



THE EU-AFRICA PERMED PROJECT 2ND EU-AFRICA PERMED STAKEHOLDER WORKSHOP

PERSONALIZED MEDICINE IN NORTH AFRICA REGION: CURRENT STATUS IN ALGERIA

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Global position

- **Acquiring a Healthcare system related to PM,**
- **Algerian research sytem** is directed by **three public institutions,**
- **More than 60 universities and research centers,**
- **Several Funding plans**
- **Various topics related to PM** as oncology, rare diseases, cardiovascular and metabolic, auto-immune and inflammatory disease, pharmacogenomics, and population study,
- **Numerous technologies platforms**

National Projects in PM field

- **National research** has initiated a set of projects related to PM such as:
- **Oncology** : 21 laboratories 257 scientific staff,
- **Pharmacogenomics theme** : 15 Laboratories, 215 scientific staff,
- **Population study theme** : 09 listed laboratories, 95 scientific staff,
- **More than 1000** high-level scientific publications in PM field,

Platforms

PM research has benefited from **major** recent **technological acquisitions** in “OMICS” field :

- **Genomics** : Next-Generation Platform Sequencing,
- **Proteomics and pharmacogenomics** : CG -MS, LC-MS and MS/MS, platforms
- **Bioengineering** platform,
- **Bioinformatics** platforms,
- **Monoclonal Antibody** Platform,
- **Cell and tissue culture** platforms,

Issues and necessity of PM in Algeria

- Algeria is aware that **PM is a positive changing vector** in terms of citizens health, and sustained efforts **targeting the implementation** of :
 - **Democracy** and inclusion of citizen **preferences**;
 - Strengthening **data harmonization** for a better use;
 - Integration of **PM** into **national healthcare system**;
 - Creation of efficient **entrepreneurial ecosystem** between research training and **industry** in order to stimulate **healthcare innovation**;
 - **Redefining** national health value system scales by **integrating patients** into medical acts;

Opportunities, capacities and potentials

Centrally-managed Algerian healthcare system can also deliver a fairly well regulated performance thanks to the:

- **Density** of Algerian **hospital network**;
- **Various research projects** related to **PM**, including clinicians, geneticists, biochemists, immunologists, microbiologists, bioinformaticians,
- **Broad knowledge** , skills, resources and specific **infrastructure**, as well as regulatory **frameworks for genomic medicine**;
- A **political will** to increase the potential for **international collaboration** on projects related to PM.

Action courses in PM matters

- **The roles of practitioners and patients** are converging according to a paradigm shift needed in healthcare sector,
- **Universities and training initiation** in connection with PM;
- **Civil society** through the involvement of **society members** which is imperative regarding their major roles in promoting **PM democratization process**;
- **The legislators involvement** through the adoption of **laws** guaranteeing patients rights.

Our priorities

All the **governmental efforts** converge towards:

- Promoting **genetic and genomic** studies in the Algerian population;
- **Elaborating molecular diagnostics**, through the development of new **technologies** and the identification of **new biomarkers**, in oncology and other chronic genetic diseases;
- Developing **clinical bioinformatics** and establishing **data-driven patient care models**;
- Focusing on **citizens healthcare** and their **well-being**.

Gaps

- **Lack of diversity** in PM research in Algeria;
- A **weak impact** of this kind of research field on the **citizens health**;
- Existing **inequalities** in the country in **PM practice**;
- A growing **assessment gap** in **PM innovation**;
- **Lack of data** on national genetic **diversity** as well as scientific and medical progress holding back;
- **Insufficient PM training** for Algerian **health professionals**.

Needs

- **Contributing in reducing the existing disparities** in citizens health;
- **Facilitating Algerian and African countries access** to new tools and technologies likely to get more efficient and equitable healthcare service;
- **Fostering joint PM projects and programs** between Europe and Africa;
- **Strengthening EU-Maghreb bilateral relations** in terms of science, technology and innovation in human health;
- **Challenges in developing health data governance;**
- **Creation of environments supporting innovation in PM;**
- **Linked PM and health economics - beyond cost-effectiveness.**

Previous local, regional and international actions

- **Implementation of training processes** in PM directly related areas, medical genetics, medical genomics, bioinformatics, data analysis, bio-statistics... ,
- **Creation of a medical advisors network**, oncologists, general practitioners, specialists who channel patients medical path;
- **Establishment of consistent legislation** with the progress of PM, as well as an **ethical charter** in charge of issues relating to compliance with legal texts and the **patient dignity**;
- Create and support a **pan-continental laboratories network** planned to be equipped to apply **cutting-edge research** in order to study **interplaying complex** between environmental and genetic factors determining disease susceptibility and drug responses; in **Algerian populations**.

Conclusion

- Protractedly, **Algeria** has made **commendable efforts** to set up **PM** in citizen **healthcare improvement**;
- These efforts are **real but insufficient** for a **prompt objective achievement**;
- Its first wish is to be able to benefit from certain countries expertise that have **introduced the PM into their daily practice**;
- **National PM research** expresses the wish to join **consortia** such as that of **EU-AfricaPermed**.

Thank you