The Medication Adherence Roadmap: A Path Forward
About NEHI

NEHI is a national health policy institute focused on enabling innovation to improve health care quality and lower health care costs. In partnership with members from all across the health care system, NEHI conducts evidence-based research and stimulates policy change to improve the quality and the value of health care. Together with this unparalleled network of committed health care leaders, NEHI brings an objective, collaborative and fresh voice to health policy. For more information, visit www.nehi.net.
Poor adherence to treatment regimens has long been recognized as a substantial roadblock to achieving better outcomes for patients. Data show that as many as half of all patients do not adhere faithfully to their prescription-medications regimens — and the result is more than $100 billion spent each year on avoidable hospitalizations.1 Nonadherence to medication regimens also affects the quality and length of life; for example, it has been estimated that better adherence to antihypertensive medication regimens among patients who have health plans with no cost sharing for medications, rates of nonadherence were nearly 40%.2

Lack of coordination of care is another major factor. There is much more that could be done at the time a physician prescribes a substantial investment of time by a skilled health care practitioner, as well as electronic data sharing among practitioners — neither of which is widely available in today’s model of health care delivery.3

There are also numerous factors that affect adherence at the individual level, including lifestyle, psychological issues, health literacy, support systems, and side effects of medications. Indeed, patients’ personal attributes probably have the strongest influence.
Notes:

• One thing should be clear from the start: the goal of better patient medication adherence is not to have patients take more medicine just for the sake of taking more medicine.

• The goal of better patient medication adherence is better health.

• So the strategies we need for improved patient medication adherence are strategies that create better health outcomes for patients.
An effective adherence strategy has two key elements:

1) Optimal drug regimen
   - Rationalize and optimize the patient’s entire regimen for all drugs taken
   - Isolate “authentic” non-adherence

Notes:
- Literature on patients’ experiences with prescription drugs point to a wide array of actions that health care providers and patients themselves can take to improve medication adherence.
- These actions can be seen as falling into two, interrelated categories.
- One category are actions that optimize the patient’s entire regimen of drugs, new and old, ensuring that the patient’s overall regimen is safe and appropriate to achieve the best health outcomes.
- Optimizing the patient’s drug regimen is the right thing to do clinically and helps to reveal what some researchers call “authentic” non-adherence. “Authentic” non-adherence is non-adherence that occurs when the patient does not adhere to medicines as prescribed, even if their drug regimen is well-balanced and clinically appropriate.
Adherence Strategy: Essential Elements

An effective adherence strategy has two key elements:

2) Patient-centered care
   - Interventions tailored to patient characteristics
   - Out-of-pocket cost barriers minimized when possible

Notes:
- The second category of actions that are essential for improved adherence are actions that directly address the individual patient’s personal proclivity to adhere to his or her prescription medicines. Research shows that a patient's proclivity to adhere is tightly linked to each patient's mindset, personal characteristics and life circumstances, including sensitivity to cost.
- What is at stake is care that is coordinated and customized in ways that enhance the likelihood that the patient will benefit and achieve the desired outcomes. This is essentially the core concept of “patient-centered care.”
- To truly realize the opportunities for improved medication adherence in the next few years, medication management and actions to improve patient adherence should be seen as central objectives of the movement for patient-centered care.
Notes:

- Seven broad megatrends are key to adherence. Care coordination, as exemplified by the patient-centered medical home, is paramount.
- Payment innovations are providing new ways to underwrite services; examples include care coordination fees for physicians and new performance bonuses.
- Healthcare IT, including electronic medical records and e-prescribing, is the essential enabler of care coordination.
- Quality metrics are prerequisites for payment reform, creating performance goals that can be rewarded with payments.
- Patient engagement tools inform and motivate patients about medications; including financial incentives, counseling techniques and reminders.
- Product innovation, such as user-friendly packaging and the reformulation of drugs, make adherence easier to achieve.
- Research is essential for identifying innovations and ways to integrate adherence into the daily practice of medicine and pharmacy.
The Adherence Care Team

Notes:

- The care team is at the core of care coordination.
- Medication management is inherently a collective process, one that – at a minimum – involves the patient, a prescribing clinician and a dispensing pharmacist.
- The two elements of success cited earlier – an optimal patient medication regimen and patient-centered care – entail multiple steps beyond prescribe-and-dispense. Thus, a care team must include more than the traditional prescribing doctor and dispensing pharmacist.
A number of organizations across the country are demonstrating the value of care teams, including highly-integrated organizations such as Kaiser Permanente and Geisinger Health System. Meanwhile, survey data suggests that as many as 20% of physician practices are accredited as medical homes and another 50% are pursuing or are interested in accreditation.

