Pharmacist Support For Antiretroviral Adherence

Jennifer Cocohoba, Pharm.D.,MAS, AAHIVP
Associate Clinical Professor
University of California San Francisco School of Pharmacy
Clinical Pharmacist, UCSF Womens HIV Program
Disclosures

Jennifer Cocohoba, Pharm.D. declares that she has no potential conflicts to disclose with regards to this presentation.
Evolution of the HIV Pharmacist

- Development of HIV pharmacist specialists
  - HIV specialty residency programs
  - U of Buffalo training program
  - American Academy of HIV Pharmacists

- From the pill counting "bench" to the HIV+ patient's bedside
  - Drug-drug interactions
  - Monitoring efficacy & toxicity
  - Pharmacist-run ART adherence programs
Pharmacists: key member of the multidisciplinary adherence team

- Multi-disciplinary care teams vs. HIV specialist alone
  - Pharmacist only allied health care professional when added to MD that ↑ adherence!
  - Highest improvement = pharmacist + care coordinator + primary care MD

Horberg, et. al. Determination of Optimized Multidisciplinary Care Team for Maximal Antiretroviral Therapy Adherence. *JAIDS* 2012;60:183–190
<table>
<thead>
<tr>
<th>Study</th>
<th>Design/Methodology</th>
<th>Description</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>McPherson-Baker (2000)</td>
<td><strong>Before-after study</strong> testing efficacy of program of 5 monthly pharmacist visits including brief medication counseling, pill box instruction, and adherence counseling to improve ART adherence.</td>
<td>Significant increase in adherence at 5 months postintervention ($t = 4.21, P &lt; 0.01$)</td>
<td></td>
</tr>
</tbody>
</table>
| Castillo (2004)             | **Cohort study** comparing impact of 3 different types of pharmacy care settings on ART adherence and time to VL suppression. At AIDS-tertiary care hospital outpatient pharmacies pharmacists provided medication counseling, individualized regimens, monitored for AEs every 2 months. At off-site pharmacies there were mixed amounts of HIV pharmacy care provided. At family physicians’ offices there was no pharmacist contact at ARV dispensing | 90% ART adherence  
AIDS pharmacies = 70.4%  
Other pharmacies = 59.2%  
No pharmacist = 55.7%  
($P = 0.0001$)                                                                                                                                                                                                                                                                                                                                                     |
| Levy (2004)                 | **Stepped wedge RCT** to determine impact of a pharmacist run program including education on HIV and adherence, integration of medications into patient lifestyle, medication planners, adherence devices and pagers on ART adherence. | Self-reported missed doses in 28 days  
Pre = 7.4; Post = 4.2 ($P < 0.001$)                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Rathbun (2006)              | RCT to examine the impact of a pharmacist operated adherence clinic (1-1.5 hour visit at ART start, f/u phone call in 1 week, 30 minute follow up in 2 weeks and PRN follow up through 12 weeks) on adherence to HAART and viral suppression as compared to standard of care (education during PCP office visits). | EDM at week 28:  
Intervention = 74%;  
Control = 51%, ($P = 0.08$)                                                                                                                                                                                                                                                                                                                                                                                                               |
| Horberg (2007)              | **Ecological study** to assess association of presence of HIV clinical pharmacists (who provided consult visits at ART initiation and at regimen changes assessing adverse effects) with health outcomes (CD4⁺, VL, adherence) and health utilization measures. | Refill adherence 24 months  
HIV pharmacist = 76.7%  
No HIV pharm = 68.9%  
($P = 0.02$)                                                                                                                                                                                                                                                                                                                                                                                                               |
| Hirsch (2011)               | **Cohort study** to examine HIV pharmacy MTM program where pharmacists counseled on adherence, consulted with other providers, managed ADR, tailored regimen to fit patient’s lifestyle or needs, offered adherence packaging, refill reminders, weekly phone calls, or home visits after ARV initiation, identified peer advocates, counseled when ARV under- or over-use detected as compared to control pharmacies. | Refill adherence at 3 years  
HIV pharmacies = 69.4%  
Non-specialized pharm = 47.3%  
($P = 0.001$)                                                                                                                                                                                                                                                                                                                                                                                                               |
HIV MTM theoretical framework

Patient-Centered Pharmacy Services Model

- **Patient Contextualization**
  - Individual patient assessments, comprehensive medication reviews, medication reviews and reconciliations

- **Customized Interventions**
  - Resolving patient barriers, medication delivery services, multi-level interventions

- **Patient Empowerment**
  - Medication education, physical and mental adherence strategies

- **Provider Collaborations**
  - Readiness to start therapy assessments, therapeutic response monitoring, resolve socioeconomic barriers

- **Sustained relationships**
  - Monitoring adherence and behavioral changes, depression assessments

Addressing adherence is core component of MTM

- A combination of individually tailored, patient-specific interventions that identified and resolved adherence barriers and actively anticipated and addressed potential adherence barriers.

