only 4% gave that opinion. In C20 only 4.2.% of those surveyed made negative comments about the students who visited their homes. Among them, some commented that some students showed no interest, or were not punctual, lacked clarity, or did not provide care to some family members.

b. Among the other activities that are suggested be performed by students with families in communes 7 and 20, are: a) increase in health information provided to families; b) general check up to children; c) continuation of house calls; d) physical check up and prescription; e) helping the community; f) providing the medications; g) increase their knowledge re activities with families; h) attend the appointments; i) better professional quality; j) managing psychological elements; and k) availability of blood pressure monitor and the phonendoscope:

c. The findings of the evaluation by informers in each family indicated that 87.5% of those surveyed in commune 20, felt good about being assisted by the medical students. The rest did not feel so good. While 100% of the informers in Commune 7, indicated that both the informer and the family felt good being cared by the medical students.

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The contrast in the evaluation results in both sites offers elements of analysis for the programme. The findings indicate that both community and faculty think that the students in commune 7 performed better. Several factors can explain this situation: On the one hand, the capacities and attitudes of the students towards community practice: the characteristics of faculty members and their commitment to the programme; the application of adequate teaching techniques: planning and organization of rotation. On the other hand, additional factors related to the persons, there are others related to the program's structure, amongst which are the physical, organizational and functional conditions in both sites, the geographical characteristics which alter displacement; housing distribution: security in the area; attitude of officers from the health institutions, which are conditioning factors for the support offered to the work of the students; the organization of practice in both sites; and finally, a crucial element is the attitude and participation of the community with the programme.

All the above factors were analyzed with faculty members and with officers from the Health Service. The most likely explanation to the differences in both sites is the commitment and attitude of the faculty towards the following: the programme; community work; and introduction of innovative teaching methods that help students reach their objectives. Of equal importance is the planning and implementation of the rotation programme, in which important differences were observed at both sites. However, this activity is dependent on the capacity and attitude of the faculty to perform it.

Lesser importance is assigned to the features of the students, given the fact that they were randomly selected for assignation to one of the two communes. With regard to the features of the officers, these seem to have less influence on the results, and a greater commitment and participation in the programme has been observed on the part of officers from Health Institutions in commune 20, where paradoxically, students performed less well.

An additional factor to those already mentioned - which should be considered in planning the programme- is the permanence of the faculty. Both programmes were affected by the change of faculty members which took place during the semester.

With regard to the differences found between faculty and family informers, several factors could explain this disagreement. As stated above, no substantial differences existed between the two raters, if we consider that the same variable was being measured, and applied a different measurement scale.

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Another explanation could be the fact that medical students were assessed by faculty from different disciplines besides physicians (dentists, physical therapists, nurses, clinical laboratory technologist, phono-audiologists). It is quite probable in these cases that the accuracy of the assessment is low when the measurement is not made by the faculty member from the respective discipline.

The distribution of the answers given by the community in the two communes are quite asymmetrical. To the majority of questions, the family stated that the student's performance is appropriate as expected.

Bivariate analysis

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The results of concordance between raters and internal consistency of each scale must be analyzed carefully. In the first case a pertcentage of concordance is given. It does not mean that the scale is wrong but it could suggest that staff and community assess the same variable in a different way, thus different scales should be used or one could be built that represents the two points of view. With relation to internal consistency, the items with low internal consistency should be explored to see if they are measuring another aspect.

Reliability of the questionnaire

The reliability of the questionnaire measured by the internal consistency of the different traits and by the concordance between the staff members and the community concerning the students' performance is described next.

In **table 9** we can see the internal consistency for the variable "type of services" when all the items were present, (76.6%). It was less than 70% (68%, 65%) when the items "check blood pressure and "check the pulse", were excluded from the scale. However, the internal consistency increased to 81% when the items asking whether the student performed additional activities was excluded, meaning that this item could not contribute to the homogeneity of the scale, therefore, its inclusion should be considered.

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When the Kappa Coefficient was applied to the scale "Type of Services", the highest concordance or agreement between the families and the staff members was found for the items asking whether the students held meetings with the community. The lowest

concordance was found in the item concerning "educational tasks". A likely explanation to this findings is that the staff is not always able to control the activities that are not undertaken by the students during the home visits and therefore they are not planned.

	Internal Consistence	Concordance
ITEM	KR 20 Coefficient %	Kappa Statistic %
1. Did the student check blood pressure?	68,2	11
2. Did the student take the pulse?	65,2	13
3. Did she/he physically examine the whole body or some part of it?	73	12
4. Did she/he give educational talks?	75,9	6,6
5. Did she/he participate in meetings with the community?	71,8	35
6. Did she/he perform other activities?	81,1	37
With all items	76,5	×

Table 9, Interna	l consistency and	l concordance between	raters : T	vpe of services
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The internal consistency of the scale measuring adequacy of care (table 10), is around 70% when all the items are present. Small variation was found when the items asking whether the student "was punctual" and whether "the family was satisfied with the care provided" by the student, were excluded. In both cases the internal consistency was higher 84% and 74% respectively, therefore, their inclusion in the scale should be considered.

The lowest internal consistency (65%), was reached when the item asking whether the student showed interest for the user's health was omitted.

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The agreement between the family and the staff in all the items of the variable Quality of Care was very low. The highest agreement found was in the items asking whether the student showed interest for the user's health (20%); whether he/she was punctual(17%); and whether he/she offered security (12%). In the rest of the items the concordance between the two raters was very low.

