

# Hearing Screening in Europe France

Prof.Dr. B. Frachet

Association

FrancePresbyacousie

Workshop Hearing Screening and Technology, Brussels 28 January 2009



# Hearing Screening in Europe France

- Our organization: Association FrancePresbyacousie
- Our field: Seniors' physiological deafness: i.e. presbyacosis
- Our approach: Hearing screening
  
- Our 1<sup>st</sup> campaign: l'Audiobus
- Our 2<sup>nd</sup> campaign: Phone-based Hearing Screening test

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# Presbycusis affects 2 Functions: Hearing AND Understanding

- **Hearing disfunctioning:**

- Alteration of hearing threshold
- Reduced hearing-range
- Reduced frequency discrimination

- **Consequences:**

- Alteration of speech understanding
- Delayed information processing
- Difficulties for sound localization
- ...

- **The overall consequence =  
Reduced communication  
with psychological side  
effects...**

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# Hearing Screening for Adults: Why?, Why not?

## Principles and reality

**Screening principles** : Medical screening is seeking for a disease or a risk factor for someone who does not complain of specific symptoms..

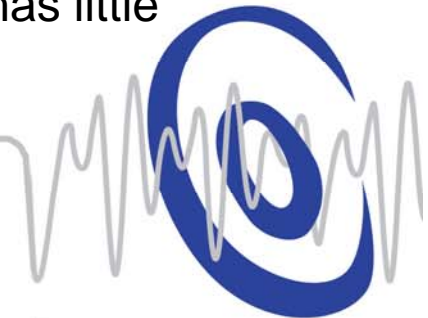
### Interests:

- Highlight a risk factor can fix it to avoid the occurrence of a disease.
- Treat at an early stage disease.
- Treat the disease before consequences occur.

### In practice:

- Selecting the item to be screened: its economical weight, the possibility of a change of practice, the knowledge base.
- The disease should be quite frequent. Indeed, tracing a rare disease would conduct to review too many people, would be very expensive for the final benefit of only few patients.
- The disease must be quite serious. Testing for benign disease has little interest, on an economical point of view ..

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# Hearing Screening for Adults: Why?, Why not?

- No systematic prevention for Presbycusis
- No targeted screening for elderly populations

## WHY NOT ?

- No evidence that revealing this pathology would cut in health costs
  - Obviously: providing hearing aids to 2/3 of French senior population would be very expensive.

## BUT

- Deafness has a huge social cost:
  - Withdrawal from family and society
  - Loss of social links leads to exclusion
  - Loss of sensory stimulation may induce: depression and other pathologies at high medical cost (*\*studies by Hear-it: "Evaluation of the Social and Economic Costs of Hearing Impairment", October 2006, Hear-it AISBL*)

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# Programme National “Bien vieillir 2007-2009” (Ageing Well)



- **GOALS: to set up targeted actions:**
  - Developing early intervention methods so as to *prevent or to delay diseases and disabilities*
- **To keep and to encourage socialization among the elderly**
  - The improvement of the seniors' quality of life is a societal challenge which justifies the setting up of strategies of prevention, **screenings**, and training for professionals.
- **TARGET POPULATIONS: (retired) seniors, 50 -70 year old**

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*Our association...*

## France Presbyacousie Non-profitable Association Loi 1901

- To increase public awareness of presbyacousis
- To inform of potential consequences in social life.
- To expose the rehabilitation solutions

- **2005, 2006, 2007, 2008**  
Meeting hearing-impaired people,  
face to face

“Drawing” a cartography (with  
bias) of hearing-impairment in  
France: L’Audiobus

- **2009**

Reach as many people as possible:

Phone-based Hearing-screening  
test campaign

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# Our Partners and Sponsors

manufacturers, hearing dispensers, mutual insurance company

- **Amplifon**
- **Audio 2000**
- **Audition Conseil**
- **Audio-infos**
- **EHIMA**
- **Médéric**
- **GN Resound (Resound, Beltone)**
- **Siemens Audiologie**
- **Sonova France (Phonak, Unitron)**
- **Starkey France**
- **Prodition (Oticon, Bernafon)**
- **Widex France**
- ....