- Interventions: medication-specific education to enhance patient self-efficacy, follow-up calls to monitor adherence, practical and social support to motivate adherence, and patient referrals to other health care providers.

- Barriers: lack of time or trained personnel, insurance policies prohibiting patient enrollment in automatic refill programs.

---


Real world successes & challenges

“... a big part of my job is if I'm noticing it's [refilled] late and sitting on my shelf, we're calling them constantly ... Say, if you notice a patient's not being adherent. Keeping in touch with the doctor and letting the doctor know what's going on, too, so that way you can have that 3-way relationship between pharmacy, physician, and patient." (pharmacist, white male)

“So, I'll go and talk to patients if I've noticed that they haven't been picking up regularly, and I'll just go and ask them if they've been getting it elsewhere or if they had an extra supply ... Generally, the response is yes, I've had something somewhere. They don't tend to admit that they haven't been taking the medications, to me, at least ... I don't know if there's a better way to approach someone to have them admit that they're not taking them every day or they're having trouble remembering taking them every day or they—yeah, if they are having adverse effects, they're not saying that's the problem." (pharmacist, white female)

Backwards translation: getting practice into evidence

---

Â Minor and major adherence interventions conducted by HIV pharmacists worldwide

Â Some studies published, but most interventions likely to go undocumented

ï Unstudied = Undocumented = not noticed?

ï Inclusion of MTM into pharmacy can be considered (IIIC)

Â Including this wider scope of pharmacists' daily adherence interventions are we effective?

---

Appendix Table 1. Summary of Recommendations With Scores for Quality of the Body of Evidence and Strength of Recommendation*

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Score</th>
<th>Quality of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Systematic monitoring of successful entry into HIV care is recommended for all individuals diagnosed with HIV (II A).</td>
<td>7</td>
<td>High</td>
</tr>
<tr>
<td>2. Systematic monitoring of successful entry into HIV care is recommended for all patients (II A).</td>
<td>7</td>
<td>High</td>
</tr>
<tr>
<td>3. Brief, strength-based care management for individuals with a new HIV diagnosis is recommended (II B).</td>
<td>8</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Intensive follow-up for individuals not engaged in medical care within 6 months of a new HIV diagnosis may be considered (III C).</td>
<td>6</td>
<td>Low</td>
</tr>
<tr>
<td>5. Use of peer or nonprofessional patient navigation may be considered (III C).</td>
<td>6</td>
<td>Low</td>
</tr>
</tbody>
</table>

Secondary adherence measures:

1. Self-reported adherence should be obtained routinely in all patients (II A).
2. Self-reported adherence should be obtained routinely in all patients (II A).
3. Drug concentrations in biological samples are routinely recommended (III C).
4. Pill counts performed by staff or patients are not routinely recommended (III C).
5. EDs are not routinely recommended for clinical use (II C).
6. Adherence tools for patients

â†’ Reminder devices and use of communication technologies with an interactive component are recommended (II B).
7. Education and counseling using specific adherence-related tools is recommended (II A).
8. Education and counseling interventions

â†’ Individual on- or off-site ART education is recommended (II A).
9. Providing one-on-one adherence support to patients through one-on-one adherence counseling approaches is recommended (II A).
10. Group education and group counseling are recommended, however the type of group format, content, and implementation cannot be specified on the basis of the currently available evidence (II C).
11. Mandatory education and counseling intervention approaches are recommended (II B).
12. Offering peer support may be considered (II C).

Health system and service delivery interventions

13. Using same- or community counselor-based care has adherence and biological outcomes similar to those of doctor or clinic counselor-based care and is recommended in underresourced settings (II B).
14. Interventions providing care management services and measures to address food insecurity, housing, and transportation needs are recommended (II B).
15. DAART is not recommended for routine clinical care settings (II C).
16. Pregnant women

â†’ Targeted ART intervention including HIV testing and serosurveillance, adherence improvement, and routine use of ART for PMTCT is recommended (II A).
17. Exclusive breastfeeding is recommended (II B).
18. DAART is recommended for individuals with substance use disorders (II B).
19. Integration of DAART into methadone maintenance treatment for opioid-dependent patients is recommended (II B).
20. Mental health

â†’ Screening, management, and treatment for depression and other mental illnesses in combination with adherence counseling are recommended (II A).
21. DAART is recommended during incarceration (II B). In some instances diagnosis may be considered upon release to the community (II C).
22. HIV-infected individuals

â†’ ART adherence is recommended for all individuals diagnosed with HIV (II A).
23. Intensive care management to mitigate multiple adherence barriers in the homeless (II B).
24. Intensive care management of patients who are homeless (II A).

