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The Participatory Medicine Attitudes of General Practitioners in Greece: An Information Behaviour Perspective

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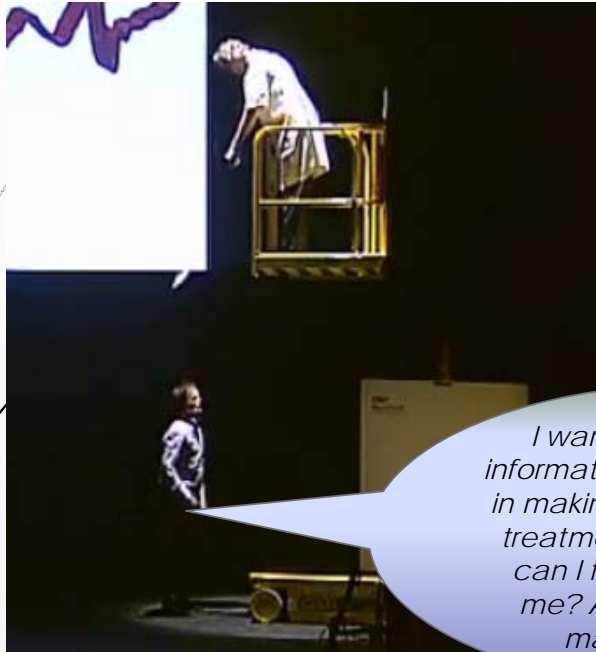
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patients shift from being mere passengers to responsible drivers of their health...providers encourage and value them as full partners (Society for Participatory Medicine).

Setting the scene...



I want good and reliable information! I want to have part in making the decisions to start treatment or not! And, where can I find other patients like me? And what can I do to make things better?

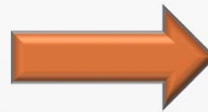
Participatory Medicine

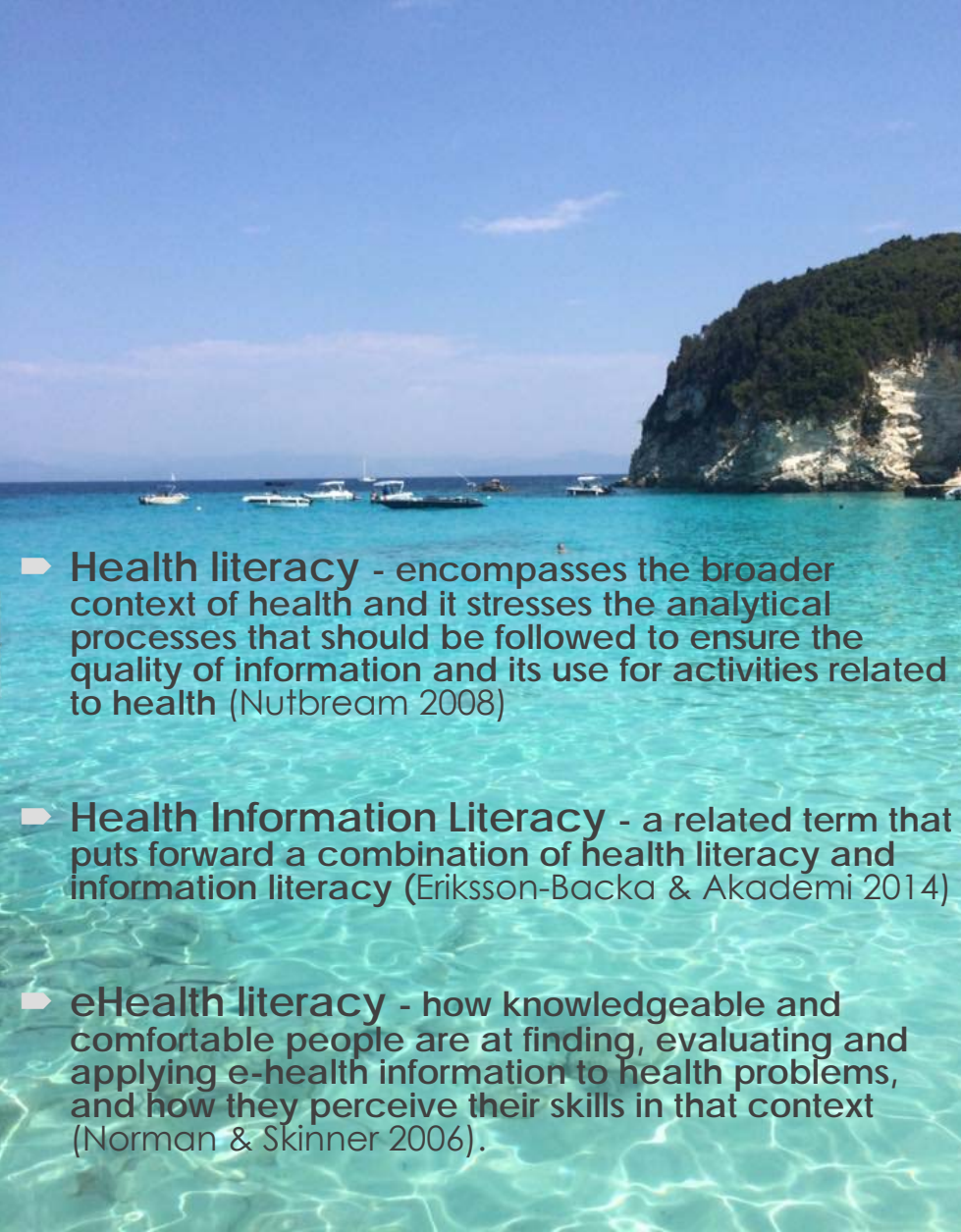
Participatory health for all of us!

