Advanced Therapy Medicinal Products (ATMPs)

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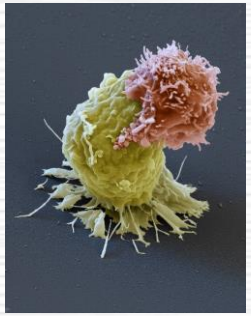
United States Food and Drug Administration

ATMPs: Definition in the United States

- Gene therapies

  Includes genetically-modified cells



- Human Cells, Tissues, and Cellular and Tissue-Based Products (HCT/Ps) requiring licensure

  Includes allogeneic cord blood units for use in stem cell transplantation

- Xenotransplantation products

U.S. Regulatory Framework for ATMPs

- Section 351 of the Public Health Service Act
  - License needed to distribute in interstate commerce
  - Product must be safe, pure, potent
- Section 361 of the Public Health Service Act
  - Authorizes FDA to issue and enforce regulations necessary to prevent the introduction, transmission, or spread of communicable diseases
- Federal Food Drug and Cosmetic Act

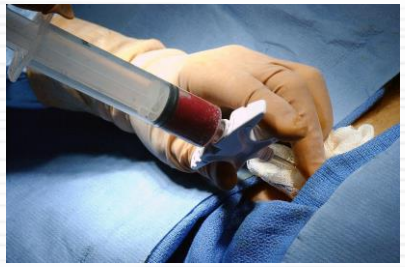
Section 361 HCT/Ps: Not ATMPs

To be regulated solely under section 361 of the PHS Act, HCT/Ps must meet the following criteria (21 CFR Part 1271.10(a)):

1. Minimally manipulated (MM);
2. Intended for homologous use (HU) only;
3. Not combined with another article (with some exceptions); AND
4. Either:
   i. Does not have a systemic effect and is not dependent upon the metabolic activity of living cells for its primary function; or
   ii. Has a systemic effect or is dependent upon the metabolic activity of living cells for its primary function, and is for autologous, 1st or 2nd degree blood relative, or reproductive use

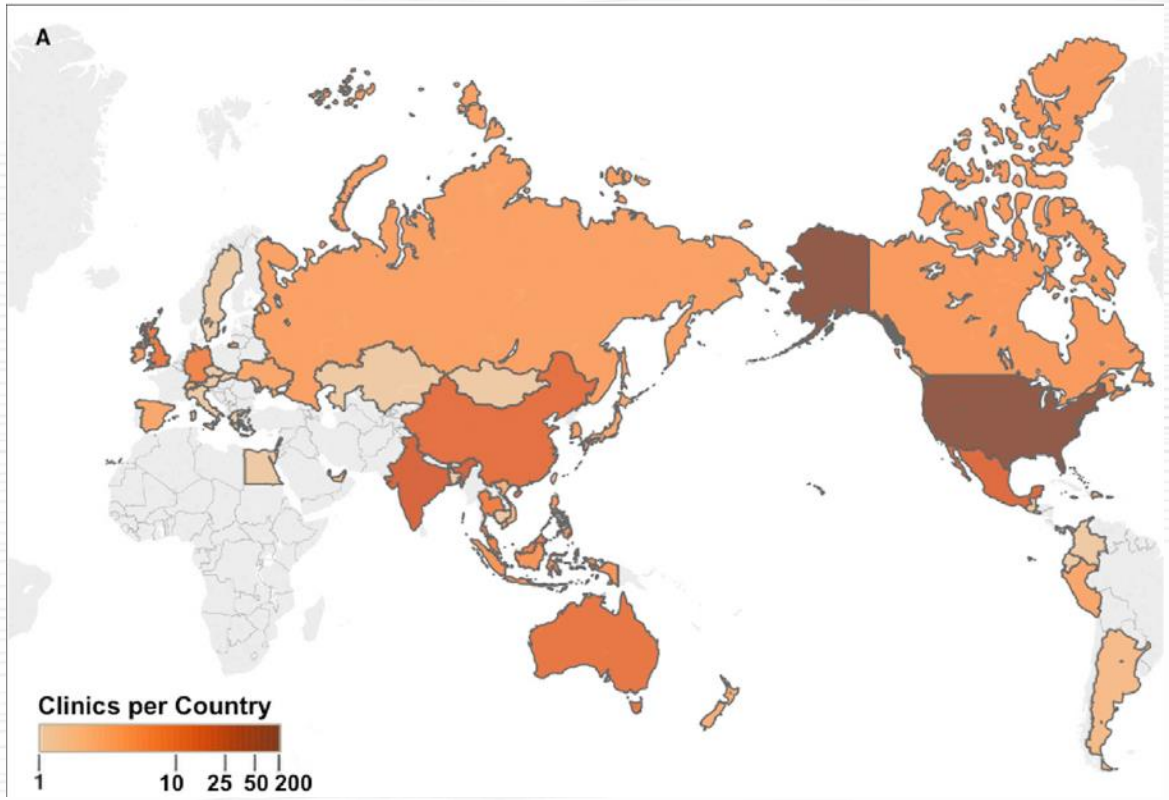
Potential safety concerns for cell-based products

- Risks of the delivery procedure
- Ex vivo manipulation (e.g., expansion, genetic modification, encapsulation, scaffold seeding)
- Potential inflammatory / immune response to the administered cellular product
- Inappropriate cell proliferation (i.e., tumor formation)
- Inappropriate cell differentiation (i.e., ectopic tissue formation)
- Cell migration to non-target areas/tissues
- …



