Strategies to Align Evidence Generation for Cell Therapies

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Objectives

- Develop a policy framework for post-market evidence generation for cell therapies that address multiple stakeholders' evidentiary needs, and
- Formulate a coordinated strategy for post-market evidence infrastructure that addresses multiple stakeholders' evidentiary needs.

Background

- As of March 27, 2021, there are 20 cell therapies commercially available in the US.[1] The FDA predicts that by 2025 there will be 10-20 cell therapy products approved per year.[2]
- The long-term safety, effectiveness, and durability of cell therapies are unknown at the time of market approval. These questions are addressed through post-market evidence development often driven separately by regulators, providers, and payers.
- Efforts to generate evidence across stakeholders are not aligned which can result in duplicate efforts and increased administrative burden for providers which hampers evidence development and can limit patient access.

Methods

- We conducted a landscape analysis of the cell therapy market, including identifying the key areas that impact patient access.
- We convened regulators, payers, manufacturers, providers, patient advocates, and registry leaders in series of four meetings.
- In each meeting participants engaged in moderated panels, presentations, and open discussion to align evidence generation strategies in three areas that impact patient access: long term data collection on safety and effectiveness, care coordination, and sustainable financing.

Results

Data collection efforts by individual stakeholders are typically driven by the following:

FDA	Payers	Providers*
Safety monitoring Efficacy^	Coverage policies Payment policies Formularies Site distinctions Performance measures Quality indicators	Effectiveness Practice patterns Quality of care Clinical guideline development

*Providers include clinicians, hospitals, and other health care practitioners involved in coordinating care. ^Efficacy monitoring as part of a confirmatory Phase IV trial following market approval in an expedited or accelerated pathway

Coordinated Policy Framework for Post-Market Evidence Generation

Align on key outcomes that will inform treatment decisions and care improvements.	Process driven by clinicians and specialty societies that develop practice guidelines. Payers can provide guidance on effectiveness questions through advisory committees.
Collect data through interoperable or centralized data platforms.	The disease area and expected indication can provide insight on the expected outcomes, which can inform whether there are existing platforms to fulfill data collection requirements.

Examples of data collection models by type of cell therapy:

Type*	Disease area	Expected outcomes	Data collection model
CAR-T gene therapies	Lymphomas	Large effect size. Key outcomes routinely recorded and captured through lab work and electronic health records	Centralized global registry collecting data on safety, effectiveness, and clinical outcomes (e.g. CIBMTR^)
Regenerative cell therapies	Repair and or replace tissues	Key outcomes are related to the durability of the therapeutic effect.	Existing data collection on safety and effectiveness for devices of similar indications can be expanded (e.g. Sentinel[+])
Other gene therapies	Musculoskeletal and neuromuscular conditions	Key outcomes may not be captured in routine care, claims or EHR data. These include patient reported outcomes and functional measures.	No existing central or interoperable model. Existing specialty driven registries may be scaled.

*Not exhaustive list of all cell therapy types. ^Center for International Blood and Marrow Transplant Research.[+] FDA's Sentinel Initiative is a national electronic safety monitoring system for FDA –regulated medical products including drugs, vaccines, biologics, and medical devices.

Policies to Support Evidence Generation

- Use of data platforms that increase access to automated near real-time information can provide robust and predictive analytics into patients' health trends over time.
- Engaging the clinical community by providing incentives to collect and report data will drive continuous improvement in patient management.
- Value-based payment models such as subscription-based, per-member per-month, or outcomes-based models can encourage post market evidence development for cell therapies.
- Evidence generation to support value-based payment models can also be used for care coordination, thereby streamlining data collection efforts for providers.

Conclusion

- Effective use of cell therapies will occur when there is sufficient evidence informing the factors that determine treatment success, which can only be achieved through continued evidence generation.
- A coordinated approach to evidence generation will drive better evidence to support care improvement and inform treatment decisions.

References

[1]U.S. Food & Drug Administration. "Approved Cellular and Gene Therapy Products."

2 "Statement from FDA Commissioner Scott Gottlieb, M.D. and Peter Marks, M.D., Ph.D., Director of the Center for Biologics Evaluation and Research on new policies to advance development of safe and effective cell and gene therapies". FDA Press Announcements. January 2019

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