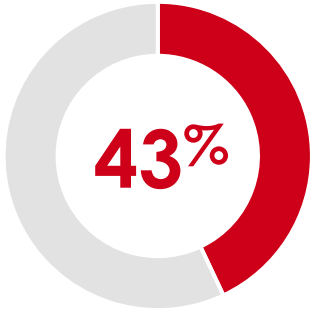
What is Implementation Science?

CVD Landscape Overview

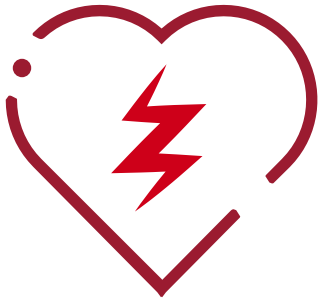
Cardiovascular disease (CVD) is a leading public health issue in the U.S.[1]

EVERY **~40 SECONDS**
IN THE UNITED STATES...
A patient has a **myocardial infarction (MI)**[2]
Another patient has a **stroke**[2]



of those with a prior CV event had **AT LEAST 1 NEW CV EVENT†** within 2 years[3]

CVD was associated with **2.2M** hospitalizations in a year,* and MIs have been among the **top 10** causes of hospitalizations.[2,4]



Between 2020 and 2050, annual health care costs for cardiovascular conditions are **projected to almost quadruple, from $393 billion to $1490 billion.**[5]

While quality improvement research and guidelines can improve patient care, **it takes an average of 17 years for research to change clinical practice.**[6]

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*Based on national data from the Million Hearts® 2022 Initiative taken in 2016.[1]
†Defined as a hospitalization for MI, ischemic stroke, coronary artery bypass graft, percutaneous coronary intervention, unstable angina, transient ischemic attack, or heart failure.

1. McClellan M, et al. Circulation. 2019;139: e44–e54. **2.** Martin SS, et al. Circulation. 2024;149(8):e347-e913. **3.** Punekar RS, et al. Clin Cardiol. 2015;38:483-491. **4.** Salah HM, et al. Eur Heart J Open. 2021;1:1-4. **5.** Kazi DS, Elkind MSV, Deutsch A, et al. Circulation. 2024;150(4):e89-e101. **6.** Bauer MS, et al. 2015;3(1):32. BMC Psychology.

Why Focus on Implementation Science?

The Gap

It takes an average of **17 years for research** to become standard practice and only 14% of it enters in day-to-day clinical care[1,2]

The GOAL is to close this gap through guideline implementation

For example:

- Deployment of clinical decision support tools
- Patient activation
- Change in care team model

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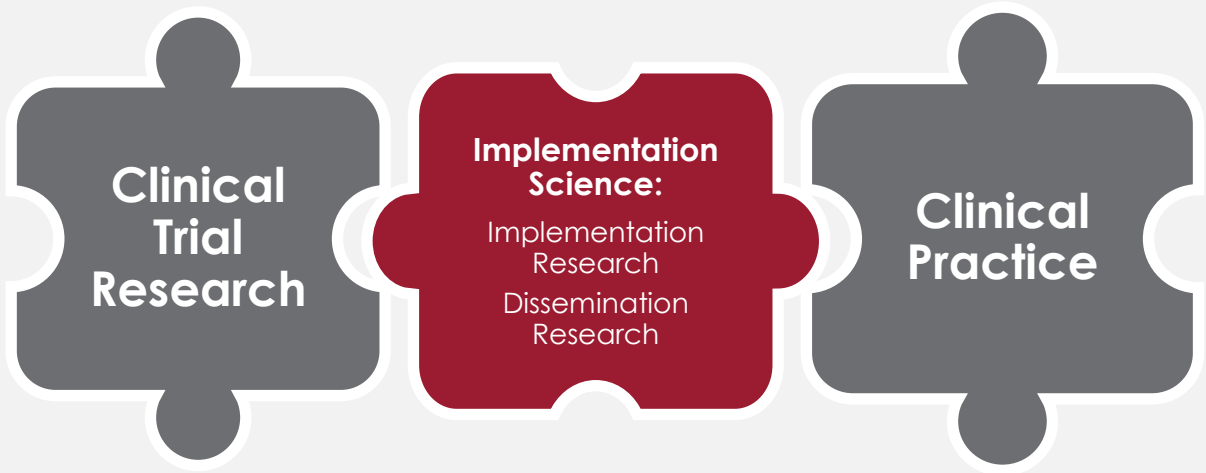
1. Balas EA and Boren SA. (2000); Yearbook of Medical Informatics: Managing Clinical Knowledge for Health Care Improvement. Stuttgart, Germany: Schattauer Vertragsgesellschaft mbH. **2.** Beauchemin M, et al. *ANS Adv Nurs Sci.* 2019;42:307-324.