Professor Bas Bloem - *Consultant Neurologist at the Department of Neurology, Radboud University Nijmegen Medical Centre, the Netherlands*

Shared-decision making & cooperation...

- **Cooperation** is fundamental to effective patient-doctor relationships
- Patients are expected to make decisions on the basis of **an uneven knowledge position**
- lack of health literacy may act as a significant barrier in this process (Bernabeo & Holmboe, 2013; McMullan, 2006). Second level

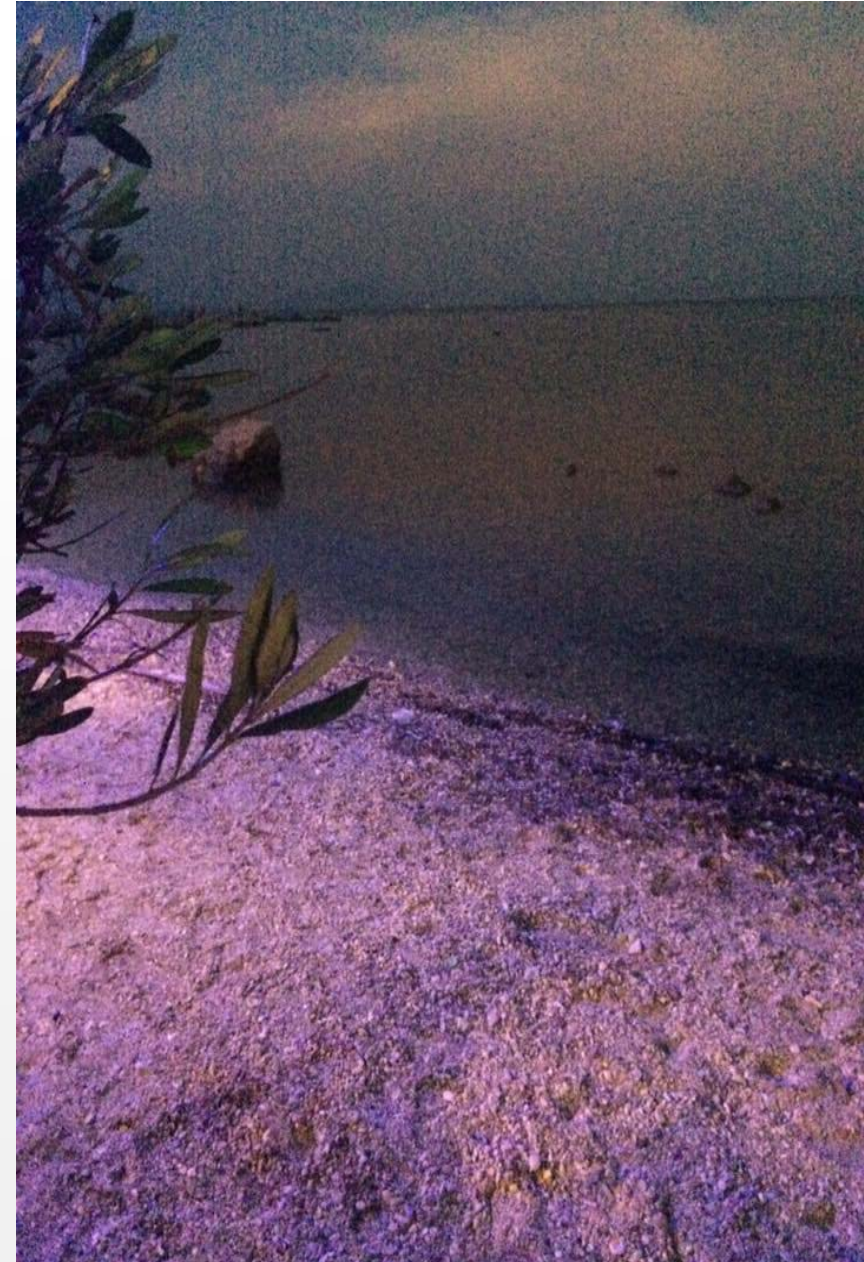


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- A background image of a tropical beach scene. The foreground shows clear, turquoise water with ripples. In the middle ground, several white sailboats are anchored. To the right, a steep, rocky cliff with green vegetation rises from the water's edge. The sky is a clear, pale blue.
- **Health literacy** - encompasses the broader context of health and it stresses the analytical processes that should be followed to ensure the quality of information and its use for activities related to health (Nutbream 2008)