---

Breaking down the “pharmacist ART adherence intervention”

Â Facilitating medication access
  ï Medication supplies
  ï Synchronization of refills
  ï Facilitation of automatic refills
  ï Prior authorization services
  ï Waiving co-pays

Â Provision of reminder devices
  ï Reminder packaging
  ï Refill reminder messages
  ï Text messaging

Â Counseling
  ï Disease and medication education
  ï Motivational interviewing

Â Clinical interventions to identify and ameliorate drug-related problems affecting adherence
  ï Collaborative prescribing
  ï Regimen simplification or therapeutic interchange
  ï Symptom and adverse effect management

Â Other
  ï Facilitating adherence discussion between physicians and patients
  ï Drug information for multidisciplinary team and patients

é and MORE!
Fitting to existing adherence intervention taxonomies

Pharmacist actions
- Facilitating med access
- Reminder devices
- Counseling
- Clinical interventions for drug-related problems
- Other

De Bruin intervention taxonomy
- Knowledge-based
- Awareness-based
- Facilitation
- Self-efficacy
- Intention formation
- Action control
- Maintenance
- Attitudes
- Social influence
- Motivational interviewing

Bringing practice into evidence: adherence assessment

- Pharmacy refill tool
- Refill schizophrenia
  - Multiple calculations
  - Multiple cutoffs
  - Adherence, persistence, dose, timing
  - PQA says use PDC
- Self-reports
  - Multiple day recall
  - Visual adherence scales
- Places to keep records?


McMahon et. al. Pharmacy Adherence Measures to Assess Adherence to Antiretroviral Therapy: Review of the Literature and Implications for Treatment Monitoring. CID 2011:52: 493
Writing down the bones

Å Survey of manuscripts evaluating HIV pharmacist services

1. Training in clinical research
2. Partnerships with clinical researchers

Cocohoba, et. al. Unpublished data.
Revisiting the literature: bringing evidence into practice

Å Trends

- + Didactic info on ART
- + Interactive discussion of motivations, adherence expectations
- + Single session w/pharmacist
- +/- External rewards
- +/- Cue dosing
- +/- External reminders (e.g. pagers)

Å Guidelines for assessing self-reported ART adherence

- IAPAC ñGRIP guideò

<table>
<thead>
<tr>
<th>Study</th>
<th>Intervention OR (95% CI)</th>
<th>Control OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dohri</td>
<td>8.8 (3.18 to 23.31)</td>
<td>6.8</td>
</tr>
<tr>
<td>McGinn</td>
<td>2.74 (1.03 to 7.24)</td>
<td>12.32</td>
</tr>
<tr>
<td>Weber</td>
<td>2.11 (0.78 to 5.52)</td>
<td>12.47</td>
</tr>
<tr>
<td>Saffee (HIE)</td>
<td>7.30 (1.14 to 4.71)</td>
<td>2.66</td>
</tr>
<tr>
<td>REMOVE</td>
<td>2.30 (1.82 to 2.96)</td>
<td>16.95</td>
</tr>
<tr>
<td>Prais</td>
<td>1.28 (0.59 to 2.84)</td>
<td>62.79</td>
</tr>
<tr>
<td>Tidie</td>
<td>1.76 (1.05 to 2.91)</td>
<td>33.65</td>
</tr>
<tr>
<td>Murphy</td>
<td>1.11 (0.69 to 1.75)</td>
<td>11.14</td>
</tr>
<tr>
<td>Andros</td>
<td>1.25 (0.44 to 3.53)</td>
<td>12.32</td>
</tr>
<tr>
<td>Rawlins</td>
<td>1.13 (0.88 to 1.46)</td>
<td>18.57</td>
</tr>
<tr>
<td>Sanet</td>
<td>3.13 (0.74 to 1.24)</td>
<td>40.68</td>
</tr>
<tr>
<td>Goddard</td>
<td>88.101 (0.71 to 1.51)</td>
<td>75.85</td>
</tr>
<tr>
<td>Jones</td>
<td>4.90 (0.43 to 1.43)</td>
<td>48.85</td>
</tr>
<tr>
<td>Rigby</td>
<td>1.15 (0.35 to 3.31)</td>
<td>4.12</td>
</tr>
<tr>
<td>Saffee (pHIE)</td>
<td>1.54 (0.62 to 3.73)</td>
<td>1.56</td>
</tr>
<tr>
<td>Rothman</td>
<td>1.10 (0.86 to 1.40)</td>
<td>12.11</td>
</tr>
<tr>
<td>Overall</td>
<td>4.16 (1.16 to 1.93)</td>
<td>476/447</td>
</tr>
</tbody>
</table>