Value of Leveraging Implementation Science to Drive Real-World Impact

Understanding Implementation Science

Implementation science is the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services.[1]



The LATTICE™ Consortium highlights projects that use implementation science to improve population health.

Implementation science is essential for bridging the gap between research and practice by turning scientific evidence into real-world patient care.

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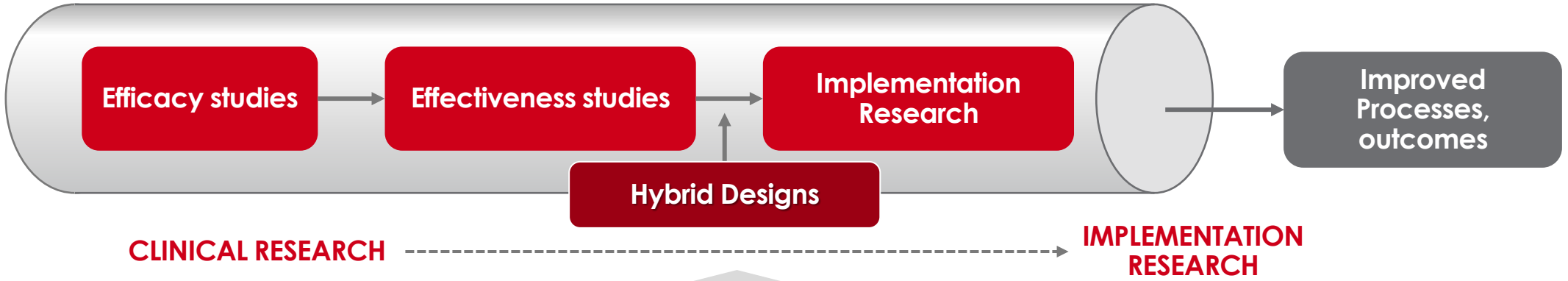
1. Bauer MS, et al. 2015;3(1):32. BMC Psychology.

Implementation Science by Design

"The adoption and integration of evidence-based health interventions into clinical and community settings to improve care delivery and efficiency, patient outcomes, and individual and population health"[1]

Research Pipeline and Hybrid Designs[2]



Hybrid Type I

Test clinical intervention, while gathering information on implementation

Hybrid Type II

Test clinical intervention, while studying implementation strategy

Hybrid Type III

Test implementation strategy, while gathering information on clinical intervention

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1. Stevens KR, Tobin JN. *J Clin Transl Sci*. 2020;4:149-151. **2.** Evidera. https://www.evidera.com/wp-content/uploads/2021/05/EFSpr21_A08_HillJ-Science.pdf. Accessed December 23, 2024.

Implementation Science in Action: Understanding What Works & Why

Two similar health-systems with similar HCPs deploy identical process improvement efforts to address LDL-C achievement...

	Health System A	Health System B
Setting		
Participants		
Strategies		
Evaluation		
Outcome	80% Patients achieving goal LDL-C	30%

...yet one system achieves better outcomes than the other. Why?

- 50% of clinics adopted
- Only MD engagement without care team support
- EHR strategy was bypassed 62% of the time
- Patients did not understand medication Importance

Implementation science studies the methods of implementation to explain why strategies succeed in one setting and not the other.

Effective application of evidence-based practices requires tailored strategies that adapt to the unique needs of different healthcare settings, practitioners, and patient populations.

What Does this Mean for Me?

Conversations with IDNs can help unearth the strategies used by LATTICE projects that will be most helpful for their system to overcome barriers to increase LDL-C testing, improve the number of patients on target, implement quality metrics, and improve patient access to therapies.