	Internal Consistence	Concordance
ITEM	KR 20 Coefficient %	Kappa Statistic %
The student:		· · · · · · · · · · · · · · · · · · ·
 Showed interest for your health 	64,6	21
2. Was she/he friendly	69.9	0
3. Was in a good mood	69,9	0
4. Was considerate	69,9	0
5. Offered security	68,5	12
6.Listened attentively	67,2	-4
7. Respected your opinions and beliefs.	67,6	-4
8. Was punctual in the appointments with you	83,9	17
9. Spent the necessary time to listen to you carefully	65,5	-8
10.Had good appearance	67,2	-4
11.Were you satisfied with his/her care	73,7	-4
With all ítems	69,9	

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Table 10, Internal	consistency and	concordance between	raters : Adequacy	of care
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Concerning the internal consistency for the variable Knowledge it was found to be 54% when all the items were present, (**table 11**). This percentage was higher (77%), when the items "asked questions hastily" was omitted, which could mean it does not contribute to the homogeneity of the scale.

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When the items "asked questions in an organized manner" was omitted from the scale, the internal consistency was slightly higher 56%, however when the items asking whether the students "asked many questions" and whether he/she "was confident about his knowledge" were excluded, the internal consistency was lower (39.7%, 38.7%).

	Internal Consistence	Concordance
ITEM	KR 20 Coefficient %	Kappa Statistic %
The student:		
1. Was sure about her/his knowledge ?	38,7	0 *
2. Asked you how you wefeeling?	49	Not Calculated
3. Asked about other things?	45	-0,04
4. Asked many questions ?	40	Not Calculated
5. Asked questions hastily?	77	10
6. Asked questions in an organized manner ?	56	0*
7. He/She gave you recommendations to take of your health and your family's health ?	49	48
With all ítems	54	

table 11, internal consistency and concordance between raters. Knowledge	Tabl	le 11,	Internal	consistency :	and	concordance	between	raters :	Knowledge
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* The staff did not answer the item.

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The Kappa statistics for the scale Knowledge were very low in all the items except for the item asking whether the student "gives recommendation", where the agreement reached by the two raters was 48%.

The staff did not answer two of the items, therefore they were not considered in the analysis.

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The internal consistency of the test for the variable Information and Communication was 75.6%, (table 12). It comes decreases to 63.7% and 69.1% when the items asking whether the student "provided guidance and clear explanations"; "made himself understood"; and "encouraged the family to talk", are omitted. On the other hand, the internal consistency is significantly higher (93.2%) when the item "used brochures" is excluded, therefore, its inclusion in the scale should be considered.

	Internal Consistence	Concordance
ITEM	KR 20 Coefficient %	Kappa Statistic %
The student:		··· <u></u>
1. Greeted	76,6	0
2. Talked clearly	72,8	0
3. Showed trustfulness	76,6	0
4. Encouraged you to talk	69,1	-4,2
5. Informed you when he/ she would be back	72,7	-3,3
6. Said good bye	76,6	0
7. Made himself/herself understood	68,6	-4
8. Used leaflets or brochures to provide explanations	93,2	0
9. Provided guide and clear explanations	63,7	-4,2
10.Provided the necessary advice	66,6	-7.3
With all items	75,6	

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Table 12, Internal consistency and concordance between raters : Information ar	ıd
communication	

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There was not agreement between families and staff members regarding the variable Information and Communication.

The variable Leadership showed internal consistency of 96.6% when all the items were present, (table 13). There were no major changes in this percentage when each one of the items of the scale were removed. However, when the item asking whether the student "met commitments acquired", was omitted, the internal consistency reached 100%.

	Internal Consistence	Concordance				
ITEM	KR 20 Coefficient %	Kappa Statistic %				
The student:						
 Showed deep concern for you and your family 	91	45				
2. Was self-confident	96,2	0				
3. Was responsible	93,2	-8				
4. Was honest	94,6	-3				
5. Was friendly	97,9	0				
6. Got along nicely with other people	98,4	4,9				
7. Was respectfull with people	97,8	0				
8. Met commitments acquired	1	10				
9. Made you and your family concern about your health	97,8	17				
10.Was enthusiasthic and encouraging	98	1				
With all items	96,6					

Table 13, Internal consistency and concordance between raters : Leadership

Agreement between the two raters for Leadership items, was found only on the items asking whether the student "showed deep concern for the user and his family" and whether the student "made the user and his family concern about their health".

Of the 50 medical students participating in the study, 29 were evaluated by more than one family. The concordance among families assessing the same student varied, being moderate for some variables and very low for others. The Kappa coefficient ranged from -0.25 to 0.48, with the negative cases indicating that the observed agreement was lower than expected by chance.

The highest concordance among families occurred on questions asking whether the student held meetings with the community 49%, took blood pressure 48%, took the pulse 39%, and whether he/she committed himself/herself to the family. The greatest disagreement arose in questions asking whether the student notified when he/she was going to come back; -41%, and whether he/she provided some education on health -25%.

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Chapter 5

CONCLUSIONS AND FUTURE DIRECTIONS

Summary of results

The findings of this study can be used for refining innovative methods and instruments to incorporate the community in the assessment of health care students' performance in community settings. One important and challenging feature of the evaluation proposed in this study is that, it has the community as the main source of information. As was already said this type of evaluation should be considered an ongoing process, given the scarce or non existent experience in this regard, and the inherent dynamic involved in activities that have the community as a key actor or target subject. Therefore, health educators should make a permanent and critical review of the methods and their application in order to refine them.

The questionnaire and the methodology developed in this study to involve the community in the evaluation of health students, has provided key issues related to: the variables that should be considered in this type of evaluation; ways to have high community participation in the evaluation of student performance and the rotating program; aspects-to be considered in order to improve the accuracy of the data and important hints regarding a better use of the information. In this study we confirm our belief that the type of evaluation proposed could serve as a teaching and planning educational tool, involving actors that have a key role in the improvement of the health status of the population and in the planning of curricula for health professions, figure 7.