However, most physician practices have limited resources for team-based care: three out of five U.S. physicians practice in groups of fewer than six doctors, employing few staff. Electronic medical record adoption, while rising, is still only about 30%. Few practices directly employ clinical pharmacists.

As a result most patients receive their prescriptions from a doctor in one location and fill them at a pharmacy (or pharmacies) at another location. These patients need team care that bridges the gap between the prescribing physician and professionals, such as community pharmacists, who work outside the physician office—a “virtual” care team.
Most of the major opportunities to improve patient adherence involve targeting specific groups of patients – primarily patients at risk of developing chronic disease, or patients with chronic disease at risk of serious complications.

Population health management has been shown to be an effective way to do this.

Population health management creates a business case for investment in medication management and medication adherence by directing care towards avoidance of serious illness and health care costs.

The push towards health care IT adoption greatly facilitates population health management. For example, the Meaningful Use criteria create incentives for the creation of patient registries, enabling physicians to manage entire groups of patients with similar conditions. Accreditation standards for patient-centered medical homes similarly embody population health management goals.
Looking ahead to the entire landscape of patient medication adherence strategies we see that:

- Improvement “runs” on the two wheels of optimizing the patient medication regimen and patient-centered care.

- Improvements are largely founded on care coordination and led by diverse care teams, from highly-integrated teams to virtual teams.

- Every model of care coordination and team care is enabled by expanded deployment of healthcare IT, quality metrics, patient engagement tools and techniques, product innovation and research.

- Specific strategies are shaped (“travel lanes” are defined) by population health management goals.
Our visualization of care coordination pit crews and a population health racetrack is enabled by ongoing trends and initiatives in the U.S. health care system — but what is it about those trends and initiatives that will really make improvement occur?

To answer this question, NEHI and a group of advisors surveyed the landscape of current health care reforms and current trends in health care improvement. A detailed outline of this survey can be found on pages 16 through 19.
Golden Opportunities

- Patient-centered medical homes and payment innovations that support coordinated care
- Retail pharmacy transformation and pharmacy quality measures
- Hospital readmissions policy

Notes:

- To make progress on medication adherence we see six high-level opportunities. First, the medical home model and new payment innovations directly support care coordination. The performance standards and goals of medical home and coordinated care payment programs will compel better adherence if health outcome goals are to be met.

- Second, the retail pharmacy industry is transforming itself from simply dispensing drugs to providing more customer/patient services. Led by the biggest chain stores, the industry has organized around common infrastructure and common service platforms that facilitate involvement by smaller and remotely located community pharmacies.

- Third, hospital readmissions policy. This may be the single most focused opportunity for improvement. Both CMS and private payers are increasingly focused on reducing preventable readmissions with significant payment incentives and penalties. Keeping seriously ill patients from relapsing invariably requires good medication management and adherence.
Notes:

• Fourth, pending reforms will standardize and promote greater adoption of medication therapy management (MTM) under Medicare drug plans and even by private payers under value-based insurance plans.

• Fifth, cardiovascular health improvement represents a highly focused opportunity for medication adherence improvement. Cardiovascular health is the only disease-specific priority of the new National Quality Strategy, and is now the focus of the recently announced Million Hearts Campaign.

• Sixth, adoption of e-prescribing continues to grow, expanding physician capability to perform formulary and eligibility checks.

• This leads to greater opportunities for prescribing high-value drugs at the lowest cost.

• As more drugs become generic, the opportunity to lower out-of-pocket costs for patients increased.

Golden Opportunities (cont.)