EHR = Electronic health record; IDNs = Integrated delivery networks; LDL-C = Low-density lipoprotein cholesterol

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Understanding the Barriers

Barriers to achieving high-quality patient-centered care can exist at the patient, clinician, and healthcare system levels. Each LATTICE project addresses multiple barriers.

Patient

- Healthcare disparities[1]
- Unfamiliar with the importance of LLTs[2]
- Poor ASCVD awareness/unintentional nonadherence[1]

Clinician

- Guideline changes and inconsistencies[2]
- Knowledge gap[1]
- Lack of standardized metrics[1]
- Gaps in clinical awareness[4]
- Clinical inertia[1]
- Suboptimal high intensity statin use/underutilization of non-statins[1,5]
- Loss to follow-up / continuity of care[6]
- Specialty to PCP transition[6]

Healthcare System

- Lack of quality metrics[1]
- Limited visit time[2]
- Lack of standardized metrics[1]
- Lack of internal support[6]

LLTs = Lipid-lowering therapies; PCP = Primary care provider

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LLTs = Lipid-lowering therapies; PCP = Primary care provider

Patient Barriers

Lack of LDL-C Testing
47% of people who've had a heart attack and/or stroke are unaware of their LDL-C number.[4*]

Healthcare Disparities
Black patients, uninsured individuals, and females are **less likely to be offered statins** than White patients, those with private insurance, and males.[1]

Limited Knowledge of the Importance of LLTs
Patients often **decline or stop statins** due to fear of side effects, experiencing side effects, or believing the medication is unnecessary.[2]

Poor ASCVD Awareness and Unintentional Nonadherence
An estimated 18.7 million U.S. adults have ASCVD, and while 61.4% were advised to use additional lipid-lowering therapy, **only 5.2% were taking it**.[3]

Patients Not on Target
LDL-C is a key modifiable ASCVD risk factor, yet LLT is **underused** among eligible patients.[5,6]

Implementation Gap
Quality metrics are **not aligned** with the latest cardiology treatment guidelines.[7]

Barriers to Access
Prescription rejections for certain non-statin therapies **continue to remain high**.[8]

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*Based on a 2023 Harris Poll including 503 people who had a heart attack and/or stroke.

ASCVD = atherosclerotic cardiovascular disease; LDL-C = low-density lipoprotein cholesterol; LLT = lipid-lowering therapy

