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La Qualità e le Qualità in Medicina Generale

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Editorial

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It's time to think about final balance for the year 2002.
This 4th issue of QQ confirms the value of the formula we had in mind when we first started this newsletter. You will find a project regarding the assistance to a multi problematical and old patient at home that sees the GPs busy during these last years.
"Mistakes in practice happen more frequently when the patient changes from a doctor to another, for instance from the hospital to home care, or from a specialist to another" quotes the BMJ in the March 2000 editorial.
That is why "the caring process has to be explicit, flexible and the roles have to be interchangeable. The patient and his caregiver have to be involved" (Parisi: The Patient with Cancer in General Practice, Utet. 1999).
In home care, the doctor is not only the one to determine quality and good results.
The home setting is not standard or stable as the hospital, because there is several people involved, the integration is critical, the professionals and their backgrounds are different, and family and community are really important components.
The relationship between these elements is in a continuous modification and each variable can fail itself the whole assisting process (L.Mignoli, MD October 2002).
Often the success or the failure of a medical intervention is determined by the highly optimistic opinions of the patients, especially when we take into consideration the survey conducted by Angel Cartwright (Patients and their Doctors, London, Kegan Ed., 1997) on 1550 patients.

- 66% thinks that the doctor encountered remembers his name
- 44% considers the relationship with the physician more friendly than professional
- 28% thinks that he can discuss personal problems not concerning medical ones
- 75% argues that the doctor can explain him useful things for his own health

However, too realistically we have to know that only the 11% has a doctor that embodies the previous four characteristics.

The two articles about prescriptions and insulin therapy (the 6th survey of Netaudit in just two years) lead us to important themes that will eventually involve general medicine in the next future:
research of appropriateness and correctness to manage medical records, in terms of correct diseases classification.
Already in 1998-2002 the National Health Service Plan contemplated these goals: improvement of the effectiveness and appropriateness of the medical performance through three specific tools.
1. Accreditation for professionals and departments
2. Definition of caring basic levels
3. Development of clinical guidelines

However, Morosini and Perraro, among the most famous Italian experts in promoting total quality in health service, argues that the problem seems rather complex: "the job regards not only writing daily bureaucratic issues, but also to plan the caring process step by step both in the simple actions and in the big transformations" (Encyclopaedia of the Management of Quality in Public Health, Centro Scientifico Ed., Torino, 2001).
At this point we think that general practice needs fast decisions, flexibility, correctness, also in using simple semeiotics. We will read about this topic in the article on blood pression measurement written by Grassi and Del Zotti.

The authors and the editorial staff wish you Happy Holidays and hope that you will contribute with enthusiasm in the year to come.
In the fall we are organizing an EGPRW International Meeting on research in general practice that will be held in Verona from the 16th-19th of October 2003.
We warmly invite you to send us your articles, and to think about future research to present to the International World Congress WONCA that will be held in Firenze in August 2006.
As you know we are part of the Scientific Committee.

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Let's measure our Blood Pressure

Questionnaire given to 161 GPs in the Province of Rimini on the use of the sphygmomanometer in the office

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Introduction

From the analysis of the literature and the most recent guide-lines concerning the diagnosis, evaluation and treatment of hypertension, we noticed a certain lack of information regarding the problems concerning the practical criteria for measuring blood pressure. Considering the importance given to the levels of systolic and diastolic pressure as a cardiovascular risk factor, we thought it would be useful to verify the methods used to measure patient's blood pressure in a GP office.

The act of measuring BP is in fact one of the most frequent utilized by GPs (at times even abused of) but that in its performance simplicity, easiness and repeatability, on the other hand, needs a quality standard for its execution.
The **anonymous questionnaire** that is proposed, tries to evaluate how and how much some of the criteria described in the studies and reported in the guidelines are applied during current practice.
The **questionnaire** required some **simple news on the use of the sphygmomanometer**, on some techniques for its use and on its maintenance. The study's aim is to evaluate on-field, which means during the true daily practice of a GP, the use of a diagnostic instrument that has over a 100 years, yet still remains fundamental in the diagnosis and follow-up of hypertension.

The main objective, since this was an **anonymous questionnaire**, wasn't to classify good and bad GPs in the correct utilization of this instrument, but to evaluate if there are gaps between what you read in the studies or in the LG, and what is actually put into practice every day.
The questionnaires were handed out to the GPs belonging to the Local Health Authority in Rimini. **161 questionnaires** were filled out and returned, out of the **192 distributed during the mandatory refreshers course for GPs in the province of Rimini**.

Characteristics of the GPs that answered

78% of the GPs belonging to the Local Health Authority in Rimini are male, 40% in an age group from 46 to 50 years, only 20% are older than 50 years.

Almost 70% has a number of assisted patients greater than 1000 and one third has a maximum number consented. 40% is associated to group medicine.

Most of the GPs in Rimini are young, have a discrete number of choices and are strongly directed towards an associated professional form of practice.

What type of sphygmomanometer (should be used)?