Simoni, et. al. Efficacy of Interventions in Improving Highly Active Antiretroviral Therapy Adherence and HIV-1 RNA Viral Load A Meta-Analytic Review of Randomized Controlled Trials. J AIDS; 2006(43:S1)
Thinking outside the HIV adherence toolbox

<table>
<thead>
<tr>
<th>Intervention Type</th>
<th>Diabetes</th>
<th>Hyperlipidemia</th>
<th>Hypertension</th>
<th>Heart Failure</th>
<th>Myocardial Infarction</th>
<th>Asthma</th>
<th>Depression</th>
<th>Glaucoma</th>
<th>Multiple Sclerosis</th>
<th>Musculoskeletal Diseases</th>
<th>Multiple or Unspecified Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blist packaging</td>
<td></td>
<td></td>
<td>MA: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case management</td>
<td>MA: L (+)</td>
<td></td>
<td>MA: L (+)</td>
<td>ME: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case management preceded by intensive interdisciplinary assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaborative care (telephone and in person)</td>
<td>MA: L (+)</td>
<td>MA: I</td>
<td>MA: L (-)</td>
<td>ME: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaborative care (telephone only)</td>
<td></td>
<td></td>
<td>MA: I</td>
<td>ME: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision aids</td>
<td></td>
<td></td>
<td>MA: I</td>
<td>ME: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education (face-to-face with pharmacist)</td>
<td></td>
<td></td>
<td>MA: L (+)</td>
<td>ME: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education and behavioral support (telephone, mail, websites)</td>
<td></td>
<td></td>
<td>MA: L (+)</td>
<td>ME: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education and social support</td>
<td>MA: I</td>
<td></td>
<td>ME: L (+)</td>
<td>ME: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health coaching</td>
<td>MA: I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medication reminders</td>
<td>MA: I</td>
<td></td>
<td>MA: L (+)</td>
<td>ME: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacist or physician access to patient adherence data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient access to medical records</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reminders</td>
<td></td>
<td></td>
<td>MA: L (+)</td>
<td>ME: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk communication</td>
<td></td>
<td></td>
<td>MA: I</td>
<td>ME: L (+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared or clinical decision making</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone counseling, care management, and monitoring</td>
<td>MA: I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virtual clinic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I = insufficient; L (-) = low strength of evidence of no benefit; L (+) = low strength of evidence of benefit; M (+) = moderate strength of evidence of benefit; MA = medication adherence (with respect to timing, dosage, or frequency as prescribed).

* In continuing treatment for the prescribed duration.

Evidence into practice

- No gold standard
  - Have we incorporated adherence interventions with stronger evidence into pharmacist adherence support practices?
  - Are there missing items we should try to include in pharmacist ART adherence programs?
- Case management
- Self-management
- Collaborative care models
Bringing evidence into pharmacy adherence interventions...practically

Å Respecting the (work)flow

- Adapt promising interventions for use in pharmacy/by pharmacists
  - Re-envisioning pharmacy or clinic workspaces,
  - Re-imagining electronic HIT systems & pharmacy systems
  - Utilizing ancillary staff to deliver interventions (technicians, interns, etc.)

- Consider novel interventions which fit with pharmacist workflow
  - Brief motivational interviewing in counseling
  - Two-way text messaging
  - Telehealth for pharmacist counseling and/or targeting special populations*

Å Short and long-term planning

- Intervention intensity, duration, sustainability for longitudinal f/u

Moving into the future

• Era of decreasing ..or increasingé patient contact?
  ï Mail order specialty HIV pharmacies
    Å Pressure to employ more cost effective dispensing services
    Å Cost of losing face-to-face patient contact
  ï Pharmacist’s role in accountable care organizations
    Å Emphasis: transitions of care, MTM services
    Å Pay-for-performance reimbursement shifts quantity of care
      for quality care
    Å Optimization of therapy includes maintaining high adherence
Other considerations for the future

Pharmacist daily adherence interventions
- HIV ART and meds for all chronic diseases
- HIV PreP: new adherence approaches needed?