 - **Health Information Literacy** - a related term that puts forward a combination of health literacy and information literacy (Eriksson-Backa & Akademi 2014)
 - **eHealth literacy** - how knowledgeable and comfortable people are at finding, evaluating and applying e-health information to health problems, and how they perceive their skills in that context (Norman & Skinner 2006).

Health Information Literacy

- The presence of HIL is important: prerequisite for promoting and maintaining an individual's health
- not a clear indication of the steps to ensure that all members of society have equal means to develop HIL.
- everyday HIL
 - those who are **not active, confident** information seekers encounter **barriers** to obtaining information
 - **assuming** that people are e-Health literate
 - information has to be presented in a way that is understandable and accessible

Medical professionals need to extend their roles and “**become catalysts or enablers**” that support and encourage people to develop IL practices (Kostagiolas et al 2013)

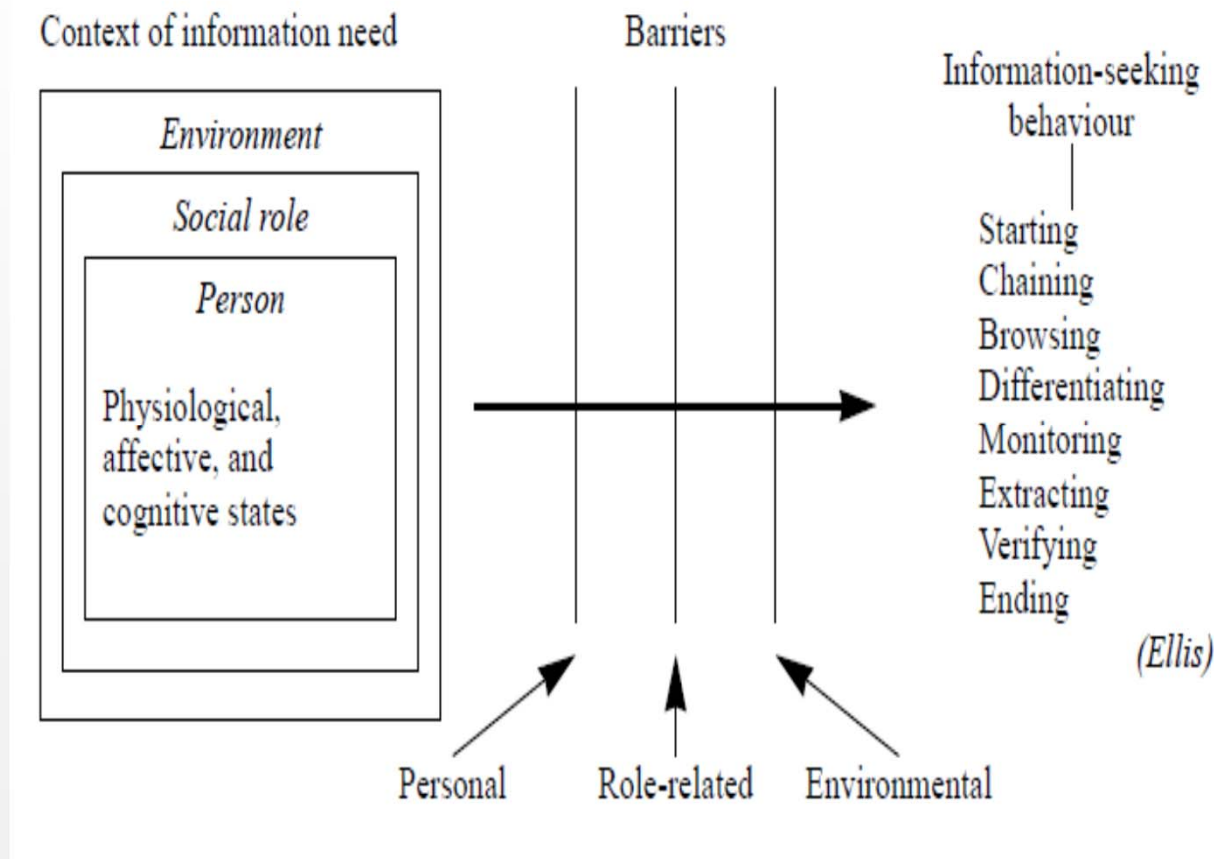


The present study...