The evaluation takes a new role, serving \gtrsim a channel of communication between the users of services, academic and services institutions. It is important to mention that the group dynamics conducted in the community to present and analyze the data from the questionnaire, such as the focus group discussions, were enriching experiences. Considering what has been said, the evaluation has to be seen as more than an instrument to collect data to grade the students. It is an opportunity to exchange information, to reach agreements about the future direction of the programs, learn other approaches to the same problem or situations and expand our views.

Assessment of students'performance





The reliability, of the questionnaire measured by the internal consistency of the different traits was high. The highest internal consistency was found in the scale measuring leadership followed by the variables "type of services" and "information communication". On the other hand the variable with the lowest internal consistency was knowledge (54 %), and adequacy of care (69.9 %). Both of them could be the most difficult to measure for the families because their perception about knowledge and adequacy of care depends on the

services provided and the criteria to measure them may vary largely from family to family and from day to day.

Some items apparently should be excluded from the scale given their poor contribution to the homogeneity of the test, however there are big changes in the internal consistency when they are removed from the scale. To make the decision about exclusion of items it is necessary to set criteria as cut off points. It has been suggested by Kelsey as a rule of thumb a difference of 0.20 in the internal consistency when the item is present and when it is omitted. In our case none of the items should be excluded in applying these criteria. If we are more conservative and use a difference of 0.10, the following items should be excluded: The student "performs other activities", from the scale measuring type of services; the student "was punctual and the family was satisfied with the services provided" from the adequacy scale of care; "asked questions hastily" from the knowledge scale; and finally, the student "use brochures" from the variable information.

However, given that the test has been applied only once and that the type of decision made from the results of this test, in which actions related to the program more than to individual students are considered, it could be wise to include all items for application of the questionnaire a second time in order to compare the results.

Concerning the concordance between families and staff members in the assessment of medical students achievements, there was agreement in most of the items measured. This result was expected because the same instrument was applied to measure different approaches of the same trait. In the opinion of staff, to improve the quality of care delivered by the students they ought to: a) accomplish technical norms; b) attend appointments punctually; c) devote more time for care delivery; d) offer greater security (confidence) to the family; e) listen more carefully; f) be kinder, better tempered and show more respect, and g) improve personal appearance.

Although most of the above criteria are included in the responses provided by the community, the emphasis given to each one of them to evaluate student performance plays an important role. In this study we could certify that the institutions staff and personnel give more emphasis to the compliance with technical standards than to interpersonal relationships.

Furthermore, it is important to consider in the analysis what has been already said with regard to the distribution of answers, which were highly asymmetric. Even in the case of grouping responses into two categories (yes, no or always, never) a higher percentage was obtained from the responses falling in the yes and always categories. Although there is a risk in the community to be inclined to qualify positively the service provider by fear of not receiving good care in the next visit, this was not the case of the study. This was verified through personal interviews, and in the annual evaluation of the program where community satisfaction with the program and with the presence and service provided was repeatedly manifested.

The other aspect that should be studied subsequently in order to explain the previous finding is the relevancy of including other questions or rephrasing the present ones to see whether there are important changes in distributions. Likewise, it could be advisable to apply the questionnaire to communities that have not been exposed to the UNI program.

These findings should call the health educator's attention to the desired objective of being prepared to provide health services that meet the expectation of the community. That means that instead of trying to merge the two points of view, the health educators should look for ways to identify and consider them as part of the inputs for planning the curricula.

It is recommended that the items showing low internal consistency or low concordance, be followed up to find out the causes of that and decide to replace or adjust them in such a way they are measuring the same trait. It is also important to explore the community 's opinion about the inclusion of other items or additional questions, but taking care not to add complexity to the questionnaire.

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Lessons learned from the involvement of community in the student performance assessment

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The experience of collecting, analyzing and using data from the community regarding student performance assessment was an enriching experience that allowed the researcher to verify the lessons learnt in past experiences and contribute to the knowledge in this field with new ideas and hypotheses to develop valid and reliable methods of performance assessment in community based health programs, which can be summarized next: 1. The results of the application of statistical tools to assess reliability, such as Kappa, to assess concordance and Kuder Richardson coefficient for internal consistency, should be carefully analyzed.

In the case of concordance between raters, in our case the community and the staff, a low kappa could suggest not only a low reliability of the scale, but a different representation of the concept between the ratters, as it was the case in this study.

If this is the case, the application of the same scale is inappropriate and it is recommended to use a different scale or create a new one that incorporates the two points of view. On the other hand, low internal consistency could suggest a lack of homogeneity of the scale, but also that the item could be measuring a different trait of the same concept. The wording of questions is another factor to be analyzed.

The above comments suggest the need to explore and gather relevant information about the study items before deciding to discharge them. In fact, from this experience it was learnt that some assessment criteria were not exclusive for a specific study variable, they were identified for the community more than once to assess different traits. When the same criteria was included in the scale using a second item, the information added by this second item is very little, so it does not contribute to the homogeneity of the scale. In this case only one of them should be included, and the decision can be made using the internal coefficient to see which one is more correlated with the total score.

2. Given the differences in the quality of care concept between staff, providers and communities, a unique evaluation model is not appropriate unless users and providers reach agreement about the concept, the variables involved and the criteria to assess them. The list of items provided by the community to assess quality of care was broad and very similar at each site where the students rotated. The list provided by faculty and health services representives was more restricted. The fundamental difference between the two lists reflects the importance of emphasis given to the components of quality of care. While the community identified aspects related to the student behaviour of students towards the community (art of care), the faculty and officers selected mainly those items related to the performance of the students with regard to the application of the procedures and following the rules (technical and scientific aspects).