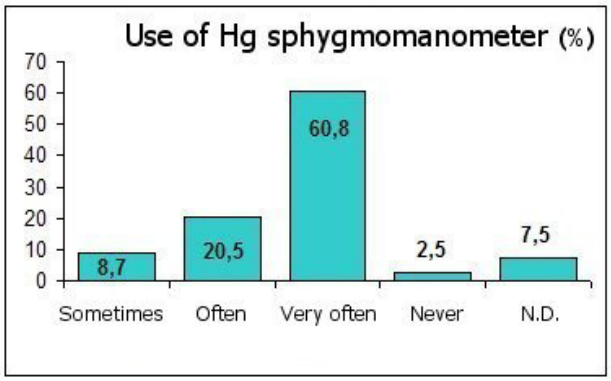
The first question that was asked wanted to verify **what type** of sphygmomanometer was generally used in office practice. The mercury sphygmomanometer was introduced in clinical use by the Italian Scipione Riva Rocci over 100 years ago (1896), nevertheless, the instrument and the techniques for its use remained substantially unvaried during the years. Aneroid sphygmomanometers are very popular (especially for home blood pressure monitoring) because cheaper, easier to handle, less bulky and much easier to use. Its routine use in an office should be discouraged because of the rapid deterioration of its monitoring accuracy, which can make you underestimate the pressure values. Its use, mostly reserved to monitoring during home visits, is possible if you keep it in good conditions and regularly

calibrate it, if compared to a mercury sphygmomanometer. Electronic sphygmomanometers are substituting aneroid sphygmomanometers for home self-monitoring, however there are too few reliability tests and most of the ones in commerce are not recommended by the Working Group on Blood Pressure Monitoring of the European Society of Hypertension, which validated the various typologies of the instruments. Concerning digital sphygmomanometers, expressly indicated for professional use, only 3 out of the six that are approved for this use, received the recommendation for use by the abovementioned commission (1).

The following three classic alternatives were proposed:
1. mercury sphygmomanometer,
2. aneroid
3. electronic.

Requiring to define how much it is utilized according to the following legend:
1. sometimes
2. often
3. very often
4. never

The mercury sphygmomanometer is utilised by 80% of the GPs (sum of the answers "often" and "very often"), while aneroid sphygmomanometers are utilised "often" and "very often" only by 28% of the GPs.



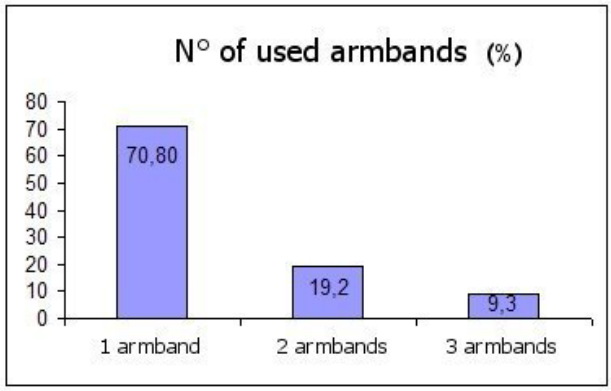
A routine use of an electronic sphygmomanometer is quite reduced, only an insignificant percentage of GPs (only 2%) utilise this device "often" and "very often".

As you can see, GPs mainly utilise mercury sphygmomanometers, which still represent the most reliable instruments for a correct blood pressure monitoring. **(2)**

Blood pressure monitoring: the correct use of arm cuffs

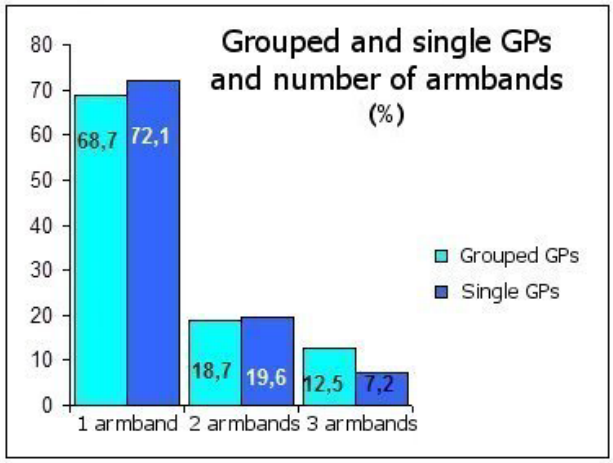
A short, tight, or both inner tube (altogether too small) is the cause of an over-estimation of blood pressure, while the contrary (too large inner tube) supplies a mistakenly low blood pressure. The use of arm cuffs having an inadequate size respect to the patient's arm, can be the cause of an excessive or faulty diagnosis of hypertension. The suggested width for the inner tube must be over 40% of the arm's circumference (3) and approximately 2/3rd of the distance between the arm pit and the antecubital fossa.

This basic norm for the correct use of a diagnostic instrument is widely disregarded by GPs, who utilize only one arm cuff for all patients. *Only 19% (31 GPs) uses at least 2 arm cuffs* and only 9% (15) uses 3 arm cuffs: besides the standard arm cuff, also the one for slim and obese people.

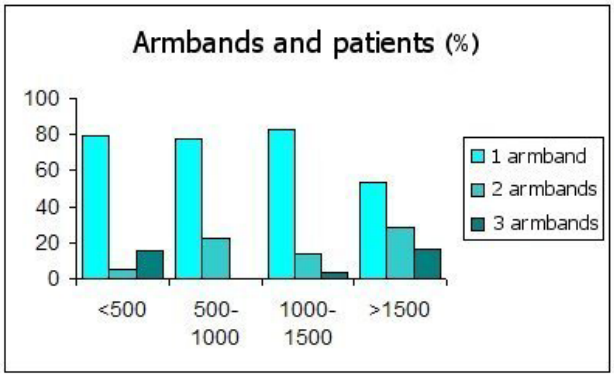


A further alarming element comes from the fact that *only 23 GPs - half of the 46 that possess more than 1arm cuff - have 2 different instruments:* ***this requires to substitute different arm cuffs*** on the same instrument; this substitutive manoeuvre makes you loose at least 1-2 minutes for each measurement for obese patients and therefore, may compromise the frequency of use of a different arm cuff for obese patients.

