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## An Integrated Home Care System Increasing Quality of Life

Sacchetti, M.; Buccoloni, F.; Ferrari, P.

Presented at Med-e-tel 2005 Conference in Luxembourg.

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<http://hdl.handle.net/123456789/3507>

Presentation

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# *AN INTEGRATED HOME CARE SYSTEM INCREASING QUALITY OF LIFE*

DEA - UTN

Stroke Unit



**ML Sacchetti: Neurological Sciences Department University of Rome "La Sapienza"**  
**F Buccolini, P. Ferrari : Vox Net – Rome Italy**

# Lifestyle

- A lot of pathology that can be treated at home, for example Prehypertensive individuals (systolic BP 120–139 mm Hg or diastolic BP 80–89 mm Hg) and hypertensive, obese and diabetics **require health-promoting lifestyle modifications to prevent these pathology, that progressively rise also in blood pressure and cardio vasculad disease (CVD);**

# Motivation

Regardless of therapy or care it will be controlled only if patients are motivated to stay on their treatment plan and he/she believes treatment are good for hem/her.

**Treatment plan regards nutrition too.**

**We observed that especially in elderly people nutrition habits increase the quality of life.**

# Tell me what kind of food you eat, and I will tell you what kind of man you are

*Dis-moi ce que tu manges, je te dirai ce que tu es*

## The destiny of a nation depends on the manner in which it feeds itself

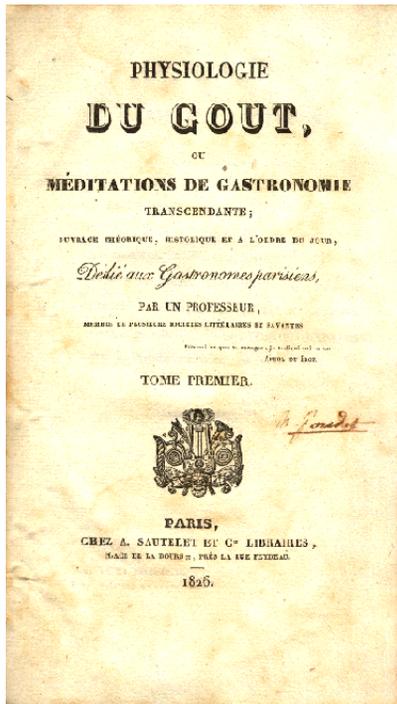
*La destinée des nations dépend de la manière dont elles se nourrissent*

### Physiology of Taste - Le Physiologie du Gout Jean Anthelme Brillat-Savarin

Since 1825 the Brillat-Savarin's reflections on the matter people have nourished represent the most trenchant discussion of food and its effects on trenchermen.

As modern nutritional science provide more information about the mechanisms by which certain food ingredients influence our body functions, scientists and market experts agree that foods, with a declared positive impact on health, are growing in popularity.

This means that after 180 years the Brillat-Savarin's intuitions about the relation between man's joy, quality of life, healthcare, survival and his ability to know and experience the pleasures of taste are true and are becoming day by day more important.



For this reason for one year Vox Net R&D team put the scientific and technological attention on dietary and nutritional aspects that can influence the clinical therapy during the hospitalization and in a home care monitoring system.

**This means that nowadays large quantities of data must be treated in the most correct and professional way, managing correctly the weight in grams, nutritional values tables and product characteristics of dishes tracing the foods component respecting the European Directive 178/2002 (TRACEABILITY).**

**Obviously it is not easy because eating behaviour is governed by factors such as tradition, taste and genetic characteristics.**

**Thus emotionality, experience and lifestyle play a major role in the positioning of trends healthy food products.**

**The technological platform able to manage all these nutritional data is named RISTONET and it has been thought and realised in order to integrate the competence of experts in healthcare, catering service management and chefs.**

At Med-e-Tel 2004 we presented the medivox platform created to face the problem of home care through an innovative collaborative platform based on ICT solution in ASP (Application Service Provider) monitoring vital signs.

