Assessing Feasibility of a Standard

FOR CHAIN-OF-IDENTITY / CHAIN-OF-CUSTODY REPORTING

Final Report

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STANDARDS COORDINATING BODY
REGENERATIVE MEDICINE

NEXIGHT GROUP

DISCLAIMER

This report was prepared for the U.S. Food and Drug Administration (FDA), Center for Biologics Evaluation and Research by Nexight Group and The Standards Coordinating Body for Gene, Cell, and Regenerative Medicines and Cell-Based Drug Discovery (SCB) under contract number 75F40120F80487. The information and perspectives contained in this report are those of the authors and should not be attributed to the FDA. The mention of trade names, commercial products, or organizations does not imply endorsement of same by the U.S. Government.

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Introduction

Since the *21st Century Cures Act* was signed into law in December 2016, the U.S. Food and Drug Administration (FDA) has been engaged in ongoing efforts to fulfill its provisions to accelerate medical product development through the advancement of standards. The Standards Coordinating Body for Gene, Cell, and Regenerative Medicines and Cell-Based Drug Discovery (SCB) is supporting the FDA's efforts by coordinating the activities of the regenerative medicine community to accelerate regenerative medicine standards development.

A key element of SCB's support in accelerating standards development is engaging regenerative medicine stakeholders to help assess the feasibility of needed standards, using the methods SCB outlined in *Realizing the Promise of Regenerative Medicine Therapies: Strengthening the Standards Development Process*. Assessing a needed standard's feasibility early in the standard advancement process is critical to ensure efficient use of community resources.

Chain-of-Identity / Chain-of-Custody Reporting

Chain of custody (COC) and chain of identity (COI) are records used in the regenerative medicine therapy manufacturing process to ensure product safety and quality. COI is a record associated with a single patient, including health records both before and after treatment. COC records all points of transfer and control for a product, including product starting material and all in-process manipulations through the point of delivery.

COC and COI currently lack standardized approaches. Because of this, stakeholders throughout the regenerative medicine supply chain often use different tracking systems, definitions, methods of data analysis, or formats, which can potentially result in inaccurate or incompatible records. Such errors create a risk of administering the wrong product to a patient, incorrect tracking of starting materials, or the inability to administer a product due to delays. This need for standardization applies to collection of all starting material types (e.g., apheresis product, tumor collection, bone marrow collection, etc.).

The working group for the SCB-coordinated project to update the current ISBT 128 labeling standard identified a need for dedicated standards for COC and COI. In response, SCB assembled a separate working group to explore the potential for new standards for COC and COI. In partnership with Nexight Group, SCB has developed this report to outline the results of SCB's feasibility assessment for potential standards for COC and COI. The report includes input from a facilitated meeting in December 2020 attended by 13 experts across multiple stakeholder groups. See below for a breakdown of meeting participants by stakeholder group.

December 2020 Meeting Attendance by Stakeholder Group

Count	Stakeholder Type
7	Industry
3	Academia
3	Standards Developing Organization (SDO)
2	SCB
2	Nexight Group

STRUCTURE

The feasibility assessment considered four main factors: technical feasibility, expert availability, implementation feasibility, and other related factors. Together, these factors represent a comprehensive overview of whether a standard is scientifically ready to advance and has sufficient buy-in from experts supporting the standard advancement effort and the community members who will ultimately adopt the standard.

This report includes a summary of findings from facilitated discussions, a description of the opportunities and challenges for each feasibility factor, and an outline of next steps.

SUMMARY OF FINDINGS

The group identified implementation of a COI identifier as the highest priority sub-topic to standardize. However, at the time of the feasibility assessment discussion, the group was considering multiple potential ways to standardize the structure of a COI identifier. The group had previously agreed on a preliminary definition of COI identifier and determined that coming to consensus on a final definition is a necessary prerequisite to a more detailed discussion of technical feasibility barriers. The group discussed other feasibility factors for a COI identifier implementation standard and determined that overall, feasibility barriers to the standard are low, and the current experts involved in the working group should be able to develop a standard COI structure within a reasonable timeframe.

Further input will be sought from the working group to confirm that there is support for proceeding with standard advancement for the COI identifier implementation sub-topic, as discussed in the **Next Steps** section.

Technical Feasibility

Technical feasibility assesses whether an adequate technical and scientific foundation exists for constructing the standard and seeks to ensure that the standard will serve its intended purpose. Standards require a strong scientific and technical basis in order to build community consensus. If too many unanswered technical questions remain at the time of standard development, the standard may be held up indefinitely until the field matures.

During the feasibility meeting, participants focused on one sub-topic that may be ready to move forward for standardization: implementation of a COI identifier.

SUB-TOPIC: IMPLEMENTATION OF A COI IDENTIFIER

Use of a standard system for identifying COI information for all starting material types could enable consistent and efficient tracking of cell therapy products derived from a specific patient throughout the collection, production, and delivery process. Such identifiers would minimize the risk of miscommunication between different companies handling cell therapy products and help ensure timely administration of the right product to the right patient.

Because systems for creating unique identifiers such as donation identifiers (DIN) for apheresis products already exist, the group anticipated minimal technical barriers for using similar systems for assigning unique COI identifiers.

STANDARD OBJECTIVE: Develop a standard framework for integrating COI identifiers for all starting material types into electronic medical record systems.

