



# Neonatal Screening models outside the US: Protocols and technology updates

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# Mediterranean Countries



- THE PAST and the PRESENT: 10 min
- Cyprus, Greece, Italy, Portugal, Turkey and other.  
Data from Reports to the OAE Portal



## Mediterranean Countries

- THE PAST and the PRESENT: 10 min: The Basics
  - ▶ Many starting programs with small regional coverage (ie main hospitals).
  - ▶ Neonatal screening practises are not followed by proper intervention policies (in terms of time and in terms of service).
  - ▶ In summary, the number of reported programs DOES NOT indicate a shift in state-politics (ie governmental laws), but a rather Clinical TREND!!



## Mediterranean Countries

- Cyprus
  - ▶ Pilot UNHS project (started 2004) at 2 main urban centers. Project duration 24 months.
  - ▶ NICU and WB objectives
  - ▶ 3 phase protocol with AOAEs and AABR ( AccuScreen)
  - ▶ High index of sensitivity ( > 94%), no reports of AN, or Risk-factor analysis of REFER cases.
  - ▶ No standardized policy of intervention.



## Mediterranean Countries

- Greece
  - ▶ NHS programs running in large private hospitals in the major 3 Hellenic cities (more than 10000 infants tested). Territorial coverage is therefore low.
  - ▶ OAEs ( ILO) and AOAEs (Accuscreen) are used in a standard 3-phase program. Clinical ABR is used to verify OAE refer cases.
  - ▶ The last 7 years 2 AN cases have been identified (both NICU cases) for a tested population > 55000 infants.
  - ▶ Sensitivity estimates are reported as > 91.5 %



## Mediterranean Countries

- Greece-II
  - ▶ Reports on the efficiency of the program with re-test cases are not available, but unofficial comments mention losses in the range of 50 - 55 %.
  - ▶ Rigorous Follow-up practises are reported only in Athens with average intervention time of 12 months (hearing aids) and 18 months (cochlear implant)



## Mediterranean Countries

- Italy (2 European CA on OAEs and NHS)
  - ▶ Approximately 12 Regional and isolated UNHS-NHS programs covering 30% of the target territory. Mainly WB testing.
  - ▶ 3-phase OAE and AABR (GSI-Audioscreener, AccuScreen, Natus) testing. Most clinicians prefer a clinical ABR than AABR affirmation.
  - ▶ 3 reports of AN cases (all from NICU)



## Mediterranean Countries

- Italy-II
  - ▶ Most programs report a high sensitivity index ( > 90%)
  - ▶ Major problem is the “leakage” of REFER cases from Phase 1 to Phase 2 (> 70%) . Large-scale solutions are still not available.
  - ▶ Intervention is available in 4 centers only with times ranging from 8 -12 months.



## Mediterranean Countries

- Portugal:
  - ▶ A Pilot UNHS program has started in Lisbon from 2002, targeting the NICU infants. Territory coverage (2000 subjects per year) is minimal.
  - ▶ AOAEs (Etymotic Research) are used for the first two phases and a clinical ABR for phase 3. Sensitivity levels are reported around 90% .
  - ▶ Intervention is possible within 8 months.
  - ▶ The issue of “leakage” from phase 1 to phase 2 is a main issue of the program, which is difficult to be resolved in the near future (immigrant populations).



## Mediterranean Countries

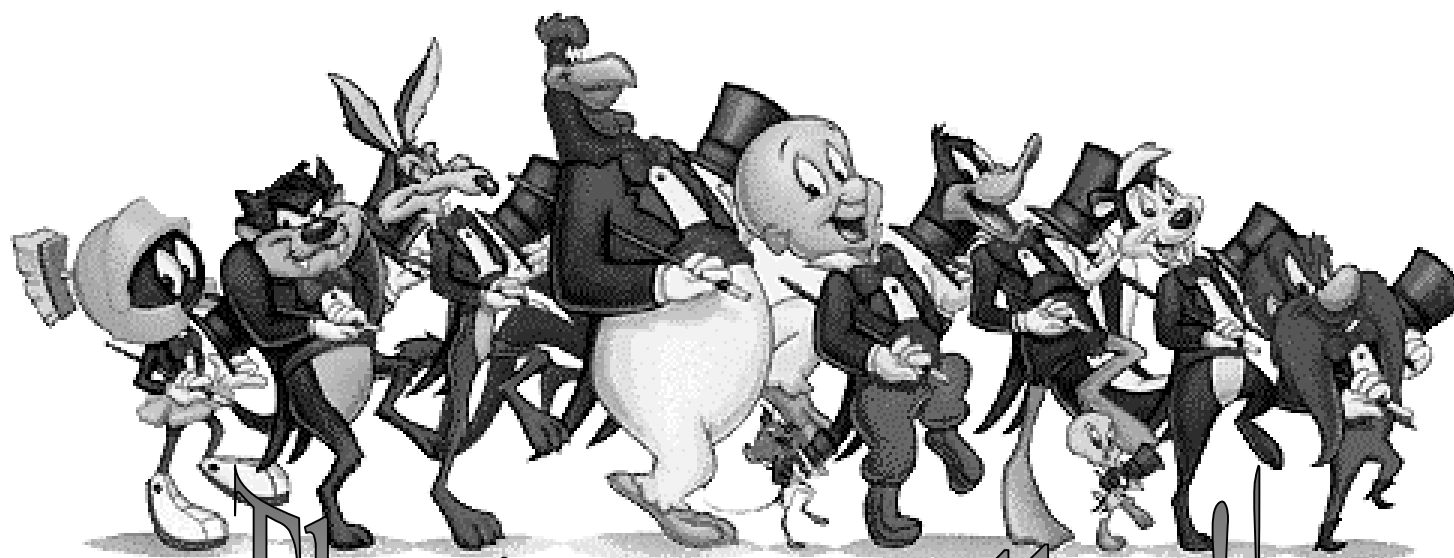
- Turkey:
  - ▶ Numerous private and state UNHS programs in the main cities (Ankara, Istanbul). Data from these programs refer to 1.3 million births per year with 39,000 retest referrals (0.03 %).
  - ▶ Age of diagnosis before screening was > 12 months lowered to 5-7 months in the majority of centers.
  - ▶ UNHS screening follows 2 phases with AOAEs and a final phase with Clinical ABR.
  - ▶ Sensitivity index > 90%



## Mediterranean Countries

- Turkey-II:
  - ▶ Problems with “leakage” of cases from Phase 1 to Phase 2. Interestingly the causes have been attributed to :
    - Early discharge
    - Holidays (major cause)
    - Out of the city residence
    - Not acceptance of screening by a number of physicians.
    - Insufficient Documentation

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That's all Folks !!