This is discouraging data in line with literature. As a matter of fact, according to a study (4), only 25% of the GPs possess a arm cuff for sphygmomanometers having a large diameter. We wanted to investigate on what the principal reasons are, which make GPs have an adequate number of arm cuffs for all needs. While logics would say we should have found a lager number of arm cuffs in group medicine, if truth be told, we noticed that this type of working organization doesn't favour a major number of arm cuffs.



This can be understood if you think that the sphygmomanometer is an instrument having a relatively low cost, used very frequently and therefore of personal property and therefore not having a promiscuous use. There is a positive correlation that is statistically significant (Total Chi² = 12.078064 |Chi| = 3.475351 (3 DF) P = 0.0071), between the number of assisted patients and number of arm cuffs possessed: almost half of the maximum limit GPs, owe 2 or more arm cuff, but the large number of physicians having from 1000 to 1500 patients is the group with less equipment: actually 82% owns only one arm cuff.



Which arm?

Which arm should be used to measure blood pressure remains a controversial subject. Some studies, but not all, have established a significant difference of blood pressure when measured contemporarily in both arms. (5) The main Guidelines does not give indications regarding this subject: the WHO and JNC VI suggest measuring blood pressure in both arms only in vasculopathic patients.

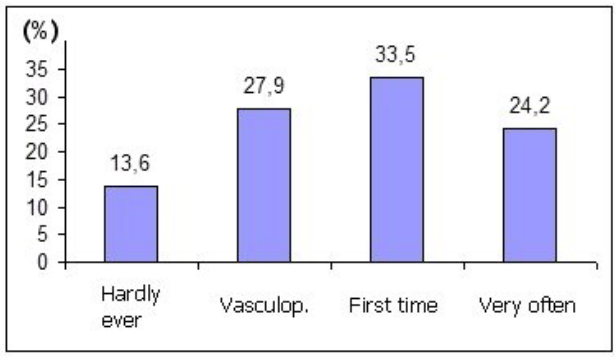
However, finding a blood pressure that is different in the two arms superior to 10 mmHg, is relatively frequent also in patients who do not suffer from hypertension. This actually could bring out quite a few problems when it's necessary to define if a patient has high blood pressure or not.

A reasonable policy for measuring blood pressure is therefore to measure the pressure in both arms during the patient's first visit and signal in his clinical record the predominating arm if the difference is greater than 10 mm Hg (6).

On the basis of these considerations, we asked the GPs how they usually behave when in front of this possibility, by asking the following question:

Do you measure blood pressure in both arms?

1. almost never
2. only when there is a suspect of vasculopathic patient
3. the first time I visit the patient
4. very often



From the answers we retrieved, it seems as though measuring blood pressure in both arms is a quite widespread practice; nevertheless, considering the relative carelessness in the use of appropriate arm cuffs, the declared widespread use of measuring blood pressure in both arms, requires further and more objective verifications.

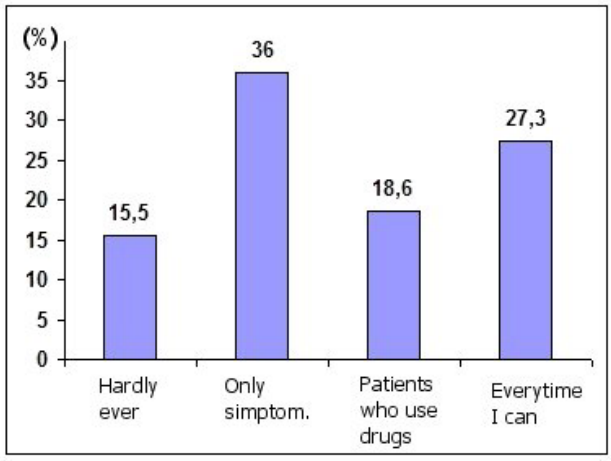
In which position?

Blood pressure is usually measured when the is sitting (position that is similar to the laying down position (7)); on the other hand, there are conditions and drugs that can produce a postural hypotension. When you have these conditions, it is opportune to measure blood pressure both laying down and standing up. (8)

In order to verify the adhesion to this recommendation we asked the following question:

Do you measure blood pressure in elderly patients in the two positions (sitting/standing)?

1. almost never
2. only in those who have symptoms
3. in those who use drugs that induce orthostatic hypotension
4. every time I can



Even in this case, GPs seemed quite sensible to the different clinical situations in which it seems appropriate to measure blood pressure in two positions to reveal an orthostatic hypotension.

The answers supplied were not easily interpretable because the most pressing indication that is indicated by literature (8) is collected only by 18% of the GPs.
In general, the two points regarding the two arm measurements in sitting and standing positions, supply insufficient data to evaluate how GPs apply these techniques, where anyways there are no univocal and coherent indications in the different guidelines.

Maintanence

Another critical point regarding the correct use of the Sphygmomanometer, is its maintenance. The mercury sphygmomanometer must always be handled with care, in particular, the instrument must not be shook or jolted in order not to damage it. You must also carry out regular controls in order to make sure that all the connection points of the single pieces are tight and do not loose pressure. In particular, you must make sure there are no mercury leaks from the container or from the glass rod. The aneroid sphygmomanometer is less reliable and needs, besides a regular maintenance, also a periodical calibration.