• Medication Therapy Management, Medicare and VBID

• Cardiovascular health

• E-prescribing and generics
Challenges Ahead

• “Bi-directionality” in data flows
• Collaborative relationships among professionals
• Accountability

Notes:

• Of course many challenges remain, chief among them:
  • Data sharing among physicians, their physician colleagues and community-based pharmacists – what experts call the gap in “bi-directional” data. A failure to share data inhibits tasks that aid patient adherence, such as the synchronization of multiple prescription refills.
  • Collaboration among physicians and other professionals, including community pharmacists. Stronger collaboration is crucial to the formation of virtual care teams.
  • Product innovation, including packaging and drug formulation innovation (subject to the full FDA regulatory approval process) is needed.
  • Accountability: as public awareness of poor adherence rises, so too should public discussion of shared responsibility for adherence. Meanwhile, existing clinical quality metrics generally do not use measures of patient adherence, thus accountability for adherence is still undefined.
In their push to save money, state legislators have turned to a program that helps poor people get the health care they need. But rather than cut its budget, legislators want the state's Community Care program to enroll more elderly, blind and disabled Medicaid recipients.

The reason? Getting this group preventive care could save the state $90 million.

The stakes are high: If Community Care doesn’t save enough, the state Department of Health and Human Services, which oversees Medicaid, would have to make the cuts elsewhere. That means patient medical services and money for doctors and other health care providers could be reduced if Community Care fails to hit the $90 million mark.

The debt ceiling agreement could jeopardize millions of dollars, and perhaps billions, in initiatives from President Barack Obama’s health care reform law if the super committee can’t come up with required spending cuts.

Many of the pots of money in the law — one of the Democrats’ most prized pieces of legislation — could get trimmed by the debt deal’s sequestration, or triggered cuts. The funds for prevention programs and community health centers, grants to help states set up insurance exchanges and co-ops, and money to help states review insurance rates could be slashed across the board if the panel can’t find enough cuts this fall.

Overhanging the entire health care landscape is the prospect of fiscal instability. Pressure in Washington to cut federal spending could well reduce or eliminate health care reform programs that are otherwise providing the impetus for improved medication management and adherence (for example, programs for health care IT, adoption of the medical/health home model).

On the other hand, the federal deficit could intensify pressure to prove that health care costs can be contained by better health care, particularly highly coordinated care that targets high-risk patients. Community Care of North Carolina faces just such a challenge: the state legislature has deferred new Medicaid budget cuts in favor of enrolling more high-risk Medicaid patients in the Community Care program.
Insights from the NEHI Patient Medication Adherence Forum

A panel of twelve experts and 100 invited participants discussed the patient medication adherence roadmap at a special forum at the National Press Club in Washington, D.C. on September 22, 2011. Dr. William Shrank of the CMS Innovation Center delivered keynote remarks.

The key insight: “Solutions won’t happen by themselves”

What’s Needed Most:
1. Shared responsibility and accountability across providers
2. Information and data sharing across providers
3. Training and tools for providers
4. Strategies and toolkits for patient engagement

Panelists:
(From left to right)
Rebecca Burkholder, National Consumers League
Troy Trygstad, PharmD, PhD, Community Care of North Carolina
Ken Majkowski, PharmD, Surescripts, LLC
Joshua Benner, PharmD, Brookings Institution
Douglas Hoey, National Community Pharmacists Association
William Shrank, MD, Center for Medicare and Medicaid Innovation
Clifford Goodman, PhD, The Lewin Group (panel moderator)
Laura Cranston, Pharmacy Quality Alliance, Inc.
Michael Sherman, MD, Harvard Pilgrim Health Care
Ira Wilson, MD, Brown University
Terry McInnis, MD, Blue Thorn Inc.
Brian Sweet, AstraZeneca Pharmaceuticals (not pictured)
How To Get There

“Patients need to ask their pharmacists or practitioner questions about medications”
– Rebecca Burkholder, National Consumers League

“Patient medication adherence is the single most important thing a doctor can do for a patient.”
– Dr. Ira Wilson, Brown University, (left, pictured with Brian Sweet, AstraZeneca)

“Adherence solutions are local.”
– Joshua Benner, Brookings Institution

“It’s not primary care or the pharmacist – not an either/or game – but everyone.”
– Troy Trygstad, Community Care of North Carolina

Suzanne Mintz, National Family Caregivers Association, discusses the importance of family caregivers in improving medication adherence.