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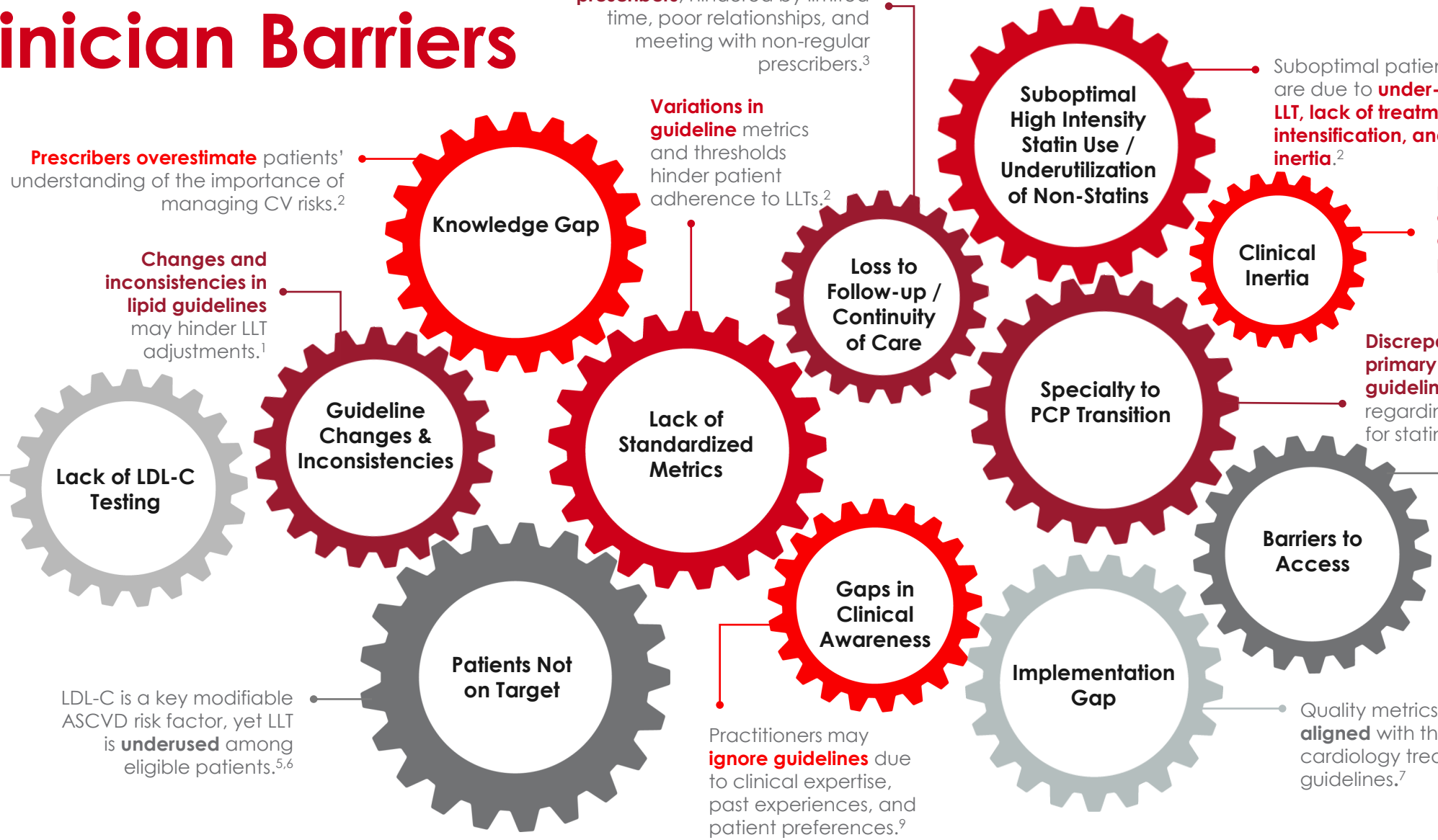
Clinician Barriers



Patients' willingness to take statins is **influenced by their relationship with prescribers**, hindered by limited time, poor relationships, and meeting with non-regular prescribers.[3]

Prescribers overestimate patients' understanding of the importance of managing CV risks.[2]

Variations in guideline metrics and thresholds hinder patient adherence to LLTs.[2]

Suboptimal patient LDL-C levels are due to **under-prescribing LLT, lack of treatment intensification, and clinical inertia**.[2]

Insufficient monitoring of LLT adherence and efficacy through lipid panels.[2]

Changes and inconsistencies in lipid guidelines may hinder LLT adjustments.[1]

Discrepancies between primary care and specialist guidelines, particularly regarding recommendations for statin therapy. [3]

Prescription rejections for certain non-statin therapies **continue to remain high**.[8]

47% of people who've had a heart attack and/or stroke are unaware of their LDL-C number.[4*]

LDL-C is a key modifiable ASCVD risk factor, yet LLT is **underused** among eligible patients.[5,6]

Practitioners may **ignore guidelines** due to clinical expertise, past experiences, and patient preferences.[9]

Quality metrics are **not aligned** with the latest cardiology treatment guidelines.[7]

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Healthcare System Barriers

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47% of people who've had a heart attack and/or stroke are unaware of their LDL-C number.[4*]

Implementation Gap
Quality metrics are **not aligned** with the latest cardiology treatment guidelines.[7]

Limited Visit Time
Clinicians may not initiate or intensify treatment due to **time constraints in clinical encounters**.[2]

Lack of Internal Support
Lack of resources to identify indications for statin therapy among patient population, such as **inadequacy of EHR systems** for tracking individuals.[3]

Lack of Quality Metrics
In a Canadian study, only 52% of patients who received PCIs had an LDL-C measurement within 6 months.[1]

Patients Not on Target
LDL-C is a key modifiable ASCVD risk factor, yet LLT is **underused** among eligible patients.[5,6]

Lack of Standardized Metrics
Variation between guidelines in their recommended monitoring metrics and thresholds represents a barrier to patient LLT adherence.[1]

Barriers to Access
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PCI = Percutaneous coronary intervention