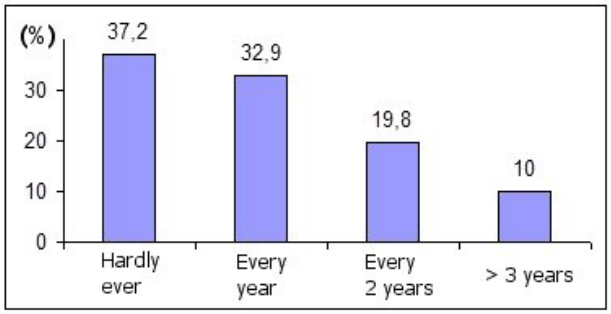
In reference to these problems, the following questions were asked:

Do you carry out maintenance or periodically check the device?

1. almost never
2. approximately once a year
3. approximately once every 2 years
4. approximately once every 3 years or more

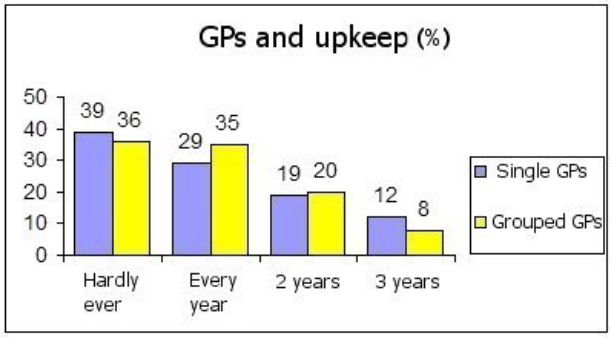
If you carry out maintenance, how do you do it?

1. alone
2. I hand it in to a technician
3. I do not carry out maintenance, I change the instrument



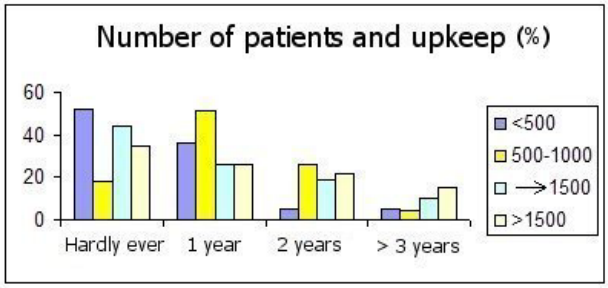
More than one third of the GPs "almost never" carry out maintenance, one third every 2 or more years, and only one third verifies its functionality and state every year.

Aside from this discouraging data, the analysis that was carried out to verify if group medicine, as one would expect, encourages instrument maintenance, since the devices may be used in common, was interesting. In this case, belonging to group medicine does not increase the practice of a regular maintenance of the instruments, single GPs carry out maintenance procedures more often than those who are associated.



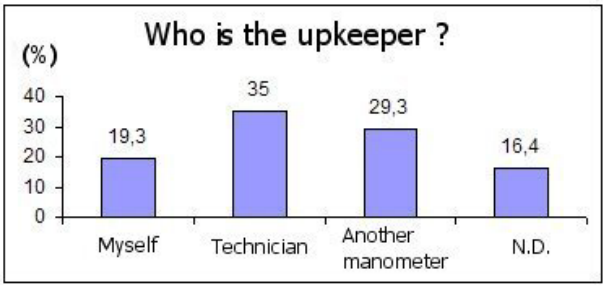
The factors that increase the maintenance rate of the devices are the number of patients and the number of arm cuffs owned.

GPs with many patients are the ones who carry out maintenance procedures more often, and also the ones the use more arm cuffs, tend to more frequent maintenance procedures. As a matter of fact, as already observed, GPs with many patients are more equipped and therefore, it's reasonable to suppose that the GPs that carry out most maintenance procedures are those with maximum number of patients and with more arm cuffs. Counterbalancing these GPs that are very careful to blood pressure monitoring techniques (use correct arm cuffs, measure blood pressure in two arms, in sitting and standing position, carry out regular yearly maintenance), is a hard core of 15-18% GPs that do not follow any of these correct procedures.



Who carries out the maintenance procedures

The GPs, who have filled in the "free field" stating that they carry out maintenance on their own, were asked to explain briefly which tricks they use.



According to the majority of the 22 GPs that answered, the replacement of worn-out parts and the comparison with new appliances, or with appliances considered reliable, are the measures to be taken to keep the appliance in perfect conditions.
Just 2 of them said they use the correct procedure, they calibrate the appliances connecting them in parallel and checking that the pressure in the system is the same.

Discussion

The act of measuring blood pressure is one of the procedures, which are most frequently carried out by all GPs, but even if its execution is simple, easy and repeatable it needs quality standards for the instruments and for the execution itself. Some critical points concern the kind of sphygmomanometer, the arm cuff's suitability in relation with the arm's circumference, the measurement at the two arms to check possible remarkable differences – already inspected by us in 2001 (9) – the measurement sitting and standing to discover orthostatic hypotension and eventually an adequate maintenance and a regular calibration of the instrument.

The research carried out has pointed out an inadequate attention to the instruments' suitability (just a few GPs use arm cuffs adequate to the arm's dimensions) and to the maintenance, while the GPs seem to be paying more attention to some procedures recommended by the guidelines (measurement on both the arms sitting/standing in particular clinical conditions). The fact that group medicine practice is very common, offers an excellent opportunity for centralizing the purchase and the maintenance of the appliances, even if it is not fully followed yet.