OPPORTUNITIES	BARRIERS
• A set of **recommendations for implementing a COI identifier would be valuable** even if there are aspects that are not technically feasible to implement right away. • Apheresis centers that currently collect starting materials should **already have software capable of performing the necessary functions** of implementing a system for COI identifiers with reasonable updates. • Personnel (e.g., apheresis nurses, physicians, and manufacturing personnel) that would be involved in creating and maintaining the COI identifier scheme **should already be familiar with similar protocols** for implementing a COI identifier system. Since these personnel already undergo extensive training to perform their job duties, **it would be relatively simple to add new protocols** to existing training mechanisms.	• A **consensus definition of COI identifier is needed** in order to determine more specific technical challenges to standardization. • When developing a standard, it will be **important to think in terms of what the community needs rather than what current technology supports** and then build systems to support those needs. • Potential technical challenges that may apply depending on the chosen definition of COI identifier include **achieving consensus on user requirements, standardizing recordkeeping systems, and establishing universal coding for naming**.

Expert Availability

Standards development requires committed technical experts who can advance the potential standard and help communicate the standard's value to the regenerative medicine community. If there is insufficient interest from experts in the community, the working group may be unable to obtain the necessary technical information to include in the standard. Likewise, buy-in from an SDO is needed in order to publish a formal standard, although best practices documents and other informal guides can be produced independently.

RELEVANT SDOS

The group proposed the following potential SDOs to take up development of the standard:

- ICCBBA
- Foundation for the Accreditation of Cellular Therapy (FACT)
- AABB

It is likely that all of these SDOs will need to work together for the successful implementation of a standardized COI identifier. These organizations have collaborated to develop the current

ST-018 ISBT 128 Standard Labeling of Collection Products for Cellular Therapy Manufacturing, so this cooperation would be a minimal barrier. These SDOs are also currently involved in the working group.

NEEDED EXPERTISE

The meeting participants agreed that the current working group includes the necessary expertise to develop a standard. The working group currently includes experts from industry, healthcare, SDOs, academia, and professional societies. However, the group noted that not all members of the working group participate consistently. They proposed making additional efforts to engage members of the working group with relevant expertise (e.g., accreditation organizations, biotechnology companies, academic organizations) and invite them to increase their activity. The group also proposed several potential organizations that may be able to provide input on potential standard implementation challenges:

- Adaptimmune Therapeutics (recently purchased by Takeda)
- IOVANCE
- GlaxoSmithKline

Implementation Feasibility

Implementation feasibility considers factors that influence an individual firm's adoption of the standard: incurred costs; the standard's compatibility with existing equipment, materials, and technology; and required in-house expertise. If a standard is developed that does not have the support of the community, adoption rates may ultimately be too low for the standard to have any significant impact.

Overall, the feasibility meeting participants did not anticipate any significant implementation feasibility barriers. They identified several minor barriers, including the need for community education on implementing the standard, standard-specific infrastructure, and software updates. However, they believe these barriers would be surmountable given the available expertise in the working group.

Additionally, the current main industry organizations involved in regenerative medicine manufacturing standards (e.g., ICCBBA, FACT, AABB) are supportive and involved in the development of the standard. They can ensure the standard is written into current industry standards, which will put it in a strong position to receive general public support.

OPPORTUNITIES	BARRIERS
• **Community perceptions** around a potential COI identifier implementation standard are **not expected to present any barriers.**	• It will be important to **identify all the different electronic system components and process steps that will need to reference a unique COI identifier** to ensure product safety. • Implementing a standardized COI identifier would require specific infrastructure. However, since **similar systems are already in place at the necessary facilities,** this requirement would be unlikely to impede implementation. • Software updates would be needed, but **technology developers are involved in the drafting and can minimize the difficulty** of creating and implementing the updates. • **Educating and training the general regenerative medicine community about a new standardized COI scheme** could be a barrier to implementation. The experts have discussed plans for educating the community and developing implementation training courses for relevant organizations and personnel to address this barrier.

Other Feasibility Factors

Several other factors—including development costs, time to develop, and legal feasibility—can also impact the feasibility of developing and adopting a potential standard.

The feasibility meeting participants identified changes to biologics license agreements (BLAs) for commercial products as a potential feasibility barrier. However, they believed that working group members in industry could help assess the impact of a standard on commercial products to address this challenge.

Different international regulations and patient privacy laws could also create some barriers to development, adoption, and implementation of a standard COI identifier. The working group believes that international participation in the development of the standard will help ensure development of a standard that addresses this challenge appropriately.

OPPORTUNITIES	BARRIERS
• The working group could use the COI of an existing commercial product as an example to **consider how the standard could impact commercial products.** Dendreon is represented on the working group and could provide such an example. • There is no specific regulatory guidance addressing COI/COC, so it is **unlikely a standard would conflict with any guidance.**	• **Changes to biologics license agreements (BLAs)** arising from a standard would need to be considered for commercial products. • **Differing international regulations and patient privacy laws may create development, adoption, and implementation challenges.** International participation in the working group will help to mitigate this concern.

Next Steps

The feasibility assessment found that overall, there are few significant barriers for technical feasibility, expert availability, implementation feasibility, and other feasibility factors. The most significant barrier the group identified was the need to come to consensus within the working group to clearly define COI identifier as a concept before assessing technical feasibility barriers in greater detail. However, the group did not anticipate any major technical feasibility barriers were likely to arise based on the potential definitions under consideration.

Next steps for the feasibility assessment effort are described below.

GOALS FOR 2021–2022

- **Complete a standard draft and submit for public comment** through ICCBBA.
- **Coordinate the working group's review of feedback** received on the standard draft.
- **Draft an implementation guide:** SCB will also coordinate the drafting of an implementation guide to accompany the standard.
- **Finalize and publish the standard:** After receiving input from public comment, the working group will incorporate feedback and work with ICCBBA to finalize and publish the standard.
- **Publish implementation guide:** SCB anticipates publication of the implementation guide to follow soon after publication of the standard.