- But what about health professionals? Are they HIL?
- a survey of 162 private general practitioners and private pathologists in Greece
 - collected demographic characteristics and self-assessments of doctors using five point Likert scales addressing the following areas (46 questions)
 - information needs, sources, barriers and the role of cooperation with doctors for improving medical outcomes and decisions.
 - A number of hypotheses
 - Age demographics influence the choice of information sources (some selective results)
 - Barriers are experienced differently by people with specific age demographics (some selective results)
 - There is a relationship between age demographics and specific sources that enable patients' cooperation with doctors

Theoretical Grounding: Wilson's (1999) macro-model of Information Behaviour





Methodology

- Correlations of demographics (age and gender but only age is reported in this paper) and needs, sources, barriers and the importance assigned to sources which enabled patient-doctor cooperation were performed using Kruskal-Wallis non-parametric test.
- Pearson's correlation coefficient was used for the strength of correlations between barriers and attitudes towards cooperation

Demographics

Gender differences

	Frequency	Percent	Cumulative Percent
Men	98	60,5	60,5
Women	64	39,5	100,0
Total	162	100,0	

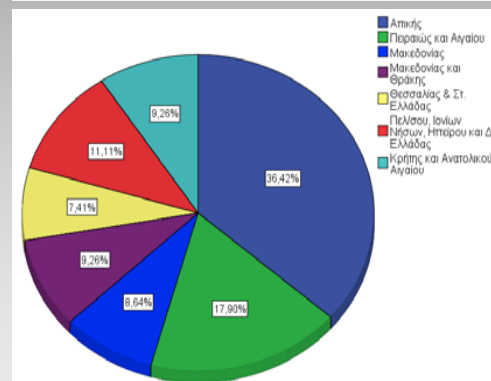
Professional Experience

	Frequency	Percent	Cumulative Percent
Up to five years	50	30,9	30,9
5-10 years	46	28,4	59,3
10-20 years	27	16,7	75,9
above 20 years	39	24,1	100,0
Total	162	100,0	

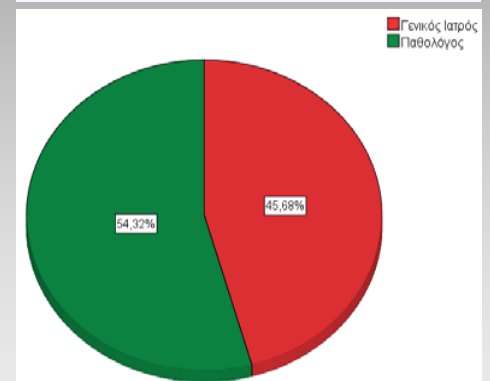
Age differences

	Frequency	Percent	Cumulative Percent
Up to 40 years	59	36,4	36,4
40-55 years	62	38,3	74,7
55-60 years	25	15,4	90,1
above 60 years	16	9,9	100,0
Total	162	100,0	

Geographical distribution



Private GPS and Pathologists



Questionnaire (Information needs)

Good internal consistency for this section that tests the correlations between different items and measures if similar items produced similar scores.

Cronbach's Alpha	N of Items
0,758	46

Frequency of Information Needs

	N	Mean	Std. Deviation
Diagnosis	162	3,83	,843
Therapy	162	4,02	,796
Knowledge Verification	162	4,06	,801
Drugs	162	3,61	,986
Patient Education	162	2,76	,996
Epidemiology	162	2,39	,973
Research Activities	162	1,98	1,516
Teaching Activities	162	1,22	,778
Valid N (listwise)	162		

Significance of Information Needs

	No significance (%)	Little significance (%)	Medium Significance (%)	Considerable significance (%)	High Significance (%)
Diagnosis	0	4,3	32,1	39,5	24,1
Therapy	0	2,5	22,8	44,4	30,2
Knowledge Verification	0	0,6	27,2	37,7	34,6
Drugs	0,6	12,3	34,6	30,2	22,2
Patient Education	9,9	30,2	38,3	17,3	4,3
Epidemiology	21,6	30,9	35,2	11,7	0,6
Research Activities	67,3	3,1	7,4	9,3	13
Teaching Activities	92	0,6	3,1	2,5	1,9