Eventually, since a correct blood pressure measurement needs also (and above all) the use of adequate instruments (well-working appliances, equipped with the necessary accessories), we think that the points arising from the results of our research should be taken into more consideration and emphasised in recommendations the guidelines drawn up by the International Organizations (WHO) or by the Cultural institutions of General Medicine.

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How to assess the suitability of drug prescriptions

A project draft for the physicians of Group n. 2 of District n. 2 ULSS 20

Dr. Alessandro Battaggia - SIMG Verona

Introduction

This method had already been partly experimented, first during a study, and then was carried out in 1996 at the ULSS 20, in cooperation with a group of family practitioners (Dr. Barbalaco, Dr. Bruni, Dr. Corsato, Dr. Dal Cortivo, Dr. De Vito, Dr. Rigon, Dr. Sfragara, Dr. Simonazzi, Dr. Volpi) (1).

During this experiment, a medical audit had revealed a rate of unsuitable prescriptions of antisecretion drugs equal to 53.4% of the volume of prescription of these molecules for the whole group. Further training of the practitioners involved enabled them later on to optimize their expenses, allowing savings equal to 30.9% of basic costs. In August 2002, this methodology was proposed by the authors to the Local Health Authority (ULSS 20-Verona) as technical aid for a corporate project aiming to control drug costs.

Project aims

1. to identify the areas of prescription unsuitability
2. to correct prescription unsuitability through training
3. to identify the uncontrollable or hardly controllable causes of inappropriate expenditures by the family practitioner

Methodology: general aspects

a. Identification of the patients undergoing treatment: it is important to identify, besides "who prescribes the drug" and "what type of drug is prescribed", "who receives the prescription" and "for what reason the prescription is given". Only by connecting a diagnosis to a therapy it is possible to assess the suitability of the prescription. This assessment must also be extended to the prescription requested.
b. In a professional environment such as that of the ULSS 20, which includes within the range its own territory one of the two hospital institutions of the Veneto region (which gives patients easy access to diagnostic-therapeutic procedures characterized by the use of high-standard technologies), the pressure put by specialists on general practitioners is actually considerable (2). And, on the other hand, it is unthinkable that the general practitioner can be the only one responsible for the unsuitability of prescriptions (3). A corporate project should therefore also be designed keeping these observations in mind.

Some practical remarks

In order to determine the suitability of a prescription, the checklist shown on the chart can be suggested. In order to make things easy, every item is considered to have exactly the same weight. The use of the checklist allows determining the level of suitability of every single prescription and allows analyzing the single causes of prescription unsuitability in a comprehensive manner. The choice of a reference guideline will be done – based on the available documentation – using the three quality items of Grilli and Liberati (5) and, in case of equal scores, the guideline considered more suitable for the local setting will be chosen. The cost reduction analysis will be carried out by the group – once the cost-generating molecules have been identified – who will choose, among the molecules, the least costly drugs offering the same level of efficiency. The efficiency will have to be supported by a documentation of sufficient quality.

How to identify patients to whom drugs have been prescribed

For every single general practitioner of group n. 2 of District n. 2, the ULSS 20 information system will have to identify: a) the first five molecules generating pharmaceutical costs - b) the names of the patients to whom they have been prescribed to. The reference period is the year 2001. In the experiment mentioned above (1), no difficulties were encountered regarding the CED of the ULSS 20.

How to identify the diagnosis justifying the prescription

It is the duty of the single physicians. A printout is provided to every physician and it contains the names of the patients to whom the drugs mentioned previously have been prescribed. For every single patient, every general practitioner identifies: a) the main diagnosis justifying the prescription b) the secondary diagnosis justifying the prescription c) the source of the prescription (autonomous / requested) d) the possible mismatch between the prescription and the five suitability criteria (chart). Such a methodology, tested during the experiment mentioned under point (1), was used in entries a) and b) by the ULSS of Tiene (Vicenza) in order to create a global budget for every pathology (4).

Analysis of the basic performance of the physicians taking part in the project

By means of this audit procedure the basic performance level of a) every single physician b) of the entire group will be identified. This analysis will be able to define important aspects of the drug prescriptions released on our territory. The analysis of the data will allow identifying which elements of prescription suitability have been neglected. The percentage of unsuitable prescriptions requested by specialists will give a hint of the more focused interventions to be programmed for the next budget experiments.
During these procedures, the coordinator as will guarantee the privacy of every physician during the experiment mentioned under point (1).

The intervention phase

Once the critical areas of prescription unsuitability have been identified and the unsuitability items have been analyzed, training will be organized in cooperation with the Scientific Societies with the aim to correct inappropriate conducts. At the end of the training period (one year), an analysis of prescription suitability will be carried out again and the same benchmarks will be used to measure the base line. This will allow a control of the project feasibility and a control of the results obtained.

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Practice guidelines developed by specialty societies: the need for a critical appraisal
Lancet 2000355 9198 103-6

Chart
MOLECULE NUMBER..