Stem Cell Clinics

Locations of Stem-Cell-Based Clinics: A Global Challenge

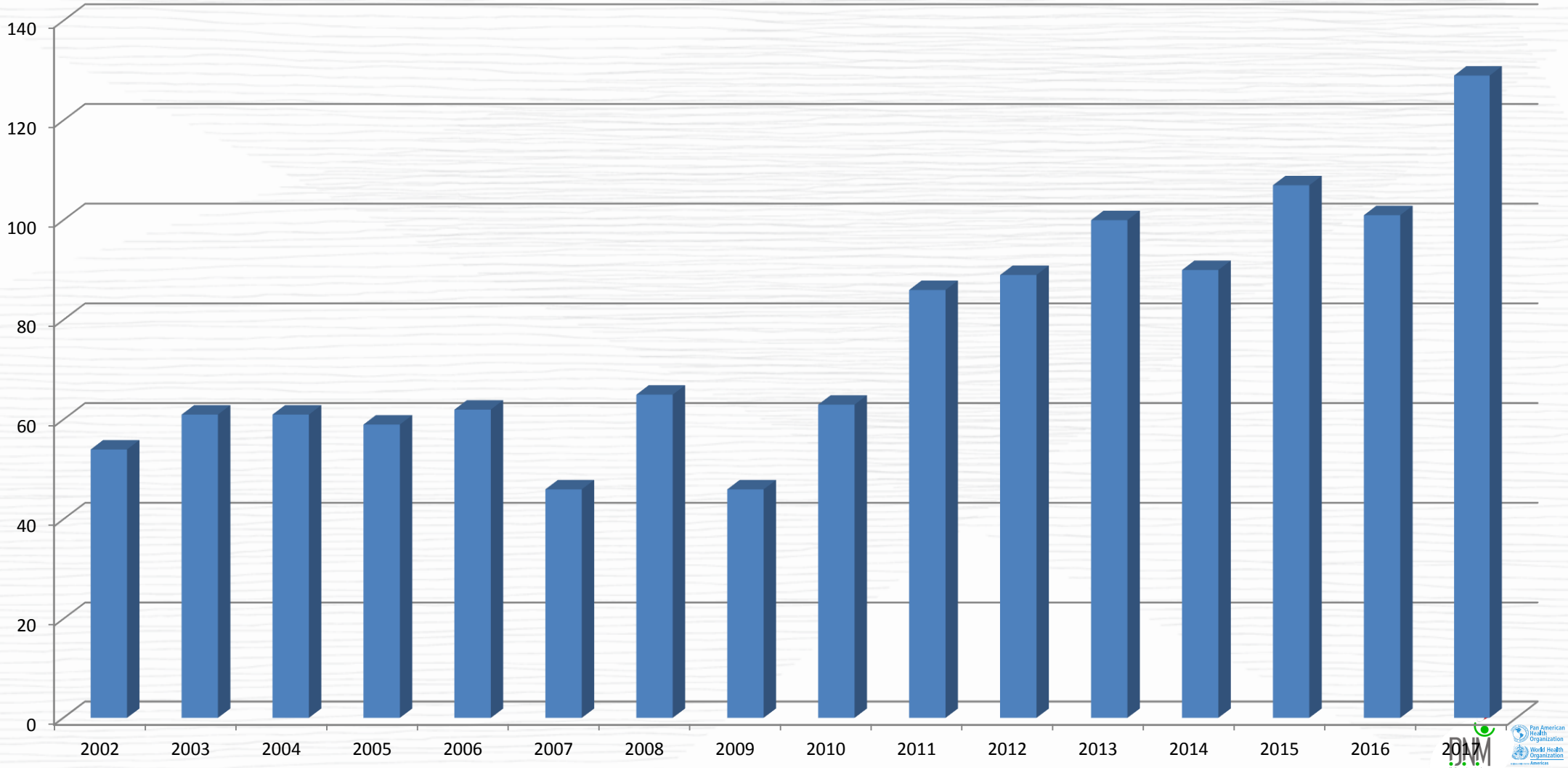


Berger I et al. Cell Stem Cell 2016

Who will intervene?

- Congress
- State Medical Boards
- Lawyers
- Patient Advocacy Groups
- Professional Organizations
- FDA
- Science

Investigational New Drug Applications (INDs) for Cell Therapy Products, 2002-2017



Suite of Regenerative Medicine Guidance Documents

1. Regulatory Considerations for Human Cell, Tissues, and Cellular and Tissue-Based Products: Minimal Manipulation (MM) and Homologous Use (HU) – Final
2. Same Surgical Procedure Exception under 21 CFR 1271.15(b): Questions and Answers Regarding the Scope of the Exception – Final
3. Evaluation of Devices Used with Regenerative Medicine Advanced Therapies – Draft
4. Expedited Programs for Regenerative Medicine Therapies for Serious Conditions – Draft

International Regulatory Interactions

1. International Pharmaceutical Regulators Programme (IPRP) Cell Therapy Working Group
2. IPRP Gene Therapy Working Group
3. ATMP Cluster FDA – EMA – HC – PMDA
4. Asia Pacific Economic Cooperation (APEC)
5. Parallel Scientific Advice
6. International Conferences

Contact Information

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