Pharmacy models of care
- Detailed, complicated models → concise models for adoption in resource-limited settings
Presenting the continuum of pharmacist ART adherence support

- Coordination of pharmacy (adherence) services
  - Roles, specialized skills at different levels
  - Reorganizing when links in the chain are not present
  - Goal: support link of patients to care, promote adherence
Needs, directions

Promoting & Harnessing

Â Demanding adequate time to conduct ART adherence interventions
Â Examining financial models to support and sustain adherence activities
Â Demonstrating value of HIV pharmacists in improving ART adherence & HIV outcomes via rigorous studies
Â Facilitating training to enhance pharmacist adherence assessment & intervention skills
   ï Student pharmacist level
   ï Continuing education to enhance skills
Training pharmacists to recognize & intervene on poor adherence

Table 1. Pharmacy Students’ Perspectives on Medication Adherence Topics Taught in the Doctor of Pharmacy Curriculum (N = 52)

<table>
<thead>
<tr>
<th>Adherence Topic</th>
<th>Not Taught, No. (%)^a</th>
<th>Somewhat Taught, No. (%)^a</th>
<th>Moderately Taught, No. (%)</th>
<th>Extensively Taught, No. (%)^a</th>
<th>Median Score^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication adherence education in general</td>
<td>0 (1.9)</td>
<td>10 (19.2)</td>
<td>16 (30.8)</td>
<td>24 (46.2)</td>
<td>3.0</td>
</tr>
<tr>
<td>Models for understanding medication adherence</td>
<td>1 (5.8)</td>
<td>12 (23.1)</td>
<td>18 (34.6)</td>
<td>19 (36.5)</td>
<td>3.0</td>
</tr>
<tr>
<td>Predictors of medication non-adherence</td>
<td>3 (5.8)</td>
<td>9 (17.3)</td>
<td>18 (34.6)</td>
<td>18 (34.6)</td>
<td>3.0</td>
</tr>
<tr>
<td>Causes of medication non-adherence</td>
<td>1 (5.8)</td>
<td>7 (13.5)</td>
<td>15 (28.8)</td>
<td>24 (36.2)</td>
<td>3.5</td>
</tr>
<tr>
<td>Consequences of medication non-adherence</td>
<td>0 (1.9)</td>
<td>8 (15.4)</td>
<td>10 (19.2)</td>
<td>28 (53.8)</td>
<td>4.0</td>
</tr>
<tr>
<td>Impact of medication adherence on clinical outcomes</td>
<td>1 (1.9)</td>
<td>6 (11.5)</td>
<td>13 (25.0)</td>
<td>27 (51.9)</td>
<td>4.0</td>
</tr>
<tr>
<td>Motivational interviewing</td>
<td>4 (7.7)</td>
<td>9 (17.3)</td>
<td>16 (30.8)</td>
<td>17 (32.7)</td>
<td>3.0</td>
</tr>
<tr>
<td>Educational interventions</td>
<td>1 (1.9)</td>
<td>8 (15.4)</td>
<td>18 (34.6)</td>
<td>19 (36.5)</td>
<td>3.0</td>
</tr>
</tbody>
</table>

^a Percentages may not add up to 100% because there were a few cases where multiple responses from a college or school were received; these multiple responses were averaged to provide one response.

^b Based on the following scale: 1 = not taught, 2 = somewhat taught, 3 = moderately taught, 4 = extensively taught. These medians represent all responses, including those averaged over multiple responses from a pharmacy college or school.

Needs, directions

Enhancing Opportunities

Efficient utilization of pharmacy records to identify poorly adherent patients

- Individual automatic MPR/PDC calculations (easily accessible as part of record) for point of care interventions
- Reporting functions for groups of patients trending in poor adherence for proactive pharmacist contact
- Secure systems to "task" pharmacists to intervene on adherence as part of workflow.
- Mapping adherence data to identify regions to divert resources to improve adherence
Needs, directions

Enhancing Opportunities

* Efficient utilization of pharmacy records to identify poorly adherent patients
  - Individual automatic MPR/PDC calculations (easily accessible as part of record) for point of care interventions
  - Reporting functions for groups of patients trending in poor adherence for proactive pharmacist contact
  - Secure systems to "task" pharmacists to intervene on adherence as part of workflow.
  - Mapping adherence data to identify regions to divert resources to improve adherence

Cuong, et. al. Mapping Geographic Areas of High and Low Drug Adherence in Patients Prescribed Continuing Treatment for Acute Coronary Syndrome After Discharge. Pharmacotherapy 2011;31(10):927-933
Pharmacist ART adherence support

Å