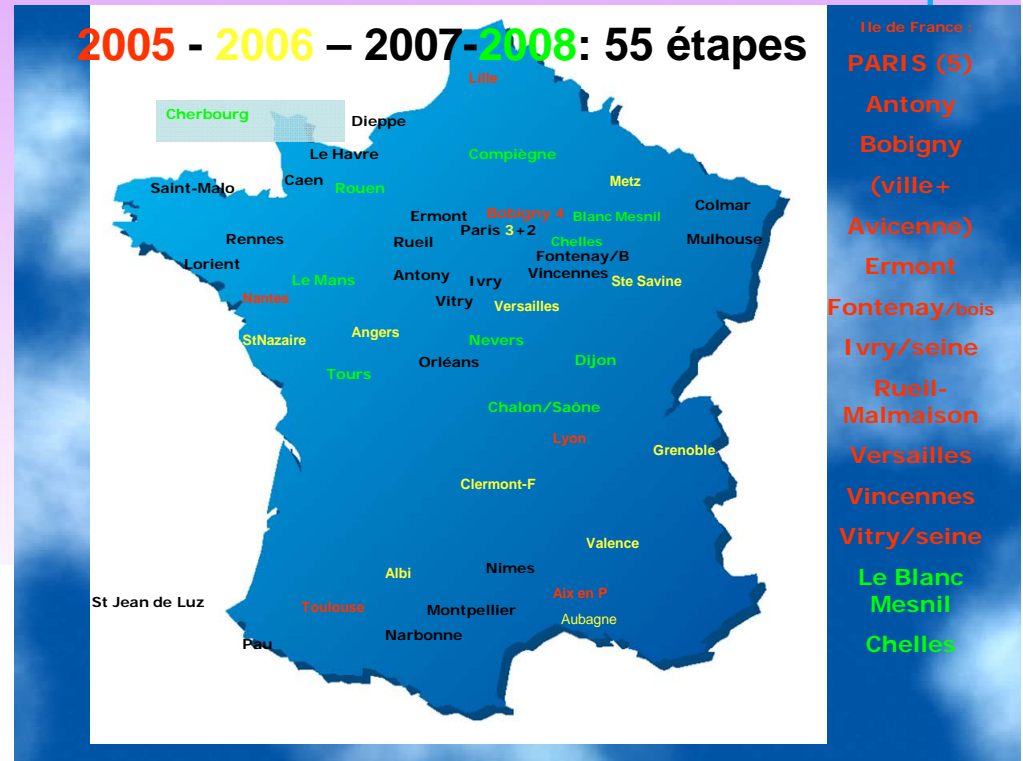
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# 2005-2008 L'Audiobus

- 55 locations
  - more than 6000 visitors
  - Studies on
    - mean age,
    - precariousness,
    - correlation between depression and hearing losses
  - among seniors 55 year and older
- Locations do not reach all
- Heavy overhead= # 6 000 €/location

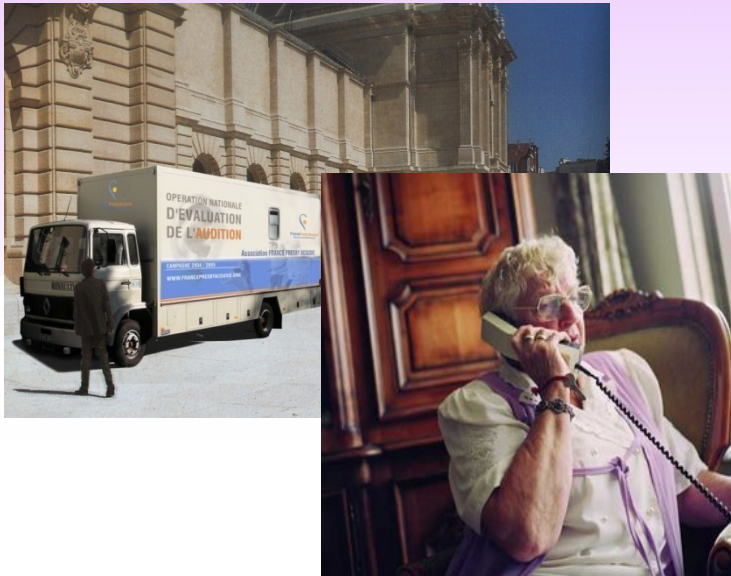


<http://www.audiobus.fr/>

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# Hearing screening test: the setting up