“All interests are aligned to support improved medication adherence.”
– Dr. William Shrank, CMS Innovation Center

Build a broad-based coalition to make medication adherence a national priority within health reform and our broader national health care strategy. The coalition should actively promote the six “Golden Opportunities” identified in the Roadmap.

Action Steps:
The coalition should also actively promote five broader priorities:
1. Make adherence interventions an explicit element of coordinated care
2. Make adherence an explicit element of physician training
3. Change the current role of pharmacy
4. Build adherence into current health reform initiatives
5. Continue to build data infrastructure

Moving Forward
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The coalition should also actively promote five broader priorities:

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4. **Build adherence into current health reform initiatives**
5. **Continue to build data infrastructure**

**Moving Forward**

**Notes:**
1. Introduce provider incentives and quality performance metrics in settings such as physician-led care coordination models.
2. Equip physicians with communications skills and toolkits to support adherence interventions.
3. Enhance the role of community pharmacists in coordinated care by tapping into incentives like the Medicare Medication Therapy Management benefit.
4. Make medication adherence a goal that crosses the Medicare “silos”: tie adherence incentives in Medicare Part D to improved outcomes and reduced costs of chronic care delivered under Part A & Part B. Make medication adherence an explicit part of campaigns such as the CDC’s new “Million Hearts” campaign. Encourage the CMS Innovation Center to undertake pilots based partly on adherence measures.
5. Improve infrastructure among prescribing physicians, health plans, PBMs and pharmacies to allow the demonstration of improvements across large patient populations and reduce health care spending.
**Health Information Technology**

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| Electronic medical records | • Increased adoption of EMRs of increasing functionality | • HITECH Meaningful Use Incentives (Phases 1-2-3)  
• Active medication lists (1)  
• E-prescribing functionality (1)  
• Patient registry capability (1)  
• Medication reconciliation moves to "core" function (2)  
• Hospital medication orders tracked (2-3)  
• Care team members listed (2-3) | • Slower EMR adoption rates among smaller and less integrated practices - a hurdle to improving medication management and patient adherence among large segment of the population. |
| Health information exchange (HIE) | • Growth of state/regional HIEs  
• Patient medication data exchange: clinician-clinician, clinician-PBM/health plan | • HITECH grants for state/regional HIE – Regional Extension Centers  
• Beacon Communities (HHS Office of National Coordinator)  
• Diverse practice settings in 17 communities nationwide | |
| E-Prescribing | • Growth in e-prescribing infrastructure/connectivity  
• Example: Surescripts  
• Expanding capability among MDs for formulary and eligibility check, transmission of patient medication histories | • Demonstrating clinical impact of highly integrated HIT | • "Bi-directionality" lags – data flows to and from prescriber(s) and other essential partners, including community pharmacy; lack of data exchange inhibits some high potential tasks such as refill synchronization. |
| Tele-health/Connected Health | • Home monitoring technologies  
• Example: "Health Buddy"- style monitors  
• Reminder technologies  
• Example: Glow Caps | |
| Retail pharmacy and PBM data integration | • Automated dispensing – potentially freeing pharmacists for interaction with customer/patient  
• Expanded analytics (claims, refill history)  
• Expanded capability to identify gaps in care, create store-level performance data, and dashboards | • Automated refills - boon to adherence or barrier to overall medication management and refill synchronization | |

**Care Coordination**

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| Physician practice | • Medical home accreditation  
• Accreditation standards (e.g. URAC, NCQA) target adherence-relevant tasks (e.g. med reconciliation)  
• Accreditation standards aligned with Meaningful Use  
• Comprehensive medication management (CMM)  
• An emerging standard of care which encompasses all medications used by patient and managing to clear clinical goals (see medication management standard of the Patient Centered Primary Care Collaborative) | • Pending Medicare rule on readmissions  
• Up to 3% reimbursement loss on unwarranted readmissions  
• New Medicare wellness benefit (Affordable Care Act)  
• Use of health risk assessment (HRA) tool to plan patient preventive care | • Should comprehensive medication management become a fundamental standard of care? |
### Care Coordination (cont.)