Information Sources

	N	Mean	Std. Deviation
Personal Library/Guidelines	162	3,46	,985
Communication with colleagues/specialists	162	4,27	,746
Hospital Library	162	1,72	1,182
Scientific Databases (e.g. pubmed, uptodate)	162	2,98	1,210
Internet Search Engines (e.g. google)	162	4,22	,770
Specific Internet Medical Web pages (e.g. Elegeia http://www.elegeia.gr/)	162	2,73	1,341
Sources for keeping up-to-date with medical developments (e.g. Medscape Week in Review)	162	1,57	,795
Formal Websites with medical guidelines (e.g. ADA, NICE)	162	3,20	1,022
Online Scientific Magazines	162	3,47	1,110
Medical Conferences/seminars/ workshops	162	3,40	,974
Pharmaceutical Representatives	162	3,44	1,015
Mass Media	162	2,54	1,087

	Not at all (%)	Rarely (%)	Some times (%)	Often (%)	All the time (%)
Personal Library/Guidelines	1,9	13	39,5	28,4	17,3
Communication with colleagues/specialists	0	1,9	12,3	43,2	42,6
Hospital Library	68,5	7,4	11,1	9,9	3,1
Scientific Databases (e.g. pubmed, uptodate)	9,3	29,6	32,1	12,3	16,7
Internet Search Engines (e.g. google)	0	1,2	17,3	40,1	41,4
Specific Internet Medical Web pages (e.g. Elegeia http://www.elegeia.gr/)	24,7	20,4	23,5	19,8	11,7
Sources for keeping up-to-date with medical developments (e.g. Medscape Week in Review)	58	30,2	9,9	0,6	1,2
Formal Websites with medical guidelines (e.g. ADA, NICE)	3,1	22,2	38,3	24,1	12,3
Online Scientific Magazines	3,7	16,7	29,6	29	21
Medical Conferences/seminars/ workshops	2,5	14,2	38,3	31,5	13,6
Pharmaceutical Representatives	3,1	11,7	40,7	26,5	17,9

Correlations

- **Age demographics influence the choice of information sources (some selective results)**
 - **Communication with colleagues/specialists ($p=0,007$)**
 - Above 60 years old (97,59%); 55-60 years (96,6%); 40-55 years (84,81%); below 40 years (67,26%).
 - **Internet Search Engines (e.g. google) ($p=0,004$)**
 - 40-55 years (n= 93,07%); 55-60 years (90,66%); up to 40 years (72,31%); above 60 years (56,25%).
 - **Sources for keeping up-to-date with medical developments (e.g. Medscape Week in Review) ($p=0,003$)**
 - Below 40 years(93,25%); 55-60 years (90,42%); 40-55 years (72,66%); above 60 years (58,47%).
 - **Online Scientific Magazines ($p=0,017$)**
 - Below 40 years(94,53%); above 60 years (n= 84,59%); 55-60 years (n= 81,56%); 40-55 years (n= 68,28%).
 - **Specific Internet Medical Web pages (e.g. Elegeia <http://www.elegeia.gr/>)**
 - Below 40 years (n= 93%); 55-60 years (65.7%); 40-55 years (72,66%); above 60 years (49.72%).

Cronbach's Alpha	N of Items
0,721	8

Barriers

	N	Mean	Std. Deviation
Lack of time	162	3,85	,921
Cost of accessing information services	162	3,68	,976
Lack of access to information services (e.g. libraries, the Internet)	162	1,65	,975
Lack of familiarity with information searching	162	1,51	,927
Lack of familiarity with computers	162	1,22	,628
Lack of trust to Internet information	162	1,30	,591
Difficulty of finding information due to information overload problems	162	3,50	1,047
Difficulty of understanding information because of language barriers	162	1,16	,430
Valid N (listwise)	162		

	No significance (%)	Little significance (%)	Medium Significance (%)	Considerable significance (%)	High Significance (%)
Lack of time	0,6	6,2	28,4	37	27,8
Cost of accessing information services	0,6	10,5	33,3	31,5	24,1
Lack of access to information services (e.g. libraries, the Internet)	61,7	18,5	15,4	1,9	2,5
Lack of familiarity with information searching	72,2	10,5	13,6	1,9	1,9
Lack of familiarity with computers	86,4	8	3,7	1,2	0,6
Lack of trust to Internet information	75,9	18,5	4,9	0,6	0
Difficulty of finding information due to information overload problems	3,7	10,5	38,3	27,2	20,4
Difficulty of understanding information because of language barriers	86,4	11,1	2,5	0	0

Correlations

Barriers are experienced differently by people with specific age demographics (some selective results)

Younger doctors

- **Lack of time** is a barrier for **younger doctors** and less for older doctors – e.g. 40-55 years (86,82%), up to 40 years (86,42%), 55-60 years (73,42%) above 60 years (55,34%).