**After one year with the monitoring solution proposed is possible in an integrated way to match clinical data with vital signs monitored with the patients diet having the chance to verify effects that might be due to synergy.**

# E-Health Technological Methods

The goal has been integrating the platforms *MEDIVOX* (presented ant Med-E-Tel 2004) and the RISTONET in the eHealth field.

With MEDIVOX-RISTONET health and nutrition professionals store patient clinical conditions and care needs by means of a web site ([www.medivox.it](http://www.medivox.it)) according to specific paths created for every user profile.

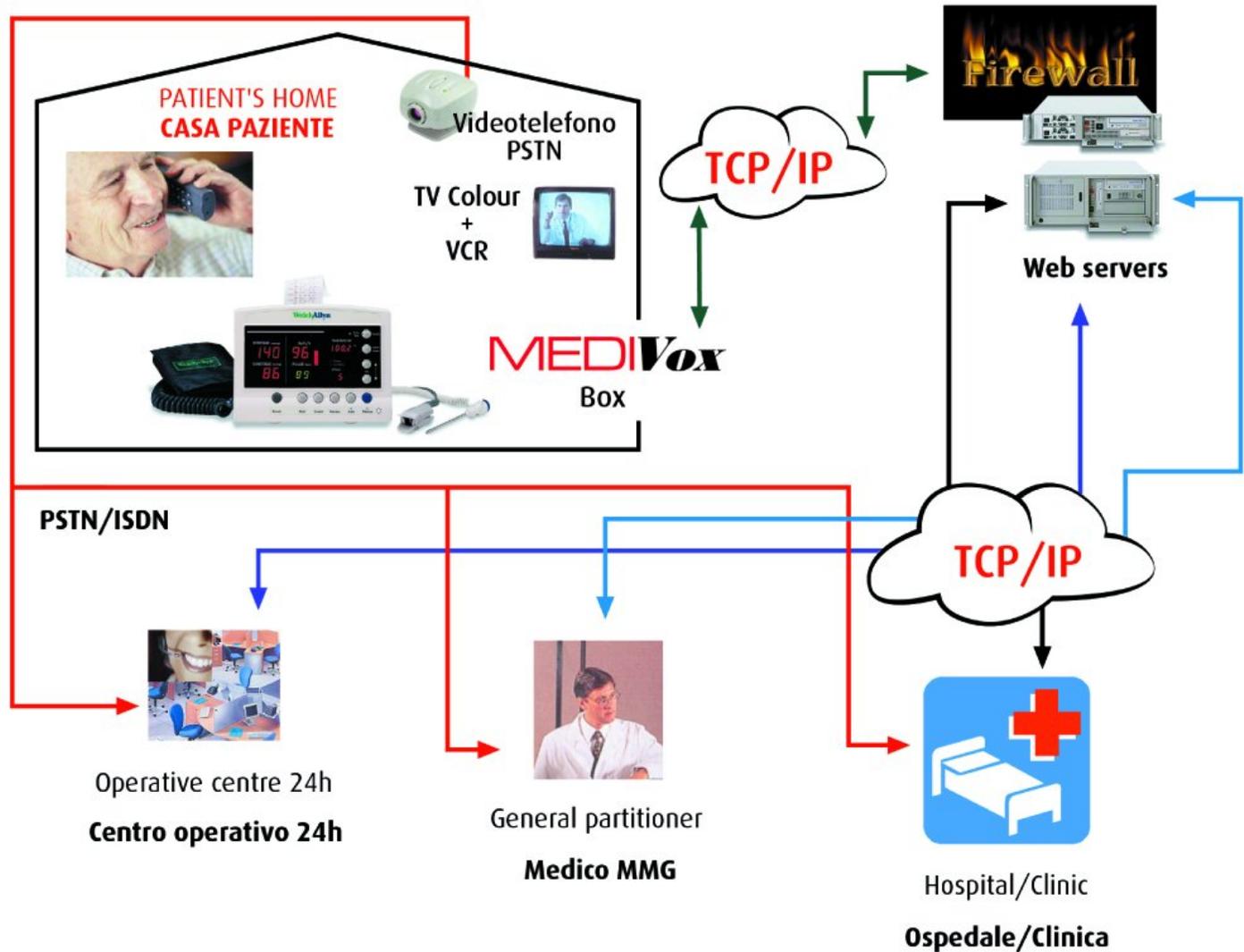
# E-Health Technological Methods

- From a technological point of view, this means that application main components (Server and DataBase) are not installed on user sites, but at the application service provider center and users can connect to the center through desktop or mobile devices, via telematic connections.
- The ASP model allows to guarantee on-time management and upgrades of the clinical and technological components from Doctors and ICT experts.

# E-Health Technological Methods

- The technological architecture and solution is entirely integrated by Vox Net and is composed by a “*suitcase*” at patients’ home for clinical data, a web server application layer on ASP, the patient Database Server, and a “*MEDIVOX workstation*” for the doctor/clinical personnel. Moreover it is possible to be connected with the platform via PDA or mobile phone with a mobile internet connection or SMS alerts.

# E-Health Technological Methods



# E-Health Technological Methods

Sezioni - Microsoft Internet Explorer

File Modifica Visualizza Preferiti Strumenti ?