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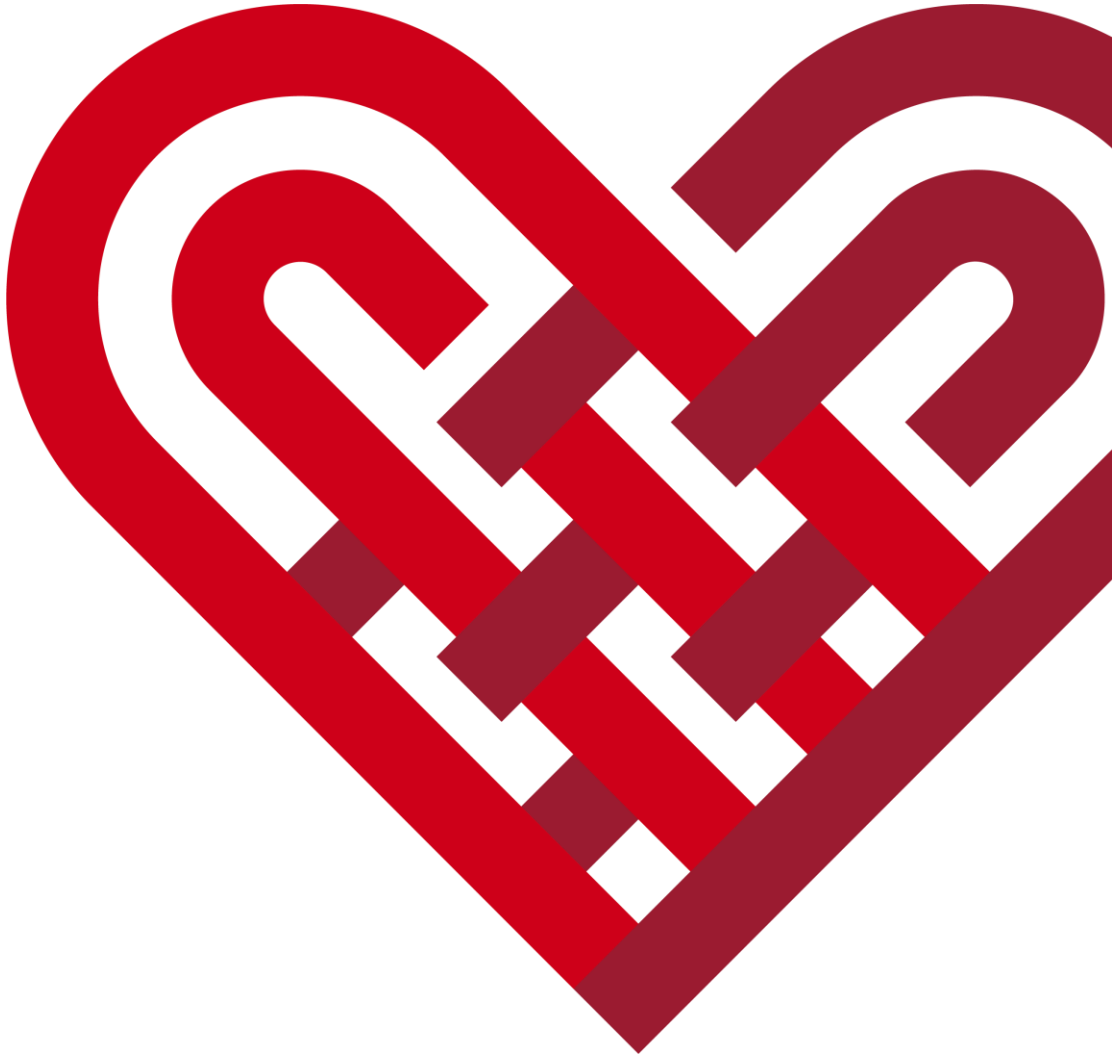
Implementation of CardioMetabolic Efforts

LATTICE Consortium Overview



About the LATTICE™ Consortium

Leading Awareness To action Through Implementation of Cardiometabolic Efforts

Who?

LATTICE is a **coalition of independent experts** with a **shared goal to address cardiometabolic patient care** through evidence-based tools and methodologies

What?

Tools and methodologies that address care gaps are shared for learning, ideating & collaborating to enable **scalable action** across the healthcare ecosystem

How?

