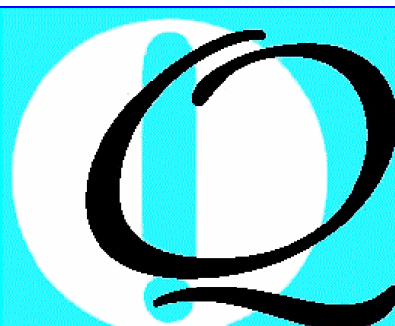


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**La Qualità e le Qualità  
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## Editorial

**Mario Baruchello**

Who are Dr. Phil Reid, Dr. Lugaria, Dr. Fernandez, Dr. Sharma, Dr. Butt, Dr. Aloizos, Dr. Cooper, and Dr. Ross?

You are going to find their names in the page dedicated to the Global Doctor of the Month ([www.globalfamilydoctor.com](http://www.globalfamilydoctor.com)),

among the colleagues that have been appointed by other GPs for their outstanding job in promoting general practice as a discipline or for their commitment in the professional life, devoted to the exercise of medicine as art, science and humanity.

It is now time in Italy as well, dear friends and readers of QQ, to propose a citation for an Italian colleague (and I know quite a few of them) in order to give him a prize for this purpose. We are ready to collect the contributions that each of you will give us.

Italian general practice is mature enough to gather success in this regard, however it still has to struggle in order to be considered and recognized as autonomous scientific discipline and have an academic dignity with its own independent role inside the Italian university.

The institutional recognition of the Italian State to general practice proceeds too slowly, with continuous normative amendments. Unfortunately this causes an uncertainty in the building of an articulate system design

and an incapability of the job to do an efficient lobbying.

Two conventions next year will discuss about these important themes: the first one on October 1<sup>st</sup>, 2005 in Rome, at the Hotel "Parco dei Pini", there will be a meeting of the scientific committee of Wonca 2006. The second one will be held in Treviso on November 26<sup>th</sup> 2005, where the Venetian GPs will talk about the topic and their experience and confront themselves with the European colleagues.

A further explanation of data retrieval comes from the article "The demographic pyramids", and it makes us think about the data concerning our patients community.

From this activity the reader can understand the specific setting in which we operate: the epidemiological correlations with the prescriptive phenomena, the organizational model. We are sure that many readers will be inspired by such an interesting article.

"NetAlt" offers the first conclusions on a Netaudit-project conducted on 58124 patients among 40 colleagues that are involved in a research on the topic of vaccine prevention of hepatitis in a selected population of patients. Some questions are: How do we handle the situation if we find **transaminases** alteration? Do we register in a correct way the diagnosis? Do we monitor properly the health of this sub category of patients?

The burden of our job is not only great numbers: even the doctor's

bag that we carry around daily gives us a chance to look inside our job with a different perspective (photo from Dr. Ceriani).

1	<i>Editorial</i>
2	<i>Audit and epidemiology exercises: the demographic pyramid in GP</i>
4	<i>Raised transaminases in General Practice: Experience of 40 Italian GPs</i>
6	<i>The "weight" of the Profession - Questionnaire on the medical bag among the General Practitioners in the Province of Verona</i>

We should think that in the complexity of daily home care it's not enough to have good communication and great relational/empathic competence; we need also a good practical "logistics"



## Audit and epidemiology exercises: the demographic pyramid in General Practice

**Franco Del Zotti** (Verona), **Enzo Brizio** (Cuneo), **Cosimo De Mola** (Bari), **Domenico Fatigati** (Napoli), **Piero Quattrocchi** (Pavia), **Paolo Schianchi** (Parma)

### Target

To demonstrate that any GP can build his/her own demographic Pyramid of the population of his/her patients, with a step-by-step procedure and by utilizing free or low-cost IT instruments.

### Motivations

There is an analogy between the picture of a patient and the demographic Pyramid, the "picture" of our community. However while our memory is cluttered with the recollections of the faces of countless patients, most of the times the GP does not have even one picture of the demographic pyramid of the population of our patients. Well, we believe that in a country such as Italy, where the GPs are paid on the basis of the List of their patients, there is the opportunity for the GP to use instruments that enable him/her to recognize not only the problems of the ones that come often into his/her office, but also to glimpse those of the entire population of his/her patients. At this point a question arises: is every GP able to build his/her own demographic Pyramid with IT instruments that are not complex and free or low-cost?

### Method and results

The coordinators of the **Netaudit Mailing-List** have been asked to follow a step-by-step procedure with Epi-info 6 (a freeware software by CDC, Atlanta) and with Excel (a software that is included in the

Microsoft Office pack that comes with every newly purchased PC), to build the pyramid of their patients.

