Codebook for CPPA Focus Groups and Semi-structured Interviews

Parent Code	Child Code	Definition	Inclusion/Exclusion Criteria	Comments/Examples
Innovation Characteristics	Adaptability	The degree to which an innovation can be adapted, tailored, refined, or reinvented to meet local needs.	Inclusion Criteria: Include statements regarding the (in)ability to adapt the CPPA to their context, e.g., complaints about the rigidity of the protocol. Suggestions for improvement can be captured in this code. Exclusion Criteria: Exclude or double code statements that the innovation did or did not need to be adapted to Compatibility.	
	Complexity	Perceived difficulty of the innovation, reflected by duration, scope, radicalness, disruptiveness, centrality, and intricacy and number of steps required to implement.	Inclusion Criteria: Code statements regarding the complexity of the innovation itself. Exclusion Criteria: Exclude statements regarding the complexity of implementation and code to the appropriate CFIR code, e.g., difficulties related to engaging participants in a new program are coded to "Engaging: Innovation Participants".	
	Relative Advantage	Stakeholders' perception of the advantage of implementing the innovation versus an alternative solution.	Inclusion Criteria: Include statements that demonstrate the innovation is better (or worse) than existing programs. Exclusion Criteria: Exclude statements that demonstrate a strong need for the innovation and/or that the current situation is untenable and code to "Tension for Change"	
Outer Setting	Needs & Resources of Those Served by the Organization	The extent to which the needs of those served by the organization (e.g., patients and providers), as well as barriers and facilitator to meet those needs, are accurately known and prioritized by the organization.	Inclusion Criteria: Include statements demonstrating (lack of) awareness of the needs for VSP patients and VUMC providers. May be able to infer the level of awareness based on statements about: 1. Perceived need for the CPPA based on the patient and providers needs and if the CPPA will meet those needs; 2. Barriers and facilitators of patients and providers to participating in the innovation; 3. Patient and provider feedback on the innovation, i.e., satisfaction and success in a program. In addition, include statements that capture whether or not awareness of the patient and provider needs influenced the implementation or adaptation of the innovation.	

			Exclusion Criteria: Exclude statements that demonstrate a strong need for the innovation and/or that the current situation is untenable. Exclude statements related to engagement strategies and outcomes, e.g., how VSP patients or VUMC providers became engaged with the CPPA, and code to Engaging: Innovation Participants.	
	External Policy & Incentives	A broad construct that includes external strategies to spread innovations including policy and regulations (governmental or other central entity), external mandates, recommendations and guidelines, pay-for-performance, collaboratives, and public or benchmark reporting.	Inclusion Criteria: Include descriptions of external performance measures from the system. Include information about TN Board of Pharmacy collaborative practice agreements. Exclusion Criteria: Exclude statements related to only VUMC internal policies	
Inner Setting	Structural Characteristics	The social architecture, age, maturity, and size of an organization.	Inclusion Criteria: Exclusion Criteria:	
	Networks & Communications	The nature and quality of webs of social networks, and the nature and quality of formal and informal communications within an organization.	Inclusion Criteria: Include statements about general networking, communication, and relationships at VSP and VUMC, such as descriptions of meetings, email groups, or other methods of keeping people connected and informed, and statements related to team formation, quality, and functioning. Exclusion Criteria: Exclude statements related to implementation leaders' and users' access to knowledge and information regarding using the CPPA, i.e., training on the mechanics of the CPPA. Exclude statements related to engagement strategies and outcomes, e.g., how key stakeholders became engaged with the innovation and what their role is in implementation, and code to Engaging: Key Stakeholders. Exclude descriptions of outside group memberships and networking done outside of VUMC.	

	Culture	Norms, values, and basic assumptions of a given organization	Inclusion Criteria: Include statements about the norms, values, and basic assumptions of a given organization Exclusion Criteria:	
	Implementation Climate	The absorptive capacity for change, shared receptivity of involved individuals to an innovation, and the extent to which use of that innovation will be rewarded, supported, and expected within their organization.	Inclusion Criteria: Include statements regarding the general level of receptivity to implementing the CPPA. Exclusion Criteria: Exclude statements regarding the general level of receptivity that are captured in the sub-codes.	
	Implementation Climate: Compatibility (sub-code)	The degree of tangible fit between meaning and values attached to the innovation by involved individuals, how those align with individuals' own norms, values, and perceived risks and needs, and how the innovation fits with existing workflows and systems.	Inclusion Criteria: Include statements that demonstrate the level of compatibility the CPPA has with organizational [VUMC] values and work processes. Include statements that the innovation did or did not need to be adapted as evidence of compatibility or lack of compatibility. Exclusion Criteria: Exclude or double code statements regarding the priority of the CPPA based on compatibility with organizational [VUMC] values to Relative Priority, e.g., if the CPPA is not prioritized because it is not compatible with organizational [VUMC] values.	
	Implementation Climate: Relative Priority (sub-code)	Individuals' shared perception of the importance of the implementation within the organization.	Inclusion Criteria: Include statements that reflect the relative priority of the CPPA, e.g., statements related to change fatigue in VSP/VUMC due to implementation of many other programs. Exclusion Criteria: Exclude or double code statements regarding the priority of the CPPA based on compatibility with organizational values to Compatibility, e.g., if the CPPA is not prioritized because it is not compatible with organizational [VUMC] values.	
	Implementation Climate: Tension for Change (sub-code)	The degree to which stakeholders perceive the current situation as intolerable or needing change.	Inclusion Criteria: Include statements that (do not) demonstrate a strong need for the CPPA and/or that the current situation is untenable, e.g., statements that the CPPA is absolutely necessary or that the CPPA is redundant with other programs. Exclusion Criteria: Exclude statements regarding specific needs of individuals that demonstrate a need for the CPPA, but do not necessarily represent a strong	