Patients treated	**Diseases** justifying the treatment		**Autonomous** or requested prescription		**Suitability criteria NOT met**				
					diagnosis	**Health ministry** indications	**Law: CUF** Notes	**scientific** evidence	**cost/efficiency** ratio
	Diagnosis 1	Diagnosis 2	**A**	**R**					
Patient 1									
Patient 2									
Patient 3									
…									

The integrated home health assistance and protected discharge project in the ASL 17: theoretical premises and organizational principles

Dr. Stefano Ivis - GP
Dr. Luca Rossetto - GP

FOREWORD

The arrangement of an adequate system of home assistance to multi-problematic chronic patients represents a perfect example of what is meant by *suitability* in the health service organization.
In fact, if the IHHA is correctly applied and carried out, not only does it represent a necessary organizational adaptation to the restructuring of the hospital network, but it also provides the best assistance for some types of patients.
The assistance and therapeutic benefits deriving from home treatment and the detrimental effects of improper hospitalization are now widely acknowledged by all those who are involved in the treatment of frail patients.
Nevertheless, in this transitional phase, there is the obvious, widespread need for clarity as well as cultural and organizational uniformity.
In short, we have felt the need to create some tools of linguistic and organizational instruments that can meet the specific needs of the frail patient's treatment at home.
Almost everywhere, it is the very professionals involved who have started to put forward projects and requests for organization based both on the limitations they have observed and on the positive experience they have acquired.

THE DEMOGRAPHIC SOCIAL SANITARY SITUATION IN THE VENETO REGION HEALTH AUTHORITY 17

The Health Authority 17, which operates in the southern part of the province of Padua is characterized by low population density (178,665 inhabitants in an area of 887.9 square kilometres, that is 201 inhabitants per square kilometre). There are 46 municipal districts in total, the most densely populated numbering17,575 inhabitants, while 39 districts have less than 5,000 inhabitants.
In many districts a percentage of the population living in scattered housing ranges from 30 to 40%.
The road system is particularly poor and clearly insufficient for the existing socio-economical situation.
The percentage of people over sixty-five stabilizes at 19.2% and the old age index is 147.3%.

Both data show a clear increase when compared with the 1995 readings and are by far the highest in the province.
The network of health services directly supplied by the Health Authority, at present under reorganization, is made up of 4 hospitals and 2 Districts, which are subdivided into 2 sub-districts.

THE ASL 17 IHHA PROJECT

In the ASL 17, on request by the Health Council, a work group made up of different professionals (Doctors and Professional District Nurses from the region and the Hospital), drew up a proposal for the organization of IHHA and Protected Discharge which was adopted by the health authority management and has been in operation since April, 4th 2002.
The operating protocol is based on the following preliminary definitions:

1. **Description and characterization of eligible patients**
2. **Description and characterization of the main organizational criteria and instruments**
3. **Strategy of project**

1. Starting from the well-known difficulty of defining the characteristics and necessary support for an IHHA patient, the work group formulated a concept that could substantially portray the problems posed by serious home assisted patients. To provide such a representation the concept of **frailty** was adopted.
The concept of **frailty**, which has been the object of dozens of written definitions, refers to a **situation of high-risk clinical instability** (with probable hospitalization ensuing), whose decisive factors are:

a. **The seriousness of the pathology or the pathologies**
b. **Multi-pathology**
c. **Pharmacological multi-therapy**
d. **Autonomy reduction**
e. **Socio-family support level**

It should be noted that the clinical diagnosis and its seriousness is only one of the elements on which the evaluation of IHHA/Protected Discharge eligibility is based.
The experience gathered so far has highlighted out beyond all doubt that any assistance plan which does not analyze and take into consideration all the possible factors which may result in frailty, is bound to fail.

2. As regards organization, we have worked out instruments and methods of work that meet the assistance needs of multi-problematic frail patients.
Some of the choices were methodological while others concerned organization.
As for methodology we have considered it necessary to use the following approach:

a. **Approach based on assistance problems**
b. **Trans-disciplinary approach to the patient's assessment, in the drawing up and in the carrying out of the assistance plan (team work)**

3. Strategy of project: Concerning, more specifically, organization, we believe the following aspects to be crucial in order to meet the needs of frail patients:

a. Therapeutic alliance with the patient's family: sharing the goals of assistance (no serious patient's home treatment is possible if the goals of assistance are not mutual!) is the core and the prerequisite in order to optimize the assistance work provided by the family. It goes without saying that the family must make an informed decision.
b. Continuity of treatment based on:

- **Personalization of clinical and nursing referral**: the GP chosen by the patient and the nurse in charge of the case, who have taken part in drawing up the plan and setting its goals, and who know and are familiar with the patient and his/her family, can guarantee both appropriate and "sensible" assistance which can hardly be expected from extemporaneous interventions.
- **Easy accessibility to the service**: in order to protect the patient's rights and increase the family's awareness of them, specific easy accessibility standards are set.

Still looking at organization, another one of the aspects that in our opinion highly characterizes our project has been to rely on specialistic contributions supplied mainly through **Hospital Operating Units**, which provide a support made up of expertise, structures, and fast tracks (even regarding transport) to GPs and to home Professional Nurses who deal with IHHA patients.
The modes of collaboration between these two professional elements have been the subject of accurate definition.
Essentially, we have considered that both intercurrent situations and planned procedures can be more successfully managed by means of a fast track to a set of specialistic services rather than by the mere presence of a specialist at the patient's home.

EARLY EXECUTIVE STAGES

In March and April an educational course was started, addressed to all the professionals involved: in its early phase, about 200 operators including district and hospital doctors and nurses took part in it.
The project was included in the health authority agreement with GPs and gained the support of more than 95%.
A multi-disciplinary group of facilitation, support and monitoring has been set up.
The main result indicators - for which a scale of incentives has been fixed among the professions involved

- have been identified in the hospitalization rate trends and in passive mobility.