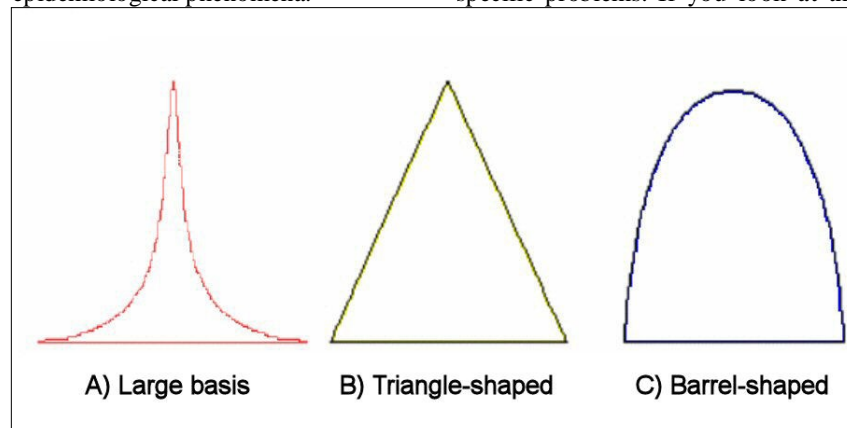
A total of 6 colleagues have agreed to, of which 4 in North-Central Italy and two in Southern Italy.

2 GPs have followed the procedure both with their own software and with Epi-info. In Appendix 2 we describe the procedure used with the Epi-info 6 freeware software by CDC, Atlanta; furthermore we supply the instructions to create a graphic of the Pyramid by using Excel.

By reading the modalities of construction and interpretation of the demographic pyramid (**Appendix 1** and **Picture 1**) and from the comparative analysis of the 6 pyramids each GPs may realize some differences which are local-regional and individual among GPs. We may conclude that the telematic diffusion of step-by-step procedures for Epi-info and Excel makes realistic an ever-greater utilization of the demographic Pyramids, for a better management of the quality of our database and for the graphic representation of important epidemiological phenomena.

horizontal bar is proportional to the number of males and females in that age group. The progression of the age groups is represented bottom to top (the children on the bottom, the old people on the top). The demographic pyramids supply at a glance precious information on the natality and mortality rates, on the immigration/emigration rates of the various populations in different geographical environments. Picture 1 represents populations with different characteristics: the A Pyramid with a broad base and a pointed top is typical of populations with high natality, high mortality and a low growth rate; the B pyramid, triangle-shaped, is characterized by high natality, low mortality and a high growth rate; the C pyramid, barrel-shaped has low natality, low mortality and a low growth rates, and it is typical of western nations.

In GP this instrument may supply each GP a precious method not only to understand the general problems mentioned above, but also to identify specific problems. If you look at the



### APPENDIX 1

1. what are and how to build demographic pyramids
2. what use are the demographic pyramids in GP?

The demographic pyramid is a diagram formed by 2 side-by-side bar charts, one for each sex. Conventionally the male diagram is put to the left of the female one. The height and length of each

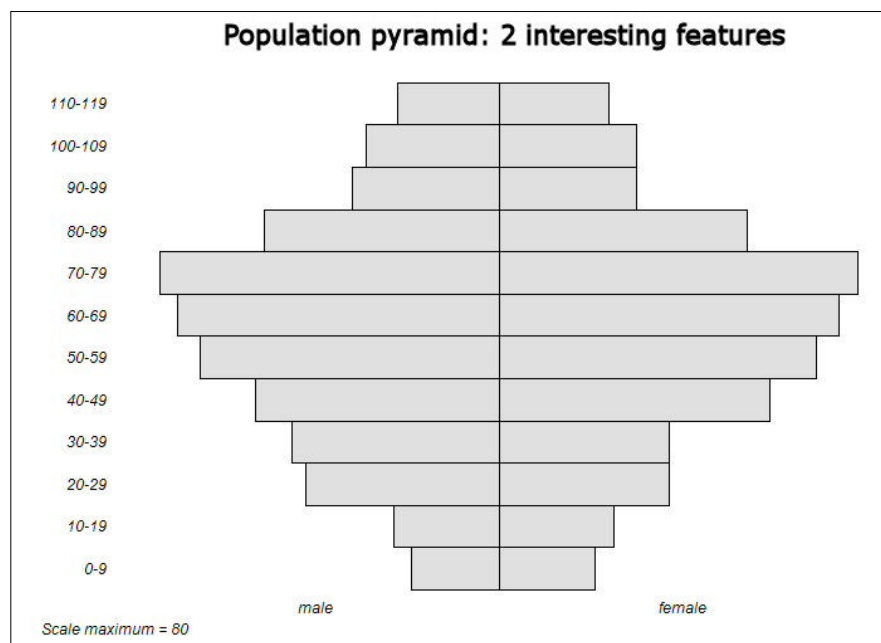
demographic Pyramid of Dr. John Ferrari (**Picture 2**) you should note two problems. Which ones?

The first problem is about the 20-39 age groups, where there is an asymmetry in favor of the males. In the population looked after by this doctor is there an immigration factor, generally restricted to young males? The second problem is linked to the extraordinary "survival" of a few patients over the age of 100. In fact,

since we know well our work, we can give a more realistic explanation: Dr. John Ferrari is not

of one's patients with the age field ("Età") in years and sex ("Sesso"). If you want you can run a trial, by

of the number; in the third one type in the number of females for each age group



able to update on his PC the personal database of his patients; he cannot find the time to cancel the deceased ones! If Dr. John Ferrari would use more often the Pyramid he could easily recognize this problem and even fix it. Furthermore, the Pyramids may apply to selected "populations" of patients suffering from single and specific illnesses and so give us precious information on their distribution by sex and age-group, which are very useful to understand their impact, and for their management, from prevention to therapy.