Indirizzo [http://localhost/voxnet/ristonet\\_programma/index\\_menu.cfm?id=menu\\_aggiungi2\\_F\\_ins&cheid=115&chegio=1&chepa=B](http://localhost/voxnet/ristonet_programma/index_menu.cfm?id=menu_aggiungi2_F_ins&cheid=115&chegio=1&chepa=B)

utente on line: Alessandro Circiello

Data: 06/04/05

**RISTONET**

HOME ALIMENTI PIATTI PASTI MENU MAGAZZINO Logout

Medetel   COLAZIONE PRANZO CENA

SETTIMANA 1  

1	2	3	4	5	6	7
Lu	Ma	Me	Gi	Ve	Sa	Do

SETTIMANA 2  

8	9	10	11	12	13	14
Lu	Ma	Me	Gi	Ve	Sa	Do

SETTIMANA 3  

15	16	17	18	19	20	21
Lu	Ma	Me	Gi	Ve	Sa	Do

SETTIMANA 4  

22	23	24	25	26	27	28
Lu	Ma	Me	Gi	Ve	Sa	Do

**Composizione pasto**

Nome piatto	Categoria	Target	Dieta
Pasta al tonno e acciughe	primo piatto	archivio	Normale
Scaloppine alla pizzaiola	secondo piatto	ospedale	Normale

Indicazioni nutrizionali LARN

Fascia: oltre 60 Kc/giorno: 1829 - Proteine gr.: 73

Pranzo	Livelli consigliati		Livelli raggiunti		Differenze	
	Kc	Gr.	Kc	Gr.	Kc	Gr.
Tot	731		461		-270	
Pro (15%)	109	27	170	42	61	15
Lip (30%)	219	24	160	17	-59	-7
Glu (55%)	402	107	124	33	-278	-74

**Nutrienti pasto**

Kcal	461
Kjou	1933
Protidi	42.54 36.84 %
Lipidi	17.80 34.69 %
Glucidi	33.18 26.94 %
Fibra	1.94
Sodio	2380.24
Potassio	832.70
Calcio	44.68
Ferro	4.14
Fosforo	460.31

**Nutrienti giornata**

Kcal	461
Kjou	1933
Protidi	42.54 36.84 %
Lipidi	17.80 34.69 %
Glucidi	33.18 26.94 %

**Calcolo derrate**

Numero unità:

MENU [Nuovo]

- Nuovo menu
- Elenco menu
- Set piatti
- Scheda
- Stampa

http://localhost/voxnet/ristonet\_programma/index\_menu.cfm?id=menu\_aggiungi2\_F\_ins&cheid=115&chegio=10&chepa=A

Intranet locale



# E-Health Technological Methods

Sezioni - Microsoft Internet Explorer

File Modifica Visualizza Preferiti Strumenti ?