CONCLUSIONS
We are convinced that our home assistance project (whose operating version has been handed out to all the employees at the health authority Asl 17, and contains the **detailed definition of the implementation of the above-mentioned principles**) has highlighted some aspects of **multi-problematic frail patient home assistance**, and has probably provided a first set of solutions.
Obviously, the suitability of such solutions will be tested in the next months

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Insulin therapy and GP: a difficult but possible marriage

Claudio Carosino (PR), **Francesco Del Zotti** (VR), **Italo Paolini** (AP), **Andrea Savino** (SA), **Paolo Tonello** (VC) and **Netaudit list** (www.netaudit.cjb.net)

The management of diabetes, a major disease in continuous expansion, will play a key role for GPs. It is therefore likely that the single GP will face the following dilemma more and more often throughout his professional career: to treat an increasing number of cases of diabetes II with insulin or to delegate these cases to Anti-Diabetes Centres (ADC), which may be geographically located far from the local neighbourhood or culturally distant from the *Primary Care* logic. A dilemma which, following the collection of pieces of scientific evidence concerning the influence of appropriate diabetes treatment for the prevention of complications (Klein, 1994) and survival (UKPDS, 1998), becomes more serious.
In the meantime, we feel that there are few GPs who undertake on their own an insulin therapy, hindered by various reasons (cognitive, emotional, behavioural, logistical, economic).
Last but not least, the imminent launch on the market of an insulin spray stimulates us to get better acquainted with this important anti-diabetic therapy (insulin therapy) and to practice much more often in selected cases.

Our audit survey mostly aimed to assess in an objective manner the involvement level of GPs in the management of insulin therapy and, in particular, the recording quality of some "crucial" data:

a) estimate of the number of diabetic patients mainly treated by us GPs, on the total number of diabetic patients of type II diabetes;
b) presence of clear indications of pre-therapy insulin;
c) BMI calculation;
d) survey of glycated haemoglobin
e) daily administration frequency
f) possible combinations with oral anti-diabetics
g) hospitalisations and major forms of hypoglycaemia or hypoglycaemic coma
h) the more important question may be the one regarding the person or institution responsible for treating the case (ADC or GP?)
i) last but not least, a question regarding the level of appreciation by GPs on the overall quality of the treatments provided to the patient

Audit standards
Given the likely scarce experience of GPs with insulin therapy, we set a minimum quality standard: 25% of the patients with diabetes II to be treated with insulin must be managed by the GP.

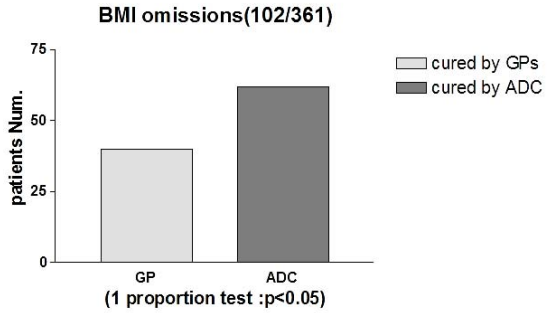
Results

A) Participating GPs
43 GPs participated in the study, of which 27 in the North and 16 in the Centre-South, who assist **361** type-II diabetic **patients** treated with insulin, on a total of 59,499 patients for an average of 1383 patients per GP.
The GP's office is located less than 20 minutes away (by the common means of transportation), for 20 GPs (46.5%), and from 20 to 40 minutes away for 16 GPs (37.2%).
Every GP treats an average of 8,4 type-II insulin diabetic patients. The overall prevalence rate of patients taking insulin among these practitioners is 6.34 for every 1,000 patients treated, with a 95% level of sample precision ranging from 5.98 to 6.70.

B) Type-II insulin diabetic patients
B1) **Age and sex**: when it comes to patients undergoing treatment, 252 (69.8%) are females and 77.6% are over 60.
B2**) Clear insulin indications**: in 286 cases (79.2%), insulin indications were on file in the months preceding the beginning of the therapy; in 31 patients (19%), the GP was not able to find clear signs of insulin indication; only in 6 cases (1.7%), the GPs mentioned clear signs of "NON indication".
B3) **BMI.** The most worrying fact of this Netaudit is the very frequent lack of BMI in the GP's files: 102/361, equal to 28% (sample precision range from 28% to 33%), considerably below the optimum standard for this type of data (at least 90%).
On the total number of missing BMIs (102), we notice a higher number of missing data for those patients treated

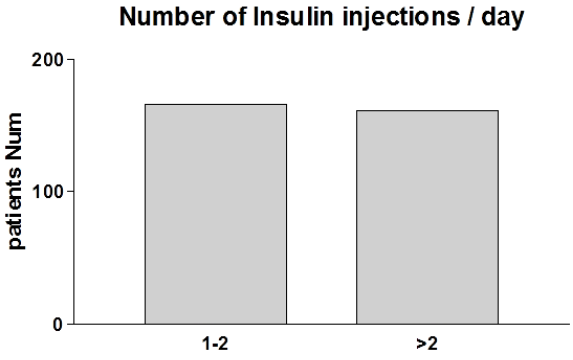
by the ADC (62), respect to the BMI data of patients treated by the GP (40). (Test using 1 ratio: p=0,03 with precision range from 50.6% to 70%, about 60% for those treated by the ADC. See **Figure 1**)

Figure 1



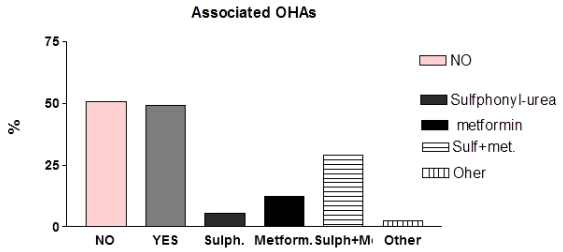
B4) **Glycated Hemoglobin** : The request for this last test was met in 144 cases (39,9%) at least three months before and in 289 cases (80.1%) within the last year.
B5) **Number of daily administrations** (**Figure 2**): more than half of the patients (202/361) take 1-2 insulin doses, a posology that can be managed by the GP. The GP takes care of 68% of patients with less than 3 doses, 83/131 (63.3%); but also the majority of the patients treated by the ADC, 119/230 (51.7%) take less than 3 doses.