## APPENDIX 2

### How to Build a Pyramid with Epi-info 6

- Create a folder on C disk, and call it "piramide"
- Download the ANALYSIS software (about 350 KB) from the address <http://www.netaudit.org.piramide/ANALYSIS.EXE>; if it does not work then use the link <http://www.epidata.dk/downloads/analysis.zip> and save it in the "piramide" folder you just created
- Starting from one's own PC folders save with a DBF extension the files

downloading the DEMO file of demo-patients with age/sex fields from the site:

[http://www.netaudit.org/demo\\_paz.dbf](http://www.netaudit.org/demo_paz.dbf) and save it in the "piramide" folder

#### - Procedure for the female sex (after each line press ENTER)

```
READ C:\piramide\*. * (choose file demo.dbf)
```

```
SELECT SESSO="F"
```

```
DEFINE classeta STRING WIDTH=10  
RECODE eta to classeta by 5
```

```
FREQ classeta
```

#### - Procedure for the Male sex (after each line press ENTER)

```
READ C:\piramide\*. *
```

```
SELECT SESSO="M"
```

```
DEFINE classeta STRING WIDTH=10  
RECODE eta to classeta by 5
```

```
FREQ classeta
```

**How to Create a Pyramid with MS EXCEL** (utilize the data, combined by age groups for the 2 sexes, extracted by the previous training with Epi-info). See also Stauffer, 1999.

- Insert an excel sheet with three columns: in the first one type in the age groups; in the second one type in the number of males for each age group, with a "minus" sign in front

- Select all three columns
- Go to the "Insert" drop-down menu, click on "Chart" and then, in the new window, click on "Bar"
- Choose the first Chart sub-type (of the Standard Types) then click on "Finish"

- With the right button of the mouse click on the list of the age groups (which is half-hidden by the left hand bars) and choose "Format axis" and then "Patterns". Select both for "Major tick mark type" and for "Minor tick mark type" the option "None". Select for "Tick mark labels" the option "Low", then press "OK"

- Select with the right hand button of the mouse each of the two series of bars and choose "Format data series". Click on the "Options" label and set the value "Overlap" to 100 and the value "Gap width" to 0 (zero).

- Select with the right hand button of the mouse the X axis and choose "Format axis". Click on the "Number" label and select "Custom". In the "Type" box you should see "Standard". Substitute the word "Standard" with 0;0 (two zeroes separated by a semicolon) and press OK

- Select with the right hand button of the mouse any one of the series of colored bars and choose "Source Data". click on the "Series" label and type in the box "Name" of each series its relevant name ("Males" and "Females"), then press OK

- If the legend is not visible, click with the right hand button of the mouse on the chart (outside the bar areas) and from the drop down menu choose "Chart Options", click on the "Legend" label and tick the box "Show legend" and position it where you like by choosing the appropriate "Placement" option, then press OK

- Give the finishing touches to the chart by choosing the fonts and colors you like.

## Bibliography

Del Zotti F, Brizio E, Franchini CA, Galassi S, Tarallo N, Lista Netaudit: Quality of our archive of computerized files - QQ Italian edition, March 2004  
Stauffer Cheryl. Building Pyramids, *Population Today*, Page. 3, May 1999

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## Raised transaminases in General Practice: Experience of 40 Italian GPs

**Enzo Ubaldi** (San Benedetto del Tronto), **Franco Magliozzo** (Palermo), **Tiziana Murari** (Bolzano), **Vanna Rinaldi** (Modena) and national network *Netaudit* ([www.netaudit.org](http://www.netaudit.org))

### Context and objective

A frequent reason of encounter in general practice is the management of liver function study abnormalities (in particular, raised transaminases) in an asymptomatic patient.

According to some epidemiological studies in Italian population, about 20% of healthy subjects submitted to routine liver function tests (AST/ALT) shows abnormalities, while the prevalence of hepatic diseases is significantly lower. (1)

About 90% of raised transaminases is detected casually during laboratory testing for medical and non medical purposes (check up in healthy people, mandatory check up in workers, screening for blood donation or surgical procedures)

Few studies show evidence about appropriateness of diagnostic work-up of these patients, also in order to be cost effective.

There is a wider availability of diagnostic tools (often very expensive) to assess subjects who present raised transaminases but constrained by limited economic resources GPs cannot use large battery tests in every

subject or refer every patient to consultant.

In fact, further investigations are not necessary in 38% of asymptomatic people with raised transaminases detected in primary care setting because of spontaneous normalization without any treatment (2).

Moreover a cause of concern is the definition itself of normal or abnormal test, in fact normal levels of AST/ALT (30-40 U/ml) are conventionally fixed at the level measured in 95% of healthy people ( $\pm 2$  SD), so, 2,5% of healthy people has abnormally raised transaminases despite their healthy condition.

On the other hand it is very important to detect the asymptomatic phase of hepatic illness which can benefit of an early treatment (3)

According to these considerations we decided to evaluate only ALT as screening test because of his higher specificity. Moreover we decided to exclude all casual raised ALT so we considered only subjects with 2 raised ALT confirmed at least after a month.

We selected subjects with ALT in a range from 55 to 450 U/ml. We decided the value of 55 U/ml as the lower threshold of conventional abnormality (1,5 times the value which conventionally defines ALT as normal or abnormal) because we wanted to exclude some clinical conditions which could minimally alter ALT (such as obesity) without liver damage.