Older doctors

- **lack of access to information services** (e.g. libraries, the Internet) - e.g. 40-55 years (85,34%); up to 40 years (53,81%).
- **lack of familiarity with information searching** - e.g. 55-60 years (99,14%), 40-55 years (83,44%) and up to 40 years (62,41%).
- **difficulty of understanding information because of language barriers** were found among **older doctors** (e.g. 60 years 95,88%; 55-60 years (89,46%), up to 40 years (81,58%) and 40-55 years (74,5%).



Doctor-patient relationship

Cronbach's Alpha	N of Items
0,683	6

- Participants were asked to evaluate the significance of a number of sources for enabling more successful patient-doctor relationships:

	N	Mean	Std. Deviation
The medical practice webpage	162	3,60	1,005
Doctor's Facebook page	162	3,20	1,343
Medical publications in the press	162	3,59	1,084
Publications on medical websites	162	3,81	,960
Doctors (collaboration for making medical decisions)	162	3,69	1,059
Doctors (collaboration for improving medical outcomes)	162	4,19	,850
Valid N (listwise)	162		

	No significance (%)	Little significance (%)	Medium Significance (%)	Considerable significance (%)	High Significance (%)
The medical practice webpage	3,1	8	35,2	32,7	21
Doctor's Facebook page	14,8	15,4	25,9	22,2	21,6
Medical publications in the press	3,1	11,7	33,3	26,5	25,3
Publications on medical websites	0	8,6	30,9	30,9	29,6
Patient-doctor collaboration (for making medical decisions)	3,7	8	29,6	32,7	25,9
Patient-doctor collaboration (for improving medical outcomes)	0	1,9	22,8	30,2	45,1

Correlations

There is a relationship between age demographics and specific sources that enable patients' cooperation with doctors



- **The use of the medical practice webpage** – Above 60 years old (47%); however 55-60 years (93,64%), 40-55 years (76,4%) and up to 40 years (91,07%).
- **The use of the doctor's Facebook page** – Above 60 years old (51,56%); 55-60 years (69,7%); 40-55 ετών (85,91%); up to 40 years (89,98%) .
- **Publications on medical websites** – Above 60 years old (73,69%); 55-60 years (83,26%), 40-55 years (96,90%), up to 40 years (66,69%).
- **Doctors (collaboration for improving medical outcomes)** – Above 60 years old (55,16%); 55-60 years (73,88%); 40-55 years (90,27%); up to 40 years (82,65%).

Pearson Correlations between barriers and cooperation with doctors

		Lack of time	Cost of accessing information services	Lack of access to information services (e.g. libraries, the Internet)	Lack of familiarity with information searching	Lack of familiarity with computers	Lack of trust to Internet information	Difficulty of finding information due to information overload problems	Difficulty of understanding information because of language barriers
Patient-doctor collaboration (for making medical decisions)	Pearson Correlation	 .182*	.066	 -.304**	 -.327**	 -.320**	 -.287**	-.101	-.068
Patient-doctor collaboration (for improving medical outcomes)	Pearson Correlation	.123	.147	-.078	-.151	-.099	-.149	.035	-.065

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Conclusions



Sources

- ▶ Interpersonal communication with other doctors and specialists is the most preferable source.
- ▶ Electronic information sources are preferred by younger doctors.

Barriers

- ▶ The most common barriers are the lack of time (more common in younger doctors) , the cost of accessing information services, the difficulty of finding information due to information overload problems.
- ▶ Older doctors experience the following Barriers:
 - ▶ lack of access to information services (e.g. libraries, the Internet)
 - ▶ lack of familiarity with information searching
 - ▶ difficulty of understanding information because of language barriers

Young doctors perceive the significance of cooperation with patients for enabling clinical decisions and improving clinical outcomes. For them online information seeking plays a role in cooperation with their patients

Future Research

Patients

Cyberchondria

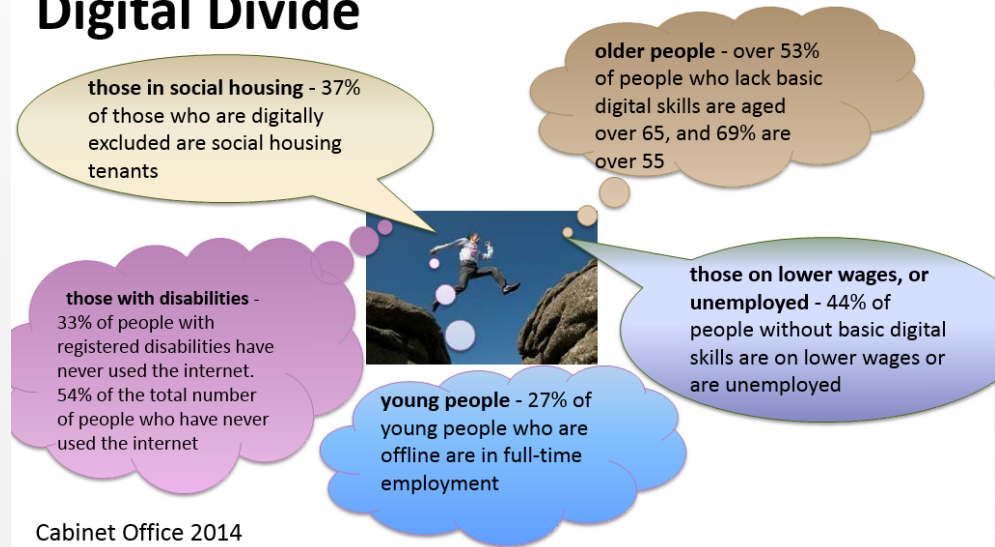
- overly distressed or anxious about health performing excessive or repeated health-related searches on the Internet, only to become more distressed or frightened (Starcevic & Berle, 2013)