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3. A single method to gather data is insufficient for developing a clear picture of the program and for identifying the adjustment to be made to the learning-teaching program, and the health delivery system, therefore a combination is recommended. The evaluation shall be seen as a dynamic ongoing process incorporated into the routine of the teaching-assistential program in order to make it relevant to the needs and expectations of users and providers.

4. This study showed that techniques such as the Focus Group Discussion are very valuable to expand and complement the information given by using other instruments, such as the questionnaire and interviews. The Focus Group Discussion provides an opportunity for establishing rapport with participants, knowing their needs and wants regarding quality of care and the factors affecting it. This technique was an excellent opportunity to explore potential causal factors of a given situation.

However, the focus group activity would not have been of much help if the researcher had not have had information to focus the discussion. This information was given by the questionnaire, meetings held with specific informants, and in-depth interviews. From this experience it can be said that the questionnaire and interviews give more information related to individuals, and the focus group provides more general information related to the program, given the opportunity to elaborate and draw conclusions from the data provided, which covers the structure, the process and results.

On the other hand, the focus group discussions gave the opportunity to talk and explore the causes of the disagreements between staff and community, and in some cases between families.

One of the limitation of the focus group is the poor participation of community representatives. This problem was overcome due to the good rapport established with the participants during the application of the former techniques.

It is important to mention here that the described process to gather and analyze data is an important step in building a methodology that corresponds to the real scenario of quality of care as it is perceived by the community.

5. Contrary to what has been said, the community is willing to participate in the evaluation process if they see this activity as a relevant and useful instrument to introduce changes in

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the health care system in order to improve the quality of care. The community participates through the family leader who has been more in touch with the program, such as the mothers, however the collection of data from the questionnaire was done with the participation of the whole family, or more specifically, from those who received health services.

6. One of the problems mentioned in other studies in performance-based assessment is the difference between student assessments when he or she is facing a real or simulated situation. What we found here is that this problem can be avoided if the evaluation is seen as an integrated component of the teaching-learning process and not as an isolated activity.

7. The belief regarding lack of agreement between users and providers in relation to what is needed to improve health conditions was verified here. While the government is giving special emphasis to promotion and prevention programs, the community still feels that the curative programs are the most important. The evaluation was converted into an educative and useful instrument to identify and discuss aspects related to this issue and more importantly, to reach agreement in which both approaches are needed for health recovery and maintenance.

Furthermore, the evaluation could serve as a means to update the health concept, the ways to reach healthy conditions, the contributions of those responsible for it and the needed changes to improve it.

Strengths and weaknesses of this study

It can be observed that the distributions from the responses to the questionnaire items are highly skewed, suggesting potential flaws in the information gathering. However, there are reasons to think that the quality of the information collected is one of the strengths of this study. Others can be mentioned: Similar results regarding students behavior in the community rotation in the annual evaluation of the program; this study was carried out with high participation of staff members of the faculty of health, services institutions, and the communities working with the UNI Project. The fact that this group has been working for three years facilitated not only their active and permanent participation, but more important, their commitment and willingness to provide pertinent and reliable information to develop

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the methods and tools for assessing the students performance. This also facilitated a high response rate.

Some additional aspects that could have influenced the quality of the data collected are: the professional training of the interviewers and their skills to work in communities: the excellent rapport they established with the families; the adequate recall period given that the families have had the last home visit from the students two weeks ago; and finally the high retrieval of information.

The second strength of this study is the large sample of medical students who participated (72 %), and the high percentage of families participating; most of them had had close contact with students.

The third strength of this study is the large amount of qualitative information collected through the group dynamics and interviews. This information is relevant to expand on specific aspects considered in the questionnaire and others that were not included. This information was valuable to improve the questionnaire and the whole evaluation methodology.

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It should be mentioned that the assessment methodology and the evaluation tools created in this study, will be applied in the next semester to all the students of the Health Faculty, giving the opportunity to adjust the methodology for assessing health students performance and therefore, involve the community in the planning of the teaching -learning activity.

With regard to the limitation of this study it is recommended that they should be considered in future research on the same topic. There were technical limitations but at the same time some cultural and logistic problems in applying the methodology.

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The main constraint lies in the absence of a construct or criterion to measure the validity of the test. Developing a construct is not an easy task in this specific case, given the variability inherent in measures related to perceptions and feelings regarding a specific trait. This variability has to do with aspects related to the type of services received; the user expectations at the time of receiving the service; the complexity of the care given; the severity of the disease; and the patient's perception about what he/she needs among others. On the other hand, there may be other aspects related to the students features and the

program, such as: student confidence in facing the problems encountered; knowledge received to provide the service; time available to spend with the user; referral system, etc.

The second limitation deals with the inclusion of only medical students and not students from other health professions. Finally, but not less important is the fact that the questionnaire was only applied once in one semester. The results may change in the event that families assess the student on more than one occasion. This aspect should be considered in future studies given the variability of the family or user perception about the different traits to be evaluated.

There are cultural problems related to the application of the methodology, such as the fear of the community to evaluate whom they consider a doctor. One of the reason for this fear is the likelihood of not being attended or not having good services in the future. In our case it was possible to deal with this constraint because the community is highly involved in the program. On the other hand, enough information was given concerning the benefits for them to participate in the evaluation activity, such as to have the opportunity to be involved in the decision making process to improve the quality of care provided by the students. This is not necessarily the case in other context. Donabedian (1990) commented on this by saying "it should be remembered that, unless special precautions are taken, the patients may be reluctant to reveal their opinions for fear of alienating their medical attendants".