The higher threshold (450 U/ml) is 10 times the normal value and it is considered the cut off between those conditions and acute liver damage

### Aims

1. To assess for every GP: number of patients with raised ALT (as already defined) in the period from 1/1/2000 to 31/12/2003
2. To assess these patients: how many patients have been previously classified with diagnosis of liver diseases
3. To assess the patients with diagnoses: how many patients had liver diseases potentially

preventable or curable

### Methodology and data extraction

Every GP, with simple query, extracted from his database all the patients with the registration of ALT > 54 U/ml. Then, with the purpose of saving time (remember that the rule of Netaudit is: simple audit in less than 3 hours) GPs chose randomly only 10 cases whether the cases collected were ten or more (randomization was performed with a standardized software).

After randomization we collected 348 cases, 37,9% of total cases (918) of patients with raised ALT. The results of this study consider only these 348 cases.

### Results

#### GPs' characteristics

Forty GPs carried out this study (29 from North Italy and 11 from Centre and South Italy). They assist 58124 patients (mean: 1453 patients every GP - SD 180). 918/58124 (1,5%) showed raised ALT, as above defined.

#### Indicators of quality medical records

Medical records of randomized patients were assessed to control whether data about preventable causes of liver disease or other important data (i.e. alcohol intake) were collected.

#### 4. Patients' characteristics

**Sex and Age:** The patients assessed were 127 females and 221 males with a median age of 56 yrs and a mean age of 54.9 (SD 15.22).

**BMI:** They presented a BMI higher than normal (BMI 28.1). Patients HCV + or HBsAg + had BMI nearly normal (BMI 26.3).

**Chronically elevation of ALT:** 88,2% of the patients showed raised ALT for 6 months or more

**Etiology:** Signs of hepatic alcohol toxicity were present in medical records of 91 patients (26,2%) incomplete data were present in 21 cases (6%).

**Data about Harmful works** were present in 21 cases (6%). Workers were asked if they attend any activities with potential environmental/toxic exposures (car



painter, clothing industry, glass and floor-tile industry, furniture industry, tanner, floriculturist, laundry or dry cleaner worker).

Data collection about work exposure were incomplete in 22 cases (6.3%) medications exposure: in 54 cases (15.5%) annotations in medical records showed some continuous

- non viral chronic hepatitis 11 (3.1%)
- cholestasis 6 (1.7%)

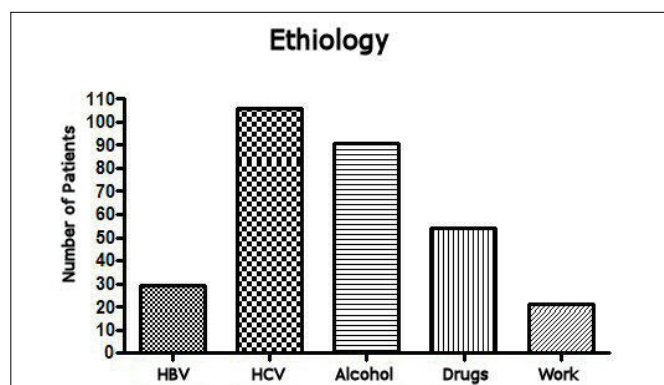
### Discussion

Forty GPs observed 918 patients with raised ALT (confirmed in two occasions) for three years (23 patients for every GP). The prevalence was rather high (1,5%) and these statistics confirm the importance of chronically abnormal liver function test results in general practice. In 88.2% of these subjects, raised transaminases persisted for over six months, a sign that liver damage progressed to chronic condition. Raised transaminases were observed

It's important to note that a fifth (20.4%) of the sample lacked a clear diagnosis. GPs involved in the audit were mainly from northern Italy and this factor might influence the prevalence of etiologic factors.

We can conclude that the diagnostic work-up of these patients mandates a rational, systematic evaluation in order to discover every possible cause of preventable or treatable liver diseases (fatty liver, viral chronic hepatitis, chronic autoimmune hepatitis, haemochromatosis).

We don't know if a complete diagnostic workup (*first approach: blood cells count, GGT, iron, HCV-Ab, HBsAg, serum albumin level, total iron-binding capacity, ferritin, CPK, LDH, glucose, cholesterol, triglycerides, bilirubin, PT; and second level tests such as: TSH, endomysial antibodies, anti-transglutaminasi, Rheumatoid Factor, serum ceruloplasmin, antitrypsin, antinuclear antibodies, smooth muscle antibodies, ENA, LKM*) in patients



prescriptions of drugs potentially hepatotoxic

**Risk factors:** one or more risk factors (blood transfusion, drug abuse, tattoo, surgical procedures) were collected in medical records in 66 cases (18,9%) HBsAg: 29 (8.3%) patients were marker positive. In 65 cases (18.7%) medical records didn't show certain elements about serologic evidence of exposure to HB virus.

HCV: 106 patients (30.4%) showed evidence of exposure to HC virus. Uncertain data were present in 61 cases (17.5%).

**Imaging studies:** in 156 cases (30.4%) imaging studies (ultrasound) showed a fatty liver. In 77 cases (22.1) data of ultrasound imaging are absent or inconclusive.