**Hospitals**
- Improvements in discharge planning and transition of care
  - Examples: STAAR project (IHI, Commonwealth Fund); American College of Cardiology "Hospital to Home" initiative
- Pending Medicare rule on readmissions (see above)
- Should the new wellness benefit – and health risk assessments in general – incorporate medication management and adherence issues?

**Medication therapy management (MTM)**
- Introduction of MTM model in chain pharmacy
  - Examples: Walgreens; Kerr Drug; "CheckMeds NC"
- Medicare Part D MTM benefit program improvements
  - Part D MTM benefit becomes an opt-out service; CMS to provide standardized formats: summary, action plan by 1/1/13; beneficiary letters required, medication action plan, standard personal med list; Part D plans required to offer interventions to prescribers
- Will standardized/intensified Part D MTM benefits induce further adoption by commercial payers?

**Retail pharmacy**
- Retail pharmacy transformation; Industry-wide movement towards direct provision of patient services: medication review, in-store clinics, etc.;
  - Population-level services to PBMs (e.g. CVS Pharmacy Advisor program): identification of patients with suboptimal medication patterns for pharmacist follow-up
- Pharmacy industry collaboration
  - Store-level medication management and adherence services
  - Example: Pharmacy Quality Alliance, Highmark, Rite Aid project in Pennsylvania
- Proposed CMS Accountable Care Organization (ACO) rules
  - Proposed rules require active population health management
- How far can pharmacy-initiated interventions go in prompting effective adherence without active links to prescribers?

**Population health management**
- Employee health management (EHM)
  - At risk individuals identified through health risk assessment and/or claims data; services targeted through benefit design and/or disease management (DM); EHM-type plans now standard among many employer selfinsured benefit plans.
  - Panel management
  - At risk individuals identified via various sources but managed at the practitioner level through registries
  - Example: Patient-centered medical home
- Proposed CMS Accountable Care Organization (ACO) rules
  - Proposed rules require active population health management
- How far can pharmacy-initiated interventions go in prompting effective adherence without active links to prescribers?

### Payment Innovation

**Value-based purchasing**
- Employer/purchaser value purchasing;
  - Examples: Leapfrog, National Business Coalition on Health eValue8
- Medicare physician group payment modifier for quality (Sec. 3007 of Affordable Care Act)
  - Physician payments tied to performance against quality metrics; phased in 2015-2017
  - Medicare Advantage: 2012-15 payment demo for pharmacy quality: Bonus for proportion of days covered medication performance, provision of MTM services

**Policy Drivers**

- Pending Medicare rule on readmissions (see above)
- Physician payments tied to performance against quality metrics; phased in 2015-2017
- Medicare Advantage: 2012-15 payment demo for pharmacy quality: Bonus for proportion of days covered medication performance, provision of MTM services

**Open Issues**

- Should the new wellness benefit – and health risk assessments in general – incorporate medication management and adherence issues?
- Will standardized/intensified Part D MTM benefits induce further adoption by commercial payers?
- How far can pharmacy-initiated interventions go in prompting effective adherence without active links to prescribers?
## Payment Innovation (cont.)