Figure 2



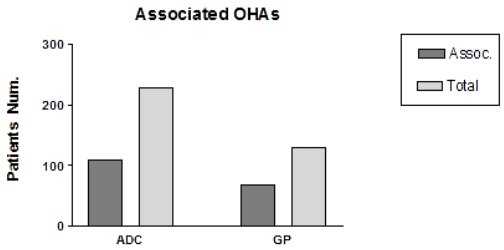
B6) **Combinations with oral anti-diabetics**: in this case there is a small surprise: more than half of the patients treated with insulin take a combination of oral anti-diabetics (177/361; the various types of combinations can be seen in **Figure 3**).

Figure 3



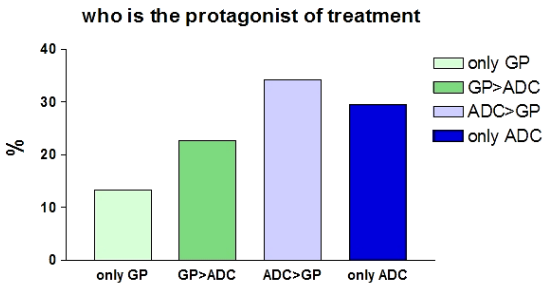
And in general, as you can see in **Figure 4**, the presence of the combinations does not change significantly in the 2 groups: it concerns about half of the patients treated by the GPs (68/130; 52.3%) and half of those treated by the ADC (109/231; 47.2).

Figure 4



B7) **HYPOGLYCAEMIA**: the cases of hospitalisation due to serious forms of hypoglycaemia or due to hypoglycaemic coma were limited to 34 (9.4%).
B8) **Who administers the treatment** (Figure 5): in 34.2% of the cases, the treatment was administered by GPs, only or mostly by the GPs. More details as follows: a) only the GP manages 48 cases (13.4%); the GP manages 82 patients (22.8%) mostly on his or her own but in cooperation with the ADC; c) only the ADC manages 123 cases (34.3%); the ADC manages 106 cases (29.5%) mostly on its own or in cooperation with the GP.

Figure 5



B9) **Overall aid quality**: the judgement on the overall aid quality provided to these 361 cases is "*fairly or very satisfactory*" only for 50% of the cases. More details as follows: "*Very satisfactory*": 28 (7.8%); "*Fairly satisfactory*": 152 (42.2%); "*Partly satisfactory*": 122 (33.9%); "*Unsatisfactory*" 58 (16.1%).
Satisfaction ("fairly" or "very" satisfactory) regarding quality is significantly higher when the treatment is administered by the GP (82/130 for the cases managed by the GP; 97/231 for the ADC; $p<0.0002$ with a precision range of the difference from 10% to 31%).

CONCLUSIONS

We had established the following objective: to check that our type-II insulin diabetic patients were treated by the GP in at least 25% of the cases. This objective may seem low to many, but we have to consider it in the Italian context. Italy is one of the few European countries where the GP is not assisted in the office by nurses. Whereas in countries where "primary care" assistance to diabetic patients is well developed, it is up to the paramedic personal to guarantee high standards of nutritional education and self-glucose counts with diagnostic "sticks", which are all factors necessary for dealing with patients to be treated with insulin. Looking back at the results, we could be almost satisfied if we summed up two entries ("GP only"; "mostly GP"): 36.2%. But the majority of the GPs who participated in the audit considered more important to stress the "GP only" entry and in this case the result is below the standard: 13.4%. For this reason, we decided it was useful to launch a second phase of the audit by creating the "Netinsu-II" on-line mailing list, in order to see if we could reach at least 25% within a year. We think that this goal is realistic given the various results of this audit: most of the same patients followed by the ADC are undergoing a relatively simple therapy (many patients are undergoing therapy with a maximum of two doses per day, which are combined with oral anti-diabetics. This explains in great part the scarce presence of hypoglycaemia complications). The need for change is even greater in light of some worrying signs which we noticed during our study. The result regarding the numerous missing BMIs – and mostly among patients sent to the ADC – and the data concerning the satisfaction of the GP with respect to the quality of the treatment (also in this case lower among the patients sent to the ADC) make us understand that sending patients to the ADC not only means loosing the ability to administrate insulin-based drug first-hand, but also often implies the risk of seeing a reduction of the overall quality of the medical record and the aid.
For the next phase of the audit, we would like to discuss the use of handy on-line training tools among the members of the netaudit and we would also like to launch some pilot initiatives of cooperation of the public district physicians or the district nurses with GPs in "group medicine" or with single handed GPs, for a more carefully planned and efficient insulin therapy within the "primary care" environment, using a restricted group, but not too small, of more problematic diabetic patients.

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