Implications of this study

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This study has different implications: the first one is pedagogical, as it allows community involvement in the student learning process, readjustment of teaching methods and subject matters to the community's expectations; the second one is social, as emphasizing the user community criterion of the quality of care, this would be one alternate way to involve the community in the learning process, exposing the student to the reality and values of persons different from the university environment; the third one is technical, by establishing flexible assessment methodologies that go beyond traditional methods in order to include both quantitative and qualitative aspects.

The guidelines developed from this research will serve as a building block for further development of methodologies and procedures for student assessment in community based learning, not only in the Colombian setting but also in other countries.

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REFEPENCES

- Biggs, J.S. (1995). Medical audit and medical education. [Editorial]. <u>Medical Education</u>, <u>29</u>, 99-100.
- Black, H. D. (1994). The quality of assessment in further education in Scotland. In W. Harlen (Ed.), <u>Enhancing Quality in Assessment</u>. Paul Chapman Publishing.
- Boelen, C. (1995). A WHO global strategy for changing medical education and medical practice for health for all. In <u>Memorias de la Conferencia Mundial de Educacion</u> <u>Medica</u>, (pp 8). Santafé de Bogotá. Colombia.

Broadfoot, P. (1994). [Editorial]. Assessment in Education, 1, 3-10.

- Brown, S. (1992). Trends in assessment. In R. Harden, I. R. Hart & H. Mulholland (Eds.). <u>Approaches to the assessment of clinical copetence Part 1</u>. Dundee: Centre for Medical Education.
- Caper, P. (1993). Health care quality management for the 21th century. In: James Couch (Ed.) Population based measures of the quality of medical care. (pp.281-290).
- Carey, M. & Smith, W. M. (1994). Capturing the group effect in focus group: A special concern in analysis. <u>Qualitative Health Research</u>. February, 123-127.
- Chandler, M. & Chapman, M. (Eds.). (1991). <u>Criteria for Competence: Controversies in</u> the assessment of Children's Abilities. Hillsdale, N. J.: Lawrence Erlbaum.
- Cizek, G. J. (1993). Reconsidering standards and criteria. <u>Journal of Educational</u> <u>Measurement</u>, <u>30</u>(2), 93-106.
- Codman, E. A. (1916). A study in hospital efficiency. Thomas Todd, Boston, Massachusettes. Quoted by Lemboke P. A. (1967). Quoted by J. S. G. Biggs (1995).

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- Cohen, G. S., Blumberg, P., Ryan, N. C., & Sullivan, P. L. (1993). Do final grades reflect written qualitative evaluation of students performance ? <u>Teaching and Learning</u> <u>in Medicine</u>, 5(1), 10-15.
- Coles, C., & Holm, H. A. (1994). Learning in medicine [Editorial]. <u>Medical_Education</u>, 28, 171.
- Coorporation Professionalle de MéÈdicins du Quebec. (1994). <u>Quality management for</u> <u>medical practice in institutions</u>, 29-33.
- Donabedian, A. (1990). The quality of care: How can it be assessed? In Nancy O. Graham (Ed.), <u>Quality assurance in hospitals: Strategies for assessment and implementation</u> (2nd ed.), (pp 14-28). Gaithersburg, MD: Aspen publications.
- Dumbar, S. B., Koretz, D. M., & Hoover, H. D. (1991). Quality control in the development and use of performance assessment. <u>Applied Meassurement in Education</u>, <u>4</u>(4), 289-303.
- Elstein, A. S. (1976). Clinical judgement: Psychological research and medical practice. Science, 194, 697-700.
- Ende, J., & Atkins, E. (1992). Conceptualizing curriculum for graduate medical education. Academic Medicine, 67(8), 528-534.
- Ezzat, E. (1995). Medical education/health service and practice links in Suez Canal zone egypt: a fifteen year experience of the Suez Canal school of medicine, Ismailia, Egipt. In Memorias de la Conferencia Mundial de Educacion Medica, (pp 24-27). Santafé de Bogotá, Colombia.
- Fabb, W.E., & Marshall, J.R. (1983). <u>The assessment of clinical competence in general</u> <u>family practice</u>. Norwell, MA.: Kluwer Academic Pubs.
- Garcia-Barbero, M. (1995). Medical education in the light of the World Health Organization. Health for all Strategy and the Europen Union. <u>Medical Education</u>, 29, 3-12.

- Gonnella J. S., Hojat, M., Erdmann J. B., & Veloski J. J. (Eds.). (1993). <u>Assessment measures in medical schools residency and practice: The connections</u>. New York, NY: Springer Verlag
- Graham, N. (1990). <u>Quality assurance in hospitals: Strategies for assessment and</u> <u>implementation</u>. (2nd ed.). Gaithersburg, Maryland: Aspen Publication.
- Greenlick, M. (1995). Educating physician for the twenty-first century. <u>Academic</u> <u>Medicine</u>, <u>70</u>(3), 179-184.
- Holmes, D. B. (1994). Tutoring in problem-based learning: a teacher development process. Medical Education, 28, 275-283.
- Jansen J. J. M., Van der Vleuten, C.P.M., Tan. L.H.C., Van Luijk S.J., Grol, R.P.T., & Rethans, J.J. (1995). Assessment of competence in technical clinical skills of general practitioners. <u>Medical Education</u>, 29, 247-253.
- Keiser, C. L. (1994). Collaboration: the time has come. <u>Clinical Nurse Specialist</u>, <u>8</u>(6), 328-329.
- Kelsey, L. J. et al. (1986). <u>Methods in observational epidemiology</u>. Oxford: Oxford University Press.