- In Europe: logical continuation of the HearCom project and the Audiobus campaign



- To get faster to a bigger audience.
- To increase public awareness of the hearing test benefits
- To reassure
- To offer a confidential, rapid, reliable test.
- To show the 1st symptom of presbycusis: difficulty to understand speech in noise
- To participate to the 2007-2009 « Ageing Well Program »

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# Technical Means

- Phone-based Speech Audiometry
    - Signal/noise Ratio
    - Calibrated, reliable, validated
- *Cas Smits, Theo S. Kaptey, T. Houtgast International Journal of Audiology 2004; 43:15–28 Development and validation of an automatic speech-in-noise screening test by telephone*

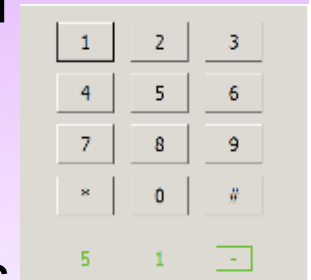
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# Test Technical Aspects

*developed by K.U.Leuven and Hörtech in the frame of the HearCom FP6 project*

- Mixing levels (noise + speech) from -12 dB to +2 dB *i.e.* for the bounds: 12dB more for noise and 2dB more for speech. Normal hearing is said to understand speech with a – 10dB SNR.
- 27 presentations of triplets :...5 1 6....
- The assessment is based on the determination of a threshold: average value of SNR of the last 22 triplets understood (calibration+++)

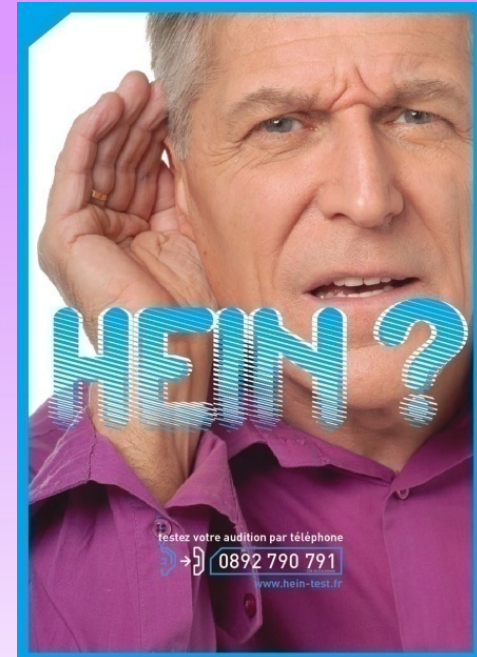


- **Date** 2009/01/23 **Time** 11:33:23; **Gender** F; **Age** 55; **SNRT** n=-6.40;  
SNR1=0:ok;SNR2=-2:ko;SNR3=0:ok;SNR4=-2:ko;SNR5=0:ok;SNR6=-2:ok;SNR7=-4:ok;SNR8=-6:ok;SNR9=-8:ko;SNR10=-6:ko;SNR11=-4:ok;SNR12=-6:ok;SNR13=-8:ok;SNR14=-10:ko;SNR15=-8:ko;SNR16=-6:ok;SNR17=-8:ko;SNR18=-6:ko;SNR19=-4:ok;SNR20=-6:ok;SNR21=-8:ko;SNR22=-6:ko;SNR23=-4:ok;SNR24=-6:ok;SNR25=-8:ko;SNR26=-6:ko;SNR27=-4:ok;



# Media Campaign

- Naming: « **HEIN?** »
- “Quirky” Campaign , humor
- 2009 February 13th: « teasing » day on TV
- 47 spots on FR2, FR3, FR5. Unveiling of the phone number
- Website opening [www.hein-test.fr](http://www.hein-test.fr)
- Media Campaign: professional, senior, local and regional newspapers.



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# Conclusion: Expected Benefits

Data from the screening:

- Limits = recruitment bias, no hint about pathology, Age and gender are known.
- Caller's interest: to know if his/her hearing is "all in all normal"
- Public Health Interest:
  - Awareness
  - Prevention
  - 12% less specialist's consultations (estimate)
- European pooling:
  - Equivalent test distributed in several countries.
  - Opportunity to compare populations

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Workshop Hearing Screen