Health Professionals (digital divide?)

- Key role as a catalyst in the development of the information literacy
- Both patients and physicians should overcome information barriers when seeking information from various sources to reduce uncertainty about options and preferred outcomes and reach mutual agreement on the best course of action
- more than half of the more experienced doctors (above 60 years old) did not sharing the same positive views on cooperation and did not direct their patients to different information sources.

Digital Divide



Cabinet Office 2014

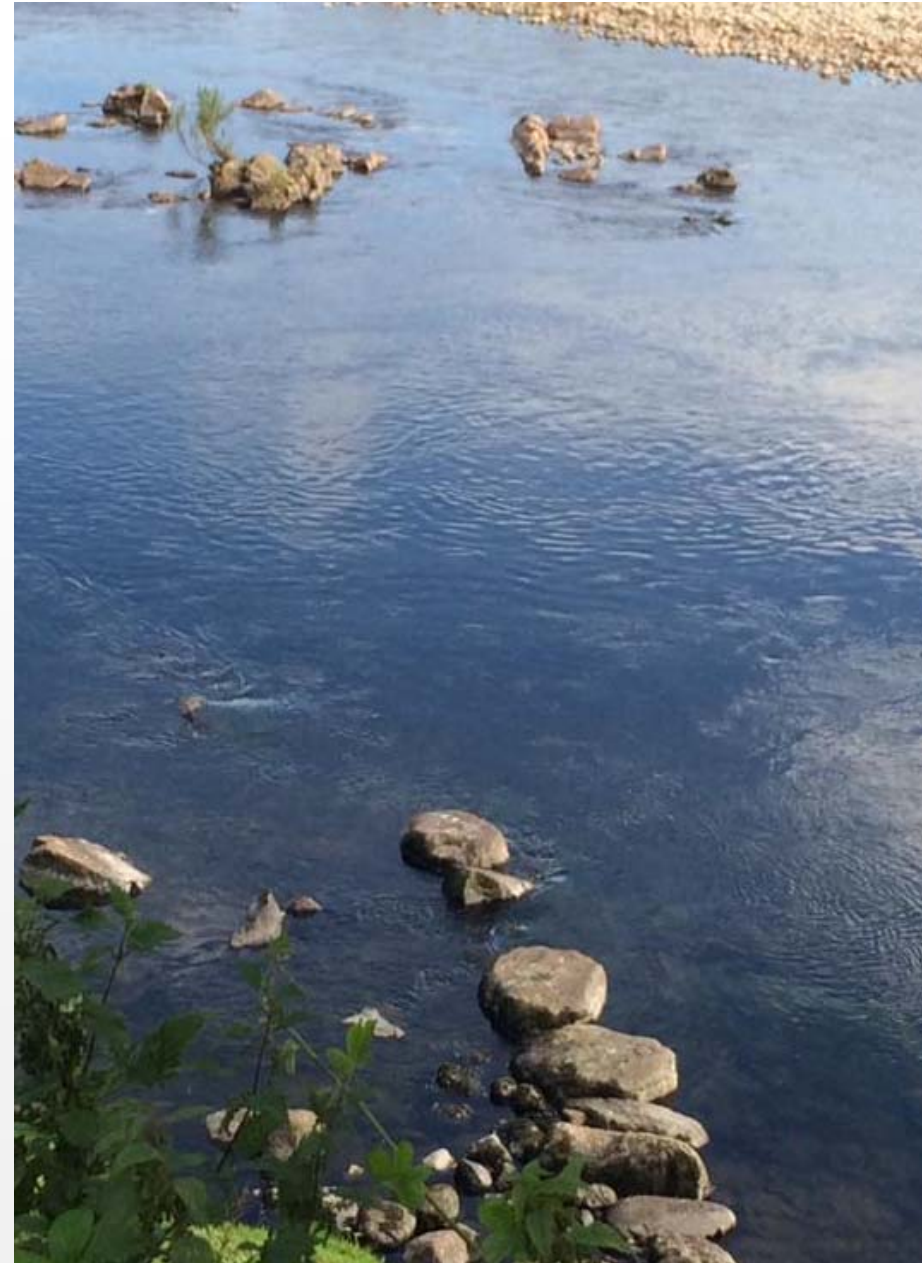
Conclusions (Health Professionals)