5

С

- Kisil, M., & Chaves, M. (1994). Linking the university with the community and its health system. <u>Medical Education</u>, 28, 343-349.
- Linn, R. L. (1994). Performance assessment: Policy promises and technical measurement standards. Educational Researcher, 23(9), 4-14.
- Linn, R. L., Baker, Eva L., & Dumbar, Stephen B. (1991). Complex, performance-based assessment: Expectations and validation criteria. <u>Educational Researchers</u>, 20(8) 15-21.
 - Marshall, J. (1993). Assessment during postgraduate training. In J. S. Gonnella, M. Hojat, J. B. Erdmann & J.J. Veloski (Eds.), Assessment measures in medical school.

 \mathbb{C}^{+}

residency, and practice. The connections. (pp. 47-54). New York, NY: Springer Verlag.

Mulholland, H. (1988). What is...A Profile ? Medical Teacher, 10(3/4), 277-282.

National Health Service. (1989). Working for patients: Medical audit. London: HMSO.

- Patel V., & Cranton, P. (1983). Transfer of student learning in medical education. <u>Journal</u> of <u>Medical Education</u>, <u>58</u>, 134.
- Patel, V., Arocha, J. & Kaufman, D. (1994). <u>Cognition and medical education: a critical</u> <u>appraisal</u>. Montreal: McGill University.

Reckase, M. (1993). [Editorial]. Journal of educational measurement, 30(3), 185-186.

- Ruakan, S. (1995). Changes in medical education and medical practice in the search of "health for all". In <u>Memorias de la Conferencia Mundial de Educacion Medica</u>, (pp 87). Santafé de Bogotá, Colombia.
- Schoreder, C. (1994). Community Partnershipsand medical models of health? I don't think so... Public Health Nursing, 11(5), 283-284.
- Slee, V. N. (1974). PSRO and the hospital's quality control. <u>Annals of Internal Medicine</u>, <u>81</u>, 97-106.
- Southgate, L. (1994). Freedom and discipline: clinical practice and the assessment calinical competence. British Journal of General Practice, 44, 1-6.
- Streiner, D. L., & Norman, G. R. (1989). <u>Health mesurement scales</u>. Oxford: Oxford University Press.
- Sullivan, L., Dukes, K., Harris, L., Dittus, R., Greenfield, S. & Kaplan, S. (1995). A comparison of various methods of collecting self-reported health outcomes data among low -income and minority patients. <u>Medical Care</u>, <u>33</u>(4), AS183-AS 194.

- Swanson, D. B., Norman, G. & Linn, R. L. (1995). Performance-based assessment : Lessons from the health professions. <u>Educational Researcher</u>, 24(5), 5-11, 35.
- Talen, M., Graham, M. & Walbroehl, G. (1994). Introducing multiprofessional team practice and community-based health care services into the curriculum: A challange for health care educators. <u>Family System Medicine</u>, <u>12</u>(4), 353-359.
- Taylor, W. C. & Moore, G. E. (1994). Health promotion and disease prevention: integration into a medical school curriculum, <u>Medical Education</u>, <u>28</u>, 481-487.
- Thompson, (1984). Quoted by Goldman, R. L. (1994). The reliability of peer assessments: A meta-analysis. <u>Evaluation & the Health Professions</u>, <u>17</u>(1), 3-21.
- Usherwood, T., Challis, M., Foesbury, H., & Hannay, D. (1995). Competence-based summative assessment of a student -directed course: Involvement of key stakeholders. <u>Medical Education</u>, 29, 144-149.
- Wainer, H. (1993). Measurement problems. Journal of Educational Measurements, <u>30(1)</u>, 1-21.

e)

- Wartman, S. A. (1989). The case for a national center for health professions education research. <u>Academic Medicine</u>, .
- Weiss, B. D. (1995). Dilemmas in family medicine education. Family Medicine, 27(6), 356-359.
- Wilkes, M. S. (1994). Health care reform as perceives by first year medical students. Journal of community health, 19(4), 253-269.
- Wolf, T. M. (1994). Coping and health: Enhancing well-being during medical school. Medical Education, 28, 8-17.

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Appendix 1 Invitation form

VALLE UNIVERSITY - UNI PROJECT

You are cordially invited to the meeting to be held on _____ at the Health Center _____, hour _____

Meeting objective: To discuss the importance and ways to involve the community in the assessment of care given by health students of the Universidad del Valle.

Sincerely,

UNI Project Instructor

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UNI Project Social Worker

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Appendix 2

PART II : TYPE OF SERVICES

1. The student performed the following activities:

	Gl	JIDE	DS	URV	ĒΥ		NON GUIDED SURVEY								
YE	S	N O Don'tKnow		Missing Data		YE S		NO		Don'tKnow		Missing Data			
#	%	#	96	#	%	#	%	#	96	#_	96	#	%	#	96
	ĺ				· · ·										
18	69	8	31		1.1	<u> </u>		3	50	2	33	"1	17	 	
21	81	5	19					4	66	1	17	1	17		
]			1	1								1			
22	85	3	15	1	4			5	83	1	17				
22	85	2	8	2	8			6	100						
6	23	19	73	1	4			3	50	3	50				
13	50	12	43	1	4			4	66	1	17	1	17		
9	35	12	46	4	15	1	4	2	33	1	17	1	17	2	33

Table 2

 ϵ_{\pm}

- a. Did the student check blood pressure.
- b. Did the student take the pulse
- c. Did he/she physically examine the whole body or some part of it ?
- d. Did he/she give educational talks?
- e. Did he/she give educational materials
- f. Did he/she participate in meetings with the community ?
- g. Did he/she perform other activities ?

