RESULTS/ANTICIPATED RESULTS: Preclinical evidence supports 23 natural remedies being used to ease side effects brought on by chemotherapy. These natural supplements are shown to affect at least one of the seven breast cancer cell lines observed. Fifty-two total clinical trials were used to verify the preclinical models of the 23 natural remedies, and the clinical trials would be patient symptom assessment-based, or determining tumor growth or shrinkage. Many of these clinical trials, however, did not supply results. This shows that there is a gap in getting participants for oncology-related clinical studies. With the trials that supplied results, 16 natural remedies have clinical data showing their ability to be used to ease common chemotherapy side effects, or even further leading to cancer death in related cell lines. DISCUSSION/SIGNIFICANCE OF IMPACT: There are not many specific findings about young women and post-menopausal women being affected by breast cancer (despite being more sensitive groups). Looking into differences in biology, reactions to treatment and effectiveness of treatment, and clinical trials with supplements between these groups could address issues affecting them.

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"It's a stepping stone but… stepping stones are all we have" – a customer discovery approach to optimizing an internal funding opportunity for pragmatic, EHR-embedded research

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OBJECTIVES/GOALS: CTSA programs' requests for applications (RFAs) can be hindered by misalignments with grantees' needs and expectations. Using a customer discovery approach, we identified real and perceived barriers to conducting pragmatic EHR-embedded trials (PEET) to inform RFA optimization, demonstrating how this funding opportunity addressed barriers. METHODS/STUDY POPULATION: Using Colorado Profiles, a research networking tool, we identified investigators who engaged in PEET-type research across the Colorado Clinical and Translational Sciences Institute (CCTSI) partnering institutions. We invited 33 investigators representing key centers and departments to participate in 30-minute, virtual customer discovery interviews about their experiences conducting PEET-type research within CCTSI's PEET health system partner, UCHealth. Interviews were conducted using a semi-structured interview guide and were synthesized using a Value Proposition Canvas to identify relevant investigator "jobs-to-be-done," pain points and potential benefits and strategies to optimize our internal RFA (now in its third year) to address these. RESULTS/ANTICIPATED RESULTS: Twenty-one investigators participated in interviews, including five previous applicants. Two key "customer segments" emerged from interviews: 1) early-career investigators, who wanted to build connections and competencies related to PEET-type research and were often transitioning to independent funding; and 2) experienced investigators, who were focused on larger grants, but valued support in interfacing with UCHealth around both research implementation and informatics. For both groups, while the research funding was seen as beneficial, the true value of the PEET support was the facilitation of a relationship with the health system. Potential changes to the PEET RFA include eligibility clarifications, increased emphasis on health system liaison support, and increased budget flexibility. DISCUSSION/SIGNIFICANCE OF IMPACT: In PEETs, alignment of the health system, research infrastructure, and investigators is essential to trial success. Through this process, we identified key unmet needs for investigators and opportunities to optimize this internal RFA to enhance overall alignment between institutional capacities and investigator needs.

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Avoiding dash-boredom with a Translational Science Dashboard

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MICHR

OBJECTIVES/GOALS: The Michigan Institute for Clinical & Health Research (MICHR) needs to maintain a balanced portfolio of initiatives with respect to the extent of innovation sought and the stage of implementation. We created a Translational Science (TS) Dashboard to visualize this balance of intent and execution. METHODS/STUDY POPULATION: In designing the dashboard, we considered innovation along a spectrum: making incremental changes to our current offerings; seeking out new offerings or audiences; and seeking both new offerings and new audiences. We also used MICHR's TS Framework that guides both the identification of roadblocks along the translational spectrum and the development of potential solutions to those roadblocks. Categories in the TS Framework help us understand if innovation efforts are in the early stages of problem framing or later stages of testing, iterating, and/or disseminating. Using co-creation methods, we partnered with various MICHR program teams, whose initiatives represent a mix of innovation categories as well as framework implementation phases, to optimize the design and understand the utility of the dashboard. RESULTS/ANTICIPATED RESULTS: We worked with various programmatic teams at MICHR to help them understand the elements of the dashboard and to co-create the dashboard interface. Our methods also helped teams understand the "right" amount of innovation for their programs, ensuring they considered both differentiation and resource constraints as well as alignment with MICHR's overarching strategic goals. Programs had different resource considerations, tolerance for risk, and unmet customer needs that informed how to right-size their innovation portfolio and where efforts should map along the stages of roadblock identification and solution crafting. The perspectives and insights of MICHR's executive leadership were key to informing how the dashboard could support data-informed

https://doi.org/10.1017/cts.2026.10602 Published online by Cambridge University Press

decisions at the institute level. DISCUSSION/SIGNIFICANCE OF IMPACT: The TS Dashboard can help both MICHR program and institute leaders understand how projects map along different phases of discovery, implementation, and innovation, ensuring that the portfolio of activities is appropriately balanced.