Indirizzo [http://localhost/voxnet/ristonet\\_programma/index\\_piatti.cfm?id=piatti\\_elenco&lett=](http://localhost/voxnet/ristonet_programma/index_piatti.cfm?id=piatti_elenco&lett=)

utente on line: Alessandro Circiello

Data: 06/04/05

HOME ALIMENTI PIATTI PASTI MENU MAGAZZINO Logout

Scheda piatto - Microsoft Internet Explorer

Alimento	Gr. netti a crudo	Kc	Kj	Pro (gr)	Lip (gr)	Glu (gr)	Fib (gr)	Na (mg)	K (mg)	Fe (mg)	Ca (mg)	P (mg)	Tia	Rib	Nia	Vit. A	Vit. C
Riso parboiled	80 (188.8)	269.7	1129.6	5.9	0.2	65.0	0.4	7.2	120.0	2.3	48.0	160.0	0.3	0.0	0.0	0.0	0.0
Cipolle fresche	72 (46.8)	18.9	79.2	0.7	0.1	4.1	0.8	7.2	100.8	0.3	18.0	25.2	0.0	0.0	0.4	0.0	3.6
Aglione fresco	1 (0.9)	0.4	1.7	0.0	0.0	0.1	0.0	0.0	6.0	0.0	0.1	0.6	0.0	0.0	0.0	0.1	0.1
Olio extravergine di oliva	22 (22)	197.8	828.1	0.0	22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0
Calamaro fresco	75 (52.5)	51.0	213.0	9.5	1.3	0.5	0.0	0.0	0.0	0.0	108.0	141.8	0.1	0.1	0.9	56.3	0.0
Vino da pasto bianco	37 (37)	26.2	109.5	0.0	0.0	0.0	0.0	1.5	22.6	0.4	3.3	27.4	0.0	0.0	0.0	0.0	0.0
Menta fresca	3 (3)	1.2	5.2	0.1	0.0	0.2	0.0	0.4	7.8	0.3	6.3	2.3	0.0	0.0	0.0	3.7	0.9
Zucchine fresche	75 (63.75)	8.5	36.0	1.0	0.1	1.1	1.0	16.5	198.0	0.4	15.8	48.8	0.1	0.1	0.5	4.5	8.3
Farina di frumento tipo 00	10 (26)	34.0	142.4	1.1	0.1	7.7	0.2	0.3	12.6	0.1	1.7	7.6	0.0	0.0	0.1	0.0	0.0
crecione	3 (3)	0.7	2.8	0.1	0.0	0.0	0.1	1.5	6.9	0.1	5.1	1.6	0.0	0.0	0.0	75.6	1.9
Brodo di pesce	250 (250)	18.8	77.5	0.8	1.7	0.0	0.0	0.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTALI</b>	<b>628 (693.75)</b>	<b>627.2</b>	<b>2625.0</b>	<b>19.1</b>	<b>25.5</b>	<b>78.6</b>	<b>2.5</b>	<b>35.1</b>	<b>475.4</b>	<b>3.8</b>	<b>206.3</b>	<b>415.1</b>	<b>0.4</b>	<b>0.3</b>	<b>1.9</b>	<b>148.0</b>	<b>14.7</b>

Operazione completata

Intranet locale



# Conclusions

The quality of life and the satisfaction care with ICT technologies and its acceptability is basically high (60 to 79%) and in some cases very high (80 to 100%) for the home telehealth patients.

Of interest was that the lack of touch was not a concern for patients, and that 95.5% of study patients were satisfied overall with the home telehealth experience.

Moreover, about dietary and “*gastronomy*” application there is a consensus that is very helpful to provided healthcare services at home.

Finally a correct home care organization focused on the quality of life is important to everyone and for sure no one would disagree that patients in home care are just as deserving of a good quality of life as the rest of us.

# Thanks !

## Questions ?

[www.voxnet.it](http://www.voxnet.it)

[www.medivox.it](http://www.medivox.it)

[www.ristonet.net](http://www.ristonet.net)

[info@voxnet.it](mailto:info@voxnet.it)



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**RISTO**CNET