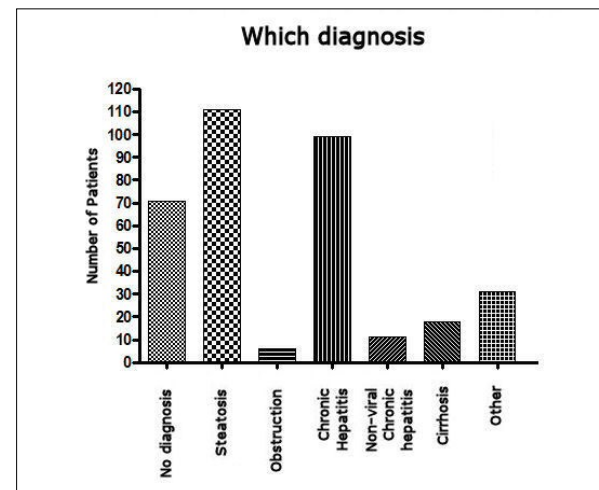
**Other investigations:** four genetic tests (1,15%) demonstrated haemochromatosis, 14 abnormalities in total iron-binding capacity and ferritin values (4%) suggested haemochromatosis.

What diagnosis have GPs done? Here is the distribution of the diagnosis:

- fatty liver 111 (31.9%)
- viral chronic hepatitis 99 (28.4%)
- undiagnosed 71 (20.4%)
- others causes 31 (8.9%)
- cirrhosis 18 (5%)

Obesity correlates to fatty liver, which is, in fact, the most common cause of liver damage in the sample of 348 subjects. The diagnostic work-up of these patients mandates a rational, systematic evaluation in order to discover every possible cause of raised transaminases. Despite this, important risk or causal factors haven't been tested routinely. Medical records didn't show any certain elements about alcohol intake (6%), risky works (6,3%), hepatitis B serology tests (18,7%), hepatitis C serology tests (17,5%), ultrasound (22.1%).

The most common cause of raised transaminases was fatty liver (31.9%), then viral chronic hepatitis (28.4%).



without diagnosis can lead to a more diagnostic precision, so we think that this could be the objective of a further research.

The analysis of data suggests the next audit (Net-ABC), relevant to the setting of general practice which deliveries main preventive care to patients: assess and promote anti-hepatitis vaccination in people living together with patients having viral chronic hepatitis.

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### Bibliography

1. Bellentani S, Saccoccio G, Masutti F et al. Prevalence and risk factors for hepatic steatosis in Northern Italy - Ann Intern Med, 2000; 132: 112-117
2. Sherwood P, Lyburn I, Brown S, Ryder S. How are abnormal results for liver function tests dealt with in primary care? Audit of yield and impact BMJ 2001; 322: 276-8
3. Pratt DS, MM Kaplan. Evaluation of abnormal liver-enzyme results in asymptomatic patients NEJM 2000; 342: 1267-1271
4. LMPG: Laboratory Guidelines for Screening, Diagnosis and Monitoring

of Hepatic Injury, 2000 ([http://www.nacb.org/lmpg/Hepatic\\_LMPG\\_PDF.stm](http://www.nacb.org/lmpg/Hepatic_LMPG_PDF.stm))

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## The "weight" of the profession - Questionnaire on the medical bag among the GPs in the Province of Verona

*Mirella Aulino (1) - Franco Del Zotti (2)*

*(1) General Practice School - Verona  
(2) GP, Verona*

### Introduction

The bag is a weighty element of the daily activity of a GP and has a clear symbolic meaning: anyone is able to identify, at first glance, the profession of whoever carries it. It is not so much the white coat that identifies a GP. The classic image of a GP is the one of a person, often dressed as everyone else, who alternates between his/her office and the domicile of his/her patients bringing with him/her one's own bag, which has an unmistakable shape.

First of all an ideal bag should answer some basic requirements such as practicality (small size, transportability), resistance and functionality. At the same time the GP faces a dilemma: he/she has to

answer a multiform variety of requests, and on the other hand needs to contain in a small space only what can be truly necessary. The choice of drugs and instruments to fit into the bag has to be adapted to the specific situation in which the doctor has to work: distance from a Hospital Emergency Department; the pathological situations that are more common in that area; the personal competences and preferences. Numerous sources, external and internal to General Practice, have given precious advices to GPs, but in our knowledge systematic researches in the field are still scarce.

### Targets

The study has as its main target to investigate some aspects of the Bag(s) of the GPs: number, weight, volume; the contents (drugs and instruments); the methods of management and transportation of the drugs for emergencies; the variability among GPs.

Finally the results have been analyzed in the light of a valuation grid linked to **Favoring variables**" obtained by the combination "low cost + evidences / importance + ease of learning + ease of use" of the individual drugs or instruments

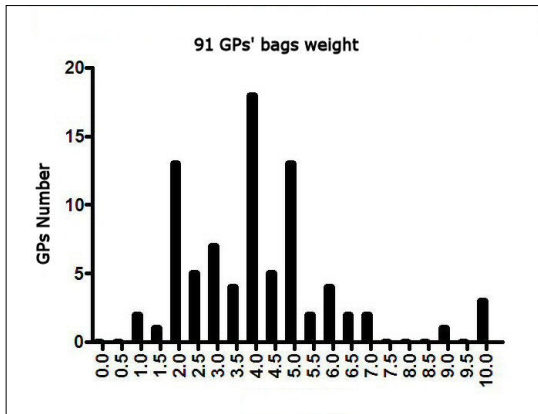
### Method

The Questionnaire (see at the bottom of the article) has been sent by mail, with two mailings, **to a randomized sample of 150 General Practitioners** out of the 649 GPs of the Province of Verona. 93 of them have answered. Two questionnaires have been excluded from the study because they were incomplete and non-classifiable. Afterwards, **a total of 91 Questionnaires** (equal to 60.6% of the sent ones) have been subjected to a statistical analysis (with the Epi-info software).