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What's your problem? Methods for refining translational science challenges to create meaningful solutions

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OBJECTIVES/GOALS: The Michigan Institute for Clinical & Health Research (MICHR) created an eight-phase adaptive Translational Science Framework to guide us in selecting and solving translational science problems. We operationalized the initial problem selection phases and assessed utility of various methods in shaping complex problems for solution design. METHODS/STUDY POPULATION: We identified three high-priority strategic domains where there was potential to improve the efficiency and effectiveness of research and related processes. Starting with broad problem statements, we engaged a wide array of stakeholders and end-users in a sequence of methods to reduce ambiguity, uncover root causes, and clarify actionable challenges. The methods we selected align with the four problem selection/problem analysis phases of our Translational Science Framework: contextualize, frame, map, and craft. Methods used included landscape and workforce assessments; purpose and scoping sessions; design research strategies; systems mapping; quantitative needs assessments; and translational science proposal pitches. RESULTS/ANTICIPATED RESULTS: Across the three strategic domains, we successfully reframed and scaled ill-defined problem statements into translational science questions that are actionable, meaningful, feasible, and relevant. The outputs of each problem selection/problem analysis phase served as critical inputs for subsequent phases; for example, synthesis of landscape and workforce assessments in the contextualize phase provided critical substrate for structuring the design research and broad scale needs assessments in the frame phase. This funneling approach brought continuous focus and clarity to the problem statements. A variety of metrics embedded within the phases informed performance, progress, and decision-making, which enabled rapid adjustments in the face of evolving contexts and unforeseen challenges. DISCUSSION/SIGNIFICANCE OF IMPACT: In the absence of translational science problem analysis, we risk not addressing actual needs, duplicating effort, and/or creating unwanted solutions. The methods and metrics within the analysis phases of our Translational Science Framework promote iterative refinement of intractable problems, with the goal of yielding impactful solutions.

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Translating ideas to action: Development of a clinical investigator training program built on investigator needs

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OBJECTIVES/GOALS: UW-Madison Institute for Clinical and Translational Research (ICTR) and Clinical Trials Institute (CTI) has teamed to develop a novel Clinical Investigator Training Program providing training modules to meet the demands of today's translational researchers and study coordinators and improve trial design and analysis for greater impact. METHODS/STUDY POPULATION: In a novel transdisciplinary model, we have teamed to address the current needs of both investigators and study coordinators to develop a translational Clinical Investigator Training Program. Development activities include constructing a needs assessment with input from early stage, junior and senior faculty, as well as KL2 trainees and study coordinator staff. Needs assessment will inform development of "stackable" modules aiming to directly benefit investigators toward improved trial design. Incorporating perspectives of both study coordinators and principal investigators will allow for a more robust assessment of knowledge gaps and provide another method for tracking progress. RESULTS/ANTICIPATED RESULTS: The curriculum in the training modules will be evaluated by a select group of new investigators in the UW Madison Pediatrics department and refined using their feedback. We will also examine if the training modules paired with individualized research planning assistance improves perceived competence for research study planning and execution. Integration of this investigator-driven, multidisciplinary training program will facilitate development of informed clinical trials and improve protocol development and execution. DISCUSSION/SIGNIFICANCE OF IMPACT: This module-based training will be assessed for capability to prepare investigators to develop and execute clinical trials. With an early training program, accessible through ICTR and CTI, for both investigators and study coordinators, improvements in both trial development and impact are anticipated.

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Impactful collaboration: Teaming with pilot awardees to optimize research plans

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OBJECTIVES/GOALS: UW-Madison ICTR Collaborative Network (ICON) is a team of research navigators who provide wrap-around services for investigators (e.g. study and recruitment planning). In 2025, an ICON objectives was to consult with newly awarded investigators to expedite their study activities. METHODS/STUDY POPULATION: The ICON team assisted postdoctoral (n=3) and faculty (n=8) investigators awarded 12- or 18-month Institute for Clinical and Translational Research (ICTR) pilot awards beginning in May or July 2025. ICON addressed concerns related to regulatory documentation creation, recruitment and retention, study personnel training, document editing, etc. Ten of 11 investigators consulted with ICON shortly after award onset, with plans for check-ins at the 6- and 12-month mark of their grant. Following the initial consultation, ICON devised an individualized assistance plan for each investigator. Investigators completed multiple surveys regarding their opinion on the usefulness of the service. RESULTS/ANTICIPATED RESULTS: The results of the first survey indicated

https://doi.org/10.1017/cts.2026.10602 Published online by Cambridge University Press