 $\langle \rangle$

1. The student that share with you and your family:

Table 3

 A_i

	GUIDED SURVEY									NON GUIDED SURVEY						
	Alv	vays	Sometimes		Never		Missing Data		Always		Sometimes		Never		Missing Data	
	#	96	#	%	#	%	#	%	#	<u> </u>	#	%	#	%	#	%
est for your health	26	100							6	100						
	26	100			_				6	100	2					
d mood	26	100							6	100						
rate	26	100							6	100						
ity	24	92	2	8					6	100						
ntively	26	100							6	100						
our opinions and	25	96	1	4					6	100						
l in the with you.	17	65	7	27			2	8	6	100						
fer you to other ivers	13	50	4	15	9	35			4	67			2	33		
cessary time to carefully	25	96	1	4					6.	100						
pearance	26	100							6	100					1	

- a. Showed intere-
- b. Was friendly
- Was in a goo C.
- Was consider d.
- Offered secur е.
- Listened atter f.
- g. Respected yo believes
- h. Was punctual appointments
- I. Did he/she re health care g
- Spent the neo 1. listen to you o
- k. Had good ap

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PART IV : KNOWLEDGE

1. The Student

GUIDED SURVEY NON GUIDED SURVEY Always Sometime Always Sometime Never Missing Data Never Missing Data % # # % # % % # % # % # % # # % a. Was sure about his/her knowledge b. Asked you how you were feeling c. Asked about other things d. Asked many questions e. Asked questions hastily f. Asked questions in an organized manner g, He/she gave you recommendations to take care of your health and your family's health.

2. Has your health Improved thanks to the student's care ?

	GUI	DED	SU	RVEY	N	ON	GUID	ED	SUR	/EY		
YES NO Mis				Missin	g Data	YE	S	N	0	Missing Data		
#	96	#	%	#	%	#	%	#	%	#	%	
23	88	1	4	2	8	6	100					

_"Table 4

Appendix 2

Appendix 2

PART V: INFORMATION - COMUNICATION

1. The Student:

Table 5

		G	UIDE	D S	UR	/EY			NON GUIDED SURVEY							
	Always Some			times	s Never		Missing Data		Always		Sometimes		Never		Missing Data	
	#	96	#	%	#	%	#	<u>,</u> %	· #	%	#	%	#	. %	#	%
	26	100						ю.	6	100					er.	
	26	100							6	100						
	26	100						12	6	100						
i	26	100							6	100				1)		٤
	22	84	2	8	2	8			5	83					1	17
	26	100							5	83				<u> </u>	1	17
erstood	26	100							6	100						
to	7	27	4	15	15	58			4	67			2	33	0	
	26	100							6	100			l 			
vice	24	92	1	4	1	4			6	100	 					

Ń.

a. Greeted

- b. Talked clearly
- Showed trustfulness C.
- d. Encouraged you to talk
- Informed you when he/she е. would be back
- Said good bye f.
- Made himself / herself unde g.
- h. Used leaflets or brochures provide explanations
- I. Provided guide and clear explanations
- Provided the necessary adv **]**.

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PART VI : LEADERSHIP

Appendix 2

1. The Student:

Table 6

a.	Showed deep concern for you
	and your family.

- b. Was self-confident.
- c. Whas enthusiastic to achieve the work.
- d. She/He acted on her own iniciative.
- e. Was responsible.
- f. Was honest.
- g. Was friendly.
- h. Got along nicely with other people.
- I. Was respectful with people.
- J. Met commitments acquired
- **k.** Made you and your family concern about your health.
- I. Was enthusiastic and encouraging.

	GUI	DED	SURVI	EY	NON GUIDED SURVEY							
Alv	vays	Som	etimes	Ne	Never		ays	Some	etimes	Never		
#	%	#	_%	#	%	# %		#	%	#	%	
26	100					6 6	100 100					
26	100			1	4	6	100					
25	96					6	100					
25	96	1	4			6	100		 			
26	100					6	100					
26	100					6	100					
26	100					6	100					
25	96 ⁻			1	4	5	83			1	17	
26	100					6	100					
23	88	2	8	1	4	5	83	1	17			
23	88	1	4	2	8	6	100					
26	100					6	100					

,
Appendix 2 PART VII : GENERAL ASPECTS

1. From your experience, how did you and your family feel when being taken care of by one group of students from different professions ?

GUIDED SURVEY						NON GUIDED SURVEY									
Go	od	Aver	age	Ba	d	Missing) Data	Go	od	Aver	age	Ba	d	Missing	<u>Data</u>
#	%	# ·	%	#	· %	#	%	#	%	#	96	#	%	#	%
23	88	2	8			1	4	6	100						

Table 7

2. The comments made by your family about the student were in general :

G	GUIDED SURVEY						NON GUIDED SURVEY					
Go	bd	Âver	age	Ba	d	Goo	d	Aver	age	Ba	d	
#	%	#	%	#	%	#	%	#	%	#	%	
25	96	1	4	-		6	100					

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Appendix 2 PART VII : GENERAL ASPECTS

3. Would you consider other aspects in the evaluation of students achievement?

GUIDED SURVEY					NON GUIDED SURVEY					Y	
YE	<u>S</u>	<u>N</u>	0	Don't un	derstand	YE	<u>s</u>	N	0	Don't un	derstand
#	· %	#	%	#	%	#	%	#	%	#	%
5	19	4	15	17	66					6	100

 $\mathbf{x}_{\mathbf{y}}$

Table 7	7
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Which are they

Commune 7Commune 201-Number of home visits4Missing Data2-Lenght of the home visits1Missing Data3-Time lasting between visits1Missing Data

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VALLE UNIVERSITY HEALTH FACULTY UNI PROJECT

EVALUATION OF THE STUDENTS BY THE COMMUNITY

(Please read and explain to the respondent of this document, the following guidelines)

As you know, the students of Health Professions of the Valle University, i.e. doctors, nurses, odontologists, physiotherapists, occupational therapists, phonoaudiologists, and bacteriologists provide a service to the community.