### Results

**NUMBER of Bags** (answering this question: 88/91): 51 GPs use 1 bag; 23 GPs: use *now and then* 2 bags; 15 GPs: use *often* two bags

**WEIGHT of the Main Bag:** The average weight of the Bags is 4.1 Kgs. 45 bags weigh from 3 to 5 Kgs (median: 4). It seems therefore that on one hand there is a homogenization of about half the GPs towards these weights, probably because of dominant commercial “standards”. On



the other hand, the behavior of the remaining group of GPs is rather variable, as it can be deduced by the *range* (minimum: 1.2 Kgs; maximum: 10 kilos) and by the Variation Coefficient (CV) equal to 46%.

**VOLUME of the Main Bag:** it has been deduced by multiplying the measurements in centimeters of the 3 sides as reported by the colleagues: 55 Bags (60.4%) have a volume lesser than 20,000 cubic centimeters (average: 23,651; median 19,228). The VC is even greater compared to the one of the weight of the bags: (CV: 119%).

From the statistical analysis of the weights and volumes there appear not to be any significant differences among the GPs of the two sexes; among GPs of different ages; among GPs with or without surgery specialization

**Diagnostic and sanitary instruments**  
In the first table (pag. 9) you can

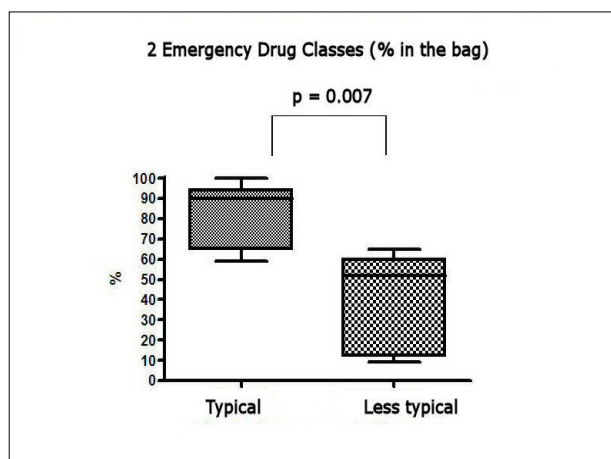
observe the percentages by which the various types of instruments are present in the bag, in relation to the “variables that favor their usage”, that is: **a) low cost (of purchase and maintenance); b) ease of learning their use; c) ease of use; d) EBM and/or importance.** You can note that many times there is a discordance between these two variables and the percentage of their presence in the bag, and this happens particularly for the Peak Flow Meter (only 3%); Ambu (22%); urinary test strips (49%); Thermometer (60%).

In other occasions

(e.g.: Electrocardiograph,

Oximeter) the low percentages are linked to a higher purchase cost (oximeter 3%) or a higher purchase cost combined with a lesser ease of learning and/or usage (Electrocardiograph: 7%).

**CLASSES of drugs and instruments:** In the second table (pag. 9) you can observe the frequency

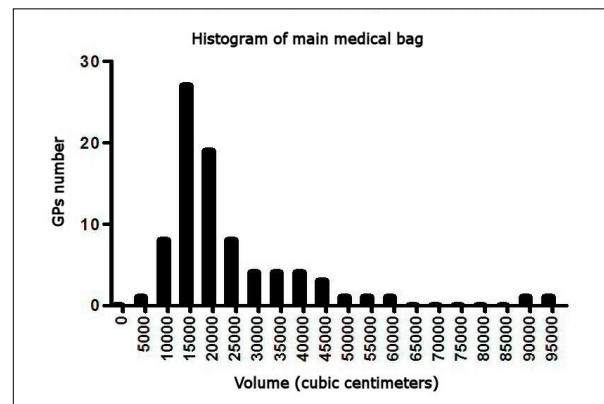


with which the various types of drugs are present in the bag.

Also in this case you are struck by the

discordance, mentioned above, for some type of drugs, which could/should be more present (Acetylsalicylic acid (52%); adrenaline; (65%); salbutamol (55%). Morphine (23%) deserves separate considerations, connected to well known normative and judicial requirements.