Creating synergistic networks for integration of implementation science through:

- **LATTICEConsortium.com** resource repository
- **Educational symposia** events
- Regional **Sharing Sessions**

Why?

Implementation science has the potential to **improve processes and outcomes** in the cardiometabolic space

Connecting like-minded teams can help **facilitate efficient adaption and adoption of evidence-based tools and methodologies and reduce duplication of tools** across health systems

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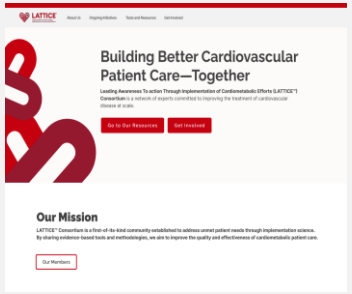
The coalition is led by its experts whose **collective efforts** are responsible for the **programs and activities** in furtherance of the shared goal. Each expert's efforts are valued and equally considered.

LATTICE Resources

LATTICE™ Consortium Website Flashcard

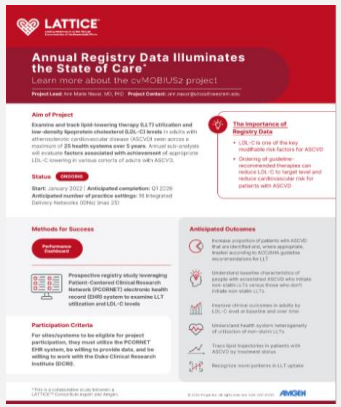


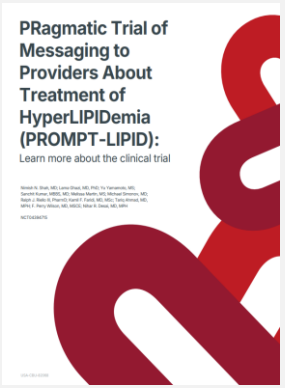
LATTICE™ Website
www.latticeconsortium.com

Becker's Podcasts
Episode 1
Episode 2
Episode 3
Episode 4

AJMC
Roundtable Video
www.ajmc.com/interactive-tools/implementation-science-in-practice

Project Cards and Resources Highlighting LATTICE Projects





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How to Get Involved with the LATTICE Consortium?

Attend an **Educational Symposium** event to learn from the project expert(s)

Find upcoming event dates and topics at **LATTICEConsortium.com**

Visit **LATTICEConsortium.com**

The website shares access to tools or project experts for adaption/adoption of efforts at your center

Join a **Regional Sharing Session** event to network with like-minded peers focused on shared-learning and opportunities for adaption/adoption and collaboration

Sign up for event dates and topics at **LATTICEConsortium.com**

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Putting It All Together: Executive Summary

CVD is one of the country's most significant health challenges; every 40 seconds, someone in the US has a heart attack or stroke.[1,2]

Factors contributing to this challenge include:

1. Lack of LDL-C testing[3]
2. Patients not on target[2,4]
3. Quality metrics implementation gap[5]
4. Barriers to accessing advanced therapies and diagnostics[6,7]

These factors persist due to barriers at the patient, clinician, and healthcare system levels.

Experts have been working to bridge gaps in care. However, it typically takes 17 years for research to be incorporated into clinical practice.[8]

The LATTICE™ Consortium is a network of independent experts dedicated to accelerating the adoption of evidence-based practices in real-world settings.

LATTICE™ Consortium experts execute projects that address patient, clinician, and healthcare system barriers.

1. McClellan M, et al. Circulation. 2019;139: e44–e54. **2.** Martin SS, et al. *Circulation.* 2024;149(8):e347-e913. **3.** American Heart Association. www.newsroom,.heart.org. Accessed December 2, 2024. . **4.** Shen M, et al. JAHA. 2022;11(18):e026075. **5.** AJMC. Strategies for Effective Cardiovascular Risk Management Through Lipid Management: A Transitional Approach From Hospital to Home. 2021. **6.** Desai NR, et al. Clin Cardiol. 2022;46:13-216. **7.** Family Heart. www.familyheart.org. Accessed December 2, 2024. **8.** Bauer MS, et al. 2015;3(1):32. BMC Psychology. 2015;3(1):32.

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