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| New payment models | • Care coordination support (via PCMH or "ACO-like" plans)  
  - Payments that require or incentivize care coordination and use of care teams (e.g. per patient/per month fees)  
  - Examples: Blue Cross Blue Shield Michigan PCMH program; CIGNA Collaborative Accountable Care; Maryland Blue Cross Blue Shield Single Payer PCMH; BCBS Massachusetts Alternative Quality Contract; State of Minnesota Health Care Home program | • CMS multi-payer advanced primary care demonstration  
  - Per member/per month fee from all payers, public and private  
  - Example: Rhode Island Chronic Care Sustainability Initiative | • Medicaid Patient-Centered Medical Home pilots (14 states)  
• Pending CMS programs for accountable care; examples: Pioneer ACO; shared savings ACO  
• CMS Innovation Center  
  - Funded to demonstrate innovative payment methods that support improved outcomes at lower overall cost |
| Manufacturer-sponsored incentives | • Discounts/rebates for demonstrated adherence  
  - Example: Merck-CIGNA diabetes initiative | | |

## Quality Improvement: Standards and Measures

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| System-wide improvement | • National Priorities Partnership  
  - Expanding development of clinical quality measures  
• Pharmacy Quality Alliance (PQA) Adherence Measures  
  - Expanding number of National Quality Forum-approved measures for medication adherence among target population groups (e.g. retail store customers, prescription drug plan members, etc.)  
• Pharmacy quality measures  
  - Example: URAC measures on PBM service quality (now harmonized with PQA adherence measures) | • National Quality Strategy  
  - Initial priority: cardiovascular health  
• Star Ratings for Medicare Part D prescription drug plans  
  - Ratings to include PQA proportion of days covered measures (2012) and comprehensive medication reviews delivered (2013)  
• Partnership for Patients (CMS)  
  - CMS/provider partnership to reduce unwarranted hospital readmissions by 20% over 3 years  
  - Example: 5-year Community Based Care Transitions Program | |
| Patient experience measures | • Pharmacy Quality Alliance (PQA) Consumer Experience Survey  
  - Gathers patient feedback on clarity and helpfulness of medication information from pharmacies and helpfulness of pharmacists | • Hospital Consumer Assessment of Healthcare Providers and Systems Survey (HCAHPS)  
  - New HCAHPS measures include measures of clear discharge instructions; linked to new Medicare bonus payments | |
| Physician practice | • Clinical quality measures (e.g. HEDIS)  
  - Standard HEDIS measures focus on guideline-based prescribing and follow-up testing for side effects | | • Should HEDIS measures be more directly linked to adherence? |
| Retail pharmacy | • Industry pilot projects: store-level application of Pharmacy Quality Alliance measures  
  - Example: Pharmacy Quality Alliance, Highmark, Rite Aid project in Pennsylvania | | |
### Patient Engagement

**Trends**

- Incentives
  - Benefit design
  - Patient/consumer incentives
  - Low cost ($4) generics
- Value-based Insurance Design (VBID)
  - Current trend: incentives moving from participation-based to health goal/compliance-based
  - $4 generics programs at WalMart, Target, other retailers; pending expiration of major drug patents expands list of generics
- HIPAA/ERISA policy on employer-sponsored incentives within employee health benefits
  - Affordable Care Act raises current 20% limit to 30%

**Patient education and activation**

- Public awareness
- Patient awareness/education
- Script Your Future public awareness campaign - National Consumer League and network of partners
- Expanding tool kit:
  - Adherence prediction tools
  - Motivational interviewing (MI)
  - Patient activation techniques

**Product Innovation**

**Trends**

- Safe Use reforms
- FDA Safe Use Initiative
  - Public/private initiative to create reader-friendly patient information leaflet (PIL)
- Packaging Innovations
- Smart pill bottles/reminder technologies: web-enabled packaging communicates adherence performance to caregivers and sends reminders to patients
- Science-driven innovation
- Nanotechnology
- Micro-device innovations
- Advances in drug delivery that simplify drug regimens, ease patient self-administration: extended release formulations, transdermal patches, micro-needle syringes
- Lack of focus on research (primary biomedical and comparative research) on innovative delivery and reformulation of pharmaceuticals to enhance adherence
- Lack of incentives for product development

**Research**

**Trends**

- Comparative effectiveness research
  - Comparative effectiveness of adherence interventions rated by Institute of Medicine as a 2nd quartile priority for new U.S. comparative effectiveness program
  - CER prioritization now under purview of Patient Centered Outcomes Research Institute (PCORI)
- Research needed to assess impact of ongoing care coordination and payment reform initiatives on medication adherence and patient outcomes
- Research needed on scale-up of care coordination and best practices