We refer a result emerging about two groups of drugs: *Group I Drugs*, which need typical parenteral ways and that produce “immediate” results or that are similar to the tradition of the “most frequent” emergencies, and this sometimes without respecting the EBM of the emergencies: furosemide (100%); diazepam (90%); injective cortisone drugs (94%); diclofenac



(93%); metoclopramide (85%); buscopan (65%); aminophylline (59%). *Group II Drugs*, drugs with plentiful evidences, which either use less typical ways of treatment (e.g. by aerosol), or they are used in less frequent occasions: acetylsalicylic acid (52%); adrenaline (65%); salbutamol (55%); Naloxone (15%); glucagon (9%). For the comparison of the groups we have compared by the Mann-Whitney Test the medians of the percentages of GPs who carry in their bags drugs of the two groups. We have obtained in Group I a median of 90%, and in Group II a median of 52%, with a significant difference  $P=0.007$  and a confidence interval of the difference between 13% and 79%

**PLACE where drugs are stored**  
(88 respondents): 43 GPs keeps

them only in his/her office, 39 keeps them only in the bag (and among these 32 GPs keep them in the main bag) and 6 keep them in more than one place (office, bag, car).

**WHO CHECKS periodically the drugs:** nearly all the GPs (86) check personally the expiry date of the drugs, without implicating secretaries or others.

### Conclusions

This study may be a starting point for further investigations that may renew and strengthen the culture and logistics of the modern setting of emergencies in GP. The future studies shall have to overcome some limits of our study. We refer in particular to the fact that our investigation did not evaluate the type of the location where the GP operates (town size, distance from the hospital), that we have ignored in order not to break the privacy, which is always possible when the questionnaire revolves around just one province. We need therefore a larger sample over many provinces. The randomization and the good response rate (61%) allow us to write short comments to some of our findings. As far as the most "demanding" features of the Bags (weight and volume) there seem to be no relation with the age or the surgery specialization. Nor the female doctors seem to use smaller or lighter bags. Clearly on this subject we have to take into account the "aesthetic" models imposed by the market and different "human" and professional variables, which are more difficult to identify and that deserve further investigations. For the chapter "the diagnostic instruments" on one hand there is an insufficient presence of instruments which are low cost and of easy purchase, for which we hope a prompt recovery on the part of the participating GPs, which will receive

the results of this research; on the other hand we think that the increase in the presence of some more expensive or more "difficult" instruments (see for instance: the oximeter; the electrocardiographs, the Ambu) will depend on the training and/or contractual support on the part of the Health Authorities.

For the chapter drugs, the "purchase cost" or the "learning" variable are less important, while we think that the increase in the training and collective management of "Professional and/or Order guidelines" as well as ad hoc EBM Courses about the emergencies, could encourage many GPs to fill the present gap, most of all for the emergency drugs with a "less canonical" image.

Although most GPs tend to keep the emergency drugs in just one place (their office or the main bag) the storage spaces of the drugs are just becoming complicated, in a true "system" (office, main bag, additional bag, car trunk, home), which introduces further important problems (micro-climate and period of storage for the optimum conservation of the drugs), which in the future will deserve the strategic attention of the group of GPs. But the complexity of a modern view of the emergencies of the GPs clashes sometimes against the still relative logistic poverty of the Italian GP, who, in comparison to European GPs, is often deprived of the support of secretarial and nursing staff, as it can be deduced by the last piece of information concerning "*who supervises the bag*", who, in most cases is just the GP.

Even with all the limitations, we have considered useful to compare in a table the percentages ascertained, for

instruments and drugs, with the association of the group of the "favoring variables"; anyway in the future an effort will be needed to validate our scores, by further investigation of the objective data and by utilizing consensual techniques.

(of the "Delphi" type).

Finally, we can auspicate that our investigation will constitute a basis and an incentive to implicate professional Associations and Bodies in the definition of periodical "guidelines" to "take charge" of a problem, the GP's bag, which must not weigh completely only on the shoulders of the individual GP

### Bibliography

1. Avery A., Pringle M. "Emergency care in General Practice" BMJ 1995; 310:6.
2. Caimi V., Tombesi M. "Medicina Generale" Ed. UTET 2003; p.146-148.
3. Carelli F. "Cosa occorre avere in borsa" M.D (Medicinae Doctor) 10:18-19;1995.
4. Coen D. "I farmaci nella borsa del medico". Ricerca & Pratica 1995; 12:165-170
5. Delamare J., Chapman A. "La trousse du praticien" in Tchoboutsky: Des symptomes à la decision, McGraw Hill 1989.
6. European Commission International Conference of Harmonisation. "Stability testing of new drug substance and products" April 1992
7. Nakar S. et al. "What family physicians need in their doctor's bag". Family Practice 1995; 12:430.
8. Rudland S.V., Jacobs A.G. "Visiting bags: a labile environment" BMJ 1994; 308:954-6.
9. Zanini G.M. "La scadenza dei farmaci in ambulanza e nella borsa del medico" 1996.



Tab 1

Diagnostic and sanitary instruments	Low price	Easy Learning	Easy Use	Importance	% Use in 91 GPs
Phonendoscope	+++	++	+++	+++	100%
Sphygmomanometer	+++	+++	+++	+++	100%
Tourniquet	+++	+++	+++	+++	99%
Torch	+++	+++	+++	+++	98%
Syringes and needles	+++	+++	+++	+++	92%
Gloves	+++	+++	+++	+++	92%
Hammer	+++	++	+++	+++	87%
Otoscope	++	++	+++	+++	75%
Thermometer	+++	+++	+++	+++	60%
Glycometer	+++	++	++	+++	51%
Diagnostic strips	+++	+++	+++	+++	49%
Gauzes	+++	+++	+++	+++	48%
Mask or AMBU	++	++	+++	+++	22%
Ophthalmoscope	++	++	++	++	17%
Bladder catheter	+++	+	+	++	8%
Oxymeter	+	+++	+++	+++	7%
Laptop Pc	---	---	---	---	6%
Flow Peak Meter	+++	+++	+++	+++	3%
Electrocardiograph	+	+	++	+++	3%

Tab 2

Diagnostic and sanitary instruments	Low price	Easy Learning	Easy Use	Importance	% Use in 91 GPs
Furosemide fl	+++	+++	+++	+++	100%
Corticosteroid fl	+++	+++	+++	+++	94%
Diclophenac fl	+++	+++	+++	+++	93%
Diazepam fl	+++	+++	+++	++	90%
Metoclopramide fl	+++	+++	+++	+++	85%
Adrenalin fl	+++	+++	+++	+++	65%
Scopolamine	+++	+++	+++	++	65%
Nitrates (in acute)	+++	+++	+++	++	60%
Aminophylline fl	+++	+++	++	+	59%
Salbutamol aerosol	+++	+++	+++	+++	55%
Aspirin os	+++	+++	+++	+++	52%
Saline solution	+++	+++	++	+++	51%
Cloropromazine fl	+++	+++	+++	+++	40%
Glucose solution	+++	+++	++	++	34%
Digoxine fl	+++	+++	+++	+	29%
Morphine fl	+++	+++	+++	+++	23%
Naloxone fl		+++	+++	+++	15%
Glucagon fl	++	+++	+++	+++	9%

**“QUESTIONNAIRE” (anonymous)**

**A) Personal data of the “General Practitioner”**

Age groups	Sex:	Years has been GP	Surgery Specialization
25 - 34	M	< 10 years	Yes
35 - 44	F	10- 20 years	No
45 - 55			
> 55			

**B) Bag: quantity and measurements**

Number of bags utilized (one answer only)	Measurements of the Main Bag:
Just one bag	Long side of the base cm...
sometimes two bags	Short side of the base cm...
Often two bags	Height cm...
Other	Weight (bag + contents) Kos...

**C) Instruments in the main and/or additional Bag (tick yes or no)**

Phonendoscope	<i>Yes</i>	<i>No</i>	Syringes and needles	<i>Yes</i>	<i>No</i>	Vesical catheter	<i>Yes</i>	<i>No</i>
Sphygmomanometer	<i>Yes</i>	<i>No</i>	Gauzes	<i>Yes</i>	<i>No</i>	Flow Peak Meter	<i>Yes</i>	<i>No</i>
Torch	<i>Yes</i>	<i>No</i>	Haemostatic laces	<i>Yes</i>	<i>No</i>	Electrocardiograph	<i>Yes</i>	<i>No</i>
Thermometer	<i>Yes</i>	<i>No</i>	Ophthalmoscope	<i>Yes</i>	<i>No</i>	Mask or Ambu	<i>Yes</i>	<i>No</i>
Hammer	<i>Yes</i>	<i>No</i>	Otoscope	<i>Yes</i>	<i>No</i>	Portable PC	<i>Yes</i>	<i>No</i>
Glucometer	<i>Yes</i>	<i>No</i>	Oximeter	<i>Yes</i>	<i>No</i>	Other	<i>Yes</i>	<i>No</i>
Diagnostic strips	<i>Yes</i>	<i>No</i>	Gloves	<i>Yes</i>	<i>No</i>		<i>Yes</i>	<i>No</i>

**D) Emergency drugs**

**I usually keep most of the emergency drugs** (*only one answer*)

1. In the office
2. In the Bag:
3. Other

For whoever has answered “In the bag”:

**The drugs carried with me are carried** (*just one answer*)

1. I keep all the drugs in the main bag
2. I keep only part of the drugs in the main bag and the rest in an additional one
3. All the drugs are in an additional bag together with other material
4. All the drugs are in a special bag/box just for drugs

**Who checks the maturity of the drugs?** (*just one answer*)

1. I do it personally
2. The secretary
3. Other

**E) List of the emergency drugs I have available** (*tick Yes or No*)

Acetylsalicylic acid	<i>Yes</i>	<i>No</i>	Diazepam	<i>Yes</i>	<i>No</i>	Morphine	<i>Yes</i>	<i>No</i>
Adrenaline	<i>Yes</i>	<i>No</i>	Diclofenac phial	<i>Yes</i>	<i>No</i>	Naloxone	<i>Yes</i>	<i>No</i>
Aminophylline	<i>Yes</i>	<i>No</i>	Digoxin phial	<i>Yes</i>	<i>No</i>	Nitrates in acute	<i>Yes</i>	<i>No</i>
Butilscolopolamine	<i>Yes</i>	<i>No</i>	Furosemide phial	<i>Yes</i>	<i>No</i>	Salbutamol aerosol	<i>Yes</i>	<i>No</i>
Chlorpromazine	<i>Yes</i>	<i>No</i>	Glucagon phial	<i>Yes</i>	<i>No</i>	Physiologic solution	<i>Yes</i>	<i>No</i>
Corticosteroid phial	<i>Yes</i>	<i>No</i>	Metoclopramide	<i>Yes</i>	<i>No</i>	Glucose solution	<i>Yes</i>	<i>No</i>
						Other	<i>Yes</i>	<i>No</i>