			need or an untenable status quo, and code to Needs and Resources of Those Served by the Organization. Exclude statements that demonstrate the CPPA is better (or worse) than existing programs.	
Characteristics of Individuals	Knowledge & Beliefs about the Innovation	Individuals' attitudes toward and value placed on the innovation, as well as familiarity with facts, truths, and principles related to the innovation.	Inclusion Criteria: Exclusion Criteria: Exclude statements related to familiarity with the evidence about the innovation	
	Individual Stage of Change	Characterization of the phase an individual is in, as s/he progresses toward skilled, enthusiastic, and sustained use of the innovation	Inclusion Criteria: Exclusion Criteria:	
	Individual Identification with Organization	A broad construct related to how individuals perceive the organization, and their relationship and degree of commitment with that organization	Inclusion Criteria: Exclusion Criteria:	
Process	Planning	The degree to which a scheme or method of behavior and tasks for implementing an innovation are developed in advance, and the quality of those schemes or methods.	Inclusion Criteria: Include evidence of pre-implementation diagnostic assessments and planning, as well as refinements to the plan. Exclusion Criteria:	
	Engaging	Attracting and involving appropriate individuals in the implementation and use of the innovation through a combined strategy of social marketing, education, role modeling, training, and other similar activities	Inclusion Criteria: Include statements related to engagement strategies and outcomes, i.e., if and how pharmacists, providers, and patients became engaged with the CPPA and what their role is in implementation. Exclusion Criteria: Exclude statements related to specific sub constructs, e.g., Champions or Opinion Leaders.	
	Engaging: Opinion Leaders (sub-code)	Individuals in an organization that have formal or informal influence on the attitudes and beliefs of their colleagues with respect to implementing the innovation.	Inclusion Criteria: Include statements related to engagement strategies and outcomes, e.g., how the opinion leader became engaged with the CPPA and what their role is in implementation. Exclusion Criteria:	
	Engaging: Formally Appointed Internal	Individuals from within the organization who have been formally appointed with responsibility for implementing an innovation as coordinator, project	Inclusion Criteria: Include statements related to engagement strategies and outcomes, e.g., how the formally appointed internal implementation leader	

		Implementation Leaders (sub-code)	manager, team leader, or other similar role.	became engaged with the CPPA and what their role is in implementation. Exclusion Criteria: Exclude or double code statements regarding leadership engagement to Leadership Engagement if an implementation leader is also an organizational leader, e.g., if a director of primary care takes the lead in implementing a new treatment guideline.	
		Engaging: Champions (sub-code)	Individuals who dedicate themselves to supporting, marketing, and 'driving through' an [implementation]", overcoming indifference or resistance that the innovation may provoke in an organization.	Inclusion Criteria: Include statements related to engagement strategies and outcomes, e.g., how the champion became engaged with the CPPA and what their role is in implementation. Exclusion Criteria: Exclude or double code statements regarding leadership engagement to Leadership Engagement if a champion is also an organizational leader, e.g., if a director of primary care takes the lead in implementing a new treatment guideline.	
		Engaging: Key Stakeholders (sub-code)	Individuals from within the organization that are directly impacted by the innovation, e.g., staff responsible for making referrals to a new program or using a new work process.	Inclusion Criteria: Include statements related to engagement strategies and outcomes, e.g., how key stakeholders became engaged with the innovation and what their role is in implementation. Exclusion Criteria: Exclude statements related to implementation leaders' and users' access to knowledge and information regarding using the program. Exclude statements about general networking, communication, and relationships in the organization, such as descriptions of meetings, email groups, or other methods of keeping people connected and informed, and statements related to team formation, quality, and functioning.	
		Engaging: Innovation Participants (sub-code)	Individuals served by the organization that participate in the innovation, e.g., patients in a prevention program in a hospital.	Inclusion Criteria: Include statements related to engagement strategies and outcomes, e.g., how innovation participants became engaged with the innovation. Exclusion Criteria: Exclude statements demonstrating (lack of) awareness of the needs and resources of those served by the organization and whether or not that awareness influenced the implementation or	

			adaptation of the innovation and code to Needs & Resources of Those Served by the Organization.	
	Executing	Carrying out or accomplishing the implementation according to plan	Inclusion Criteria: Include statements that demonstrate how implementation occurred with respect to the implementation plan. Note: Executing is coded very infrequently due to a lack of planning. However, some studies have used fidelity measures to assess executing, as an indication of the degree to which implementation was accomplished according to plan. Exclusion Criteria:	

References: 1. Keith, R.E., Crosson, J.C., O'Malley, A.S. et al. Using the Consolidated Framework for Implementation Research (CFIR) to produce actionable findings: a rapid-cycle evaluation approach to improving implementation. Implementation Sci 12, 15 (2017). https://doi.org/10.1186/s13012-017-0550-7