The Valle University, where the students acquire education, is interested in knowing whether the services provided by these students and the contact they have with you and your families are satisfactory.

In order to obtain feedback, we are handing out a questionnaire; the answers you give to each question will be very important to improve health professional formation, and therefore, the service provided to the community.

It is critical for us to take into account the community's opinion in order to improve health service quality, and this is the opportunity to achieve that objective, giving honest and real answers.

With the information you provide, the University can make changes in the study programs; for example, teaching subjects important for the community: how to treat patients and the people surrounding them; to have better understanding of community problems and how to work with the community in order to improve health conditions.

THE INFORMATION YOU PROVIDE WILL BE CONFIDENTIAL.

PLEASE DO NOT COMMENT YOUR ANSWERS WITH THE STUDENTS.

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VALLE UNIVERSITY HEALTH FACULTY UNI PROJECT.

PART I: INFORMATION

Order No.: SILOS:	Date: Commune:
	STUDENT DATA
Name:	Picture of the student in the studen
Study plan: —	
Semester:	
	FAMILY DATA
Family: Addresss:	
Write here your na	me and last name:
Age: Sex: Male Female	Study level: Primary school 1 2 3 4 5 High school 1 2 3 4 5 6 University 1 2 3 4 5 6 Other
1. How many times	has the student visited you?:
How many mem	bers of YOUR family were taken care of by the student?
2. Were you the per	son in your family who had more contact with the student?
Yes 🗔	No Unknown

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PART II: TYPE OF SERVICES

INSTRUCTIONS: - Check with an (X) the option you consider best qualifies the student.

1. The student performed the following activities:

a. Did the student check blood pressure?	Yes	No	Unknown
b. Did the student take the pulse?	Yes	No	Unknown
c. Did she/he physically examine the whole body or some part of it.?	Yes	No	Unknown
d. Did she/he give educational talks?	Yes	No	Unknown
e. Did she/he participate in meetings with the community?	Yes	No	Unknown
f. Did she/he perform other activities?	Yes	No	Unknown

Other activities?

PART III: ADEQUACY OF CARE

1. The student that share with you and your familiy:

a. Showed interest for your health	Always	Some times	Never
b. Was friendly	Always	Some times	Never
c. Was in a good mood	Aiways	Some times	Never
d. Was considerate	Always	Some times	Never
e. Offered security	Always	Some times	Never
f. Listened attentively	Always	Some times	Never
g. Respected your opinions and believes	Always	Some times	Never
h. Was punctual in the appointments with you	Always	Some times	Never
i. Spent the necessary time to listen to you carefully	Always	Some times	Never
j. Had good appearance	Always	Some times	Never
k. Were you satisfied with his/her care	Always	Some times	Never

PART IV: KNOWLEDGE

1. The student:

a.	Was sure about her/his knowledge?	Yes	No	Unknown
b.	Asked you how you were feeling?	Yes	No	Unknown
c.	Asked about other things.?	Yes	No	Unknown
d.	Asked many questions?	Yes	No	Unknown
e.	Asked questions hastily?	Yes	No	Unknown
f.	Asked questions in an organized manner?	Yes	No	Unknown
g.	He/she gave you recommendations to take care of your health and your family's health?	Yes	No	Unknown

2. Has your health improved thanks to the student's care?



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PART V: INFORMATION - COMMUNICATION

1. The student:

a. Greeted	Always	Sometimes	Never
b. Talked clearly	Always	Sometimes	Never
c. Showed trustfulness	Always	Sometimes	Never
e. Encouraged you to talk	Always	Sometimes	Never
f. Informed you when he/she would be back	Always	Sometimes	Never
g. Said good -bye	Always	Sometimes	Never
h. Made himself /herself understood	Always	Sometimes	Never
i. Used leaflets or brochures to provide explanations	Always	Sometimes	Never
j. Provided guide and clear explanations	Always	Sometimes	Never
k. Provided the necessary advice	Always	Sometimes	Never

PART VI: LEADERSHIP

1. The student:

a. Showed deep concern for you and your family	Always	Sometimes	Never
b. Was self-confident	Always	Sometimes	Never
c. Was responsible	Always	Sometimes	Never
d. Was honest	Always	Sometimes	Never
e. Was friendly	Always	Sometimes	Never
f. Got along nicely with other people	Always	Sometimes	Never
g. Was respectful with people	Always	Sometimes	Never
h. Met commitments acquired	Always	Sometimes	Never
i. Made you and your family concern about your health	Always	Sometimes	Never
j. Was enthusiastic and encouraging	Always	Sometimes	Never

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PART VII: GENERAL ASPECTS

1. The comments made by your family about the student were in general:

Good			
Average			
Bad			
Why?			
2. What a	other things would you like th	he student to do?	
What are	e they?		

3. From your experience, how did you and your family feel when being taken care of by one group of students from different professions?



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CHECK-UP FORM

The check-up form provides information to answer the following questions:

- 1. Does each question measure each item intended to be measured?
- 2. Are the words understandable? How would you replace them?
- 3. Are the questions interpreted similarly by all the respondents?
- 4. Does each close question have a response that applies to each one of the respondents?
- 5. Is the questionnaire encouraging for the people to answer the questions?
- 6. Are questions correctly answered? (some are not answered or their responses are difficult to interpret?)
- 7. Does some part of the questionnaire suggest biases from the researcher?
- 8. Are questions presented a logical order?
- 9. Are the instructions to complete the questionnaire clear?
- 10. The time spent in the completion of the questionnaire is appropriate according to the respondents' opinion?
- 11. The time spent in reading each question and the whole questionnaire ?
- 12. Was comprehensiveness of the questionnaire assessed, identifying the need to include additional questions to measure each variable under study?