- Health information professionals have an important involvement in the provision of patient-based information services:

- doctors form the main IL pillar for patients as their first port of call for their healthcare decisions
- organised evidence-based health resources and information decision aids (information validation channels)
 - identify and use quality health information independently for their evidence based and informed decision-making
- not all have readiness and willingness to offer information prescriptions that will help towards their patients' IL empowerment,

- Shared decision making can be enabled:

- via evidence-based information on symptoms, diagnosis, and therapy options - using a variety of good quality sources
- timely prescription of evidence-based health information to meet individuals' specific needs
- 'a consulting style that is curious, supportive and non-judgmental' including, among others, 'information sharing', 'communication and managing uncertainty' (Coulter and Collins 2011: 25)



Conclusions

KOSTAGIOLAS, P. MARTZOUKOU, K. GEORGANTZI, G. & NIAKAS, D. 2013. Information seeking behaviour of parents of paediatric patients for clinical decision making: the central role of information literacy in a participatory setting. Information Research: An International Electronic Journal, 18(3).

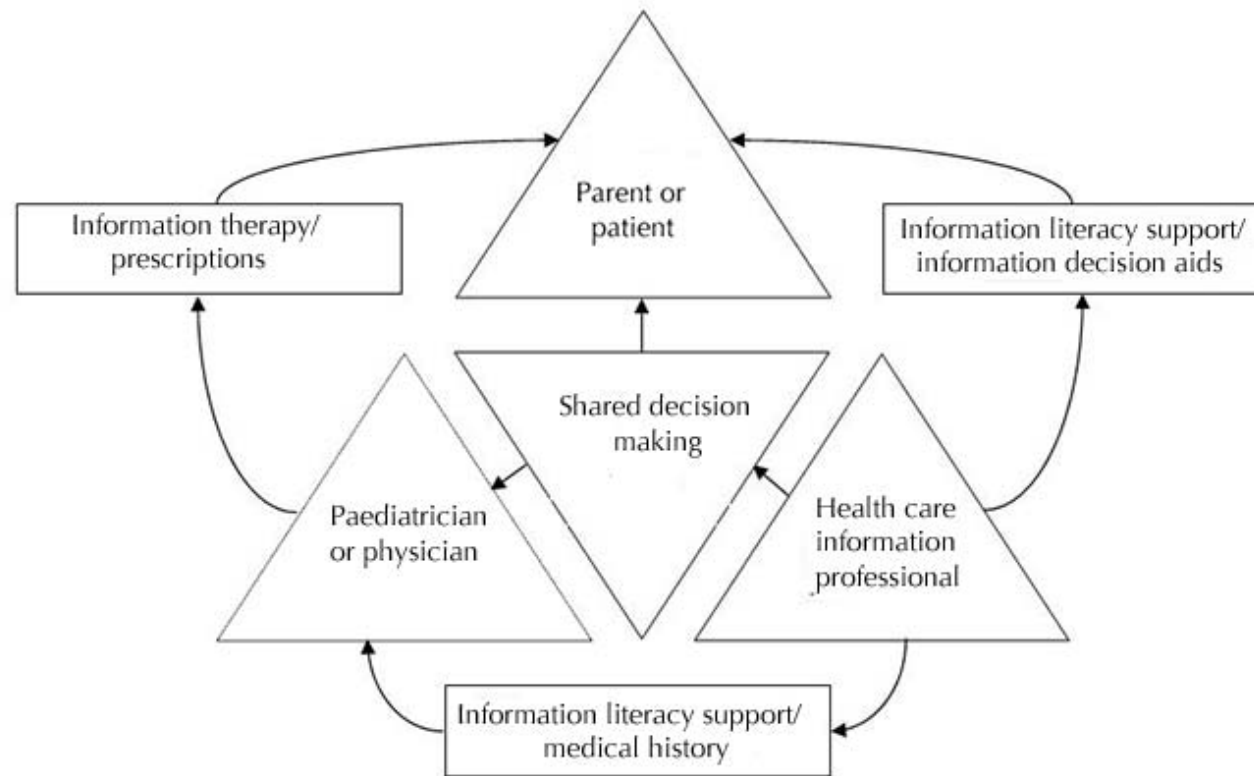


Figure 1: Role of health care information professionals in shaping parents' and paediatricians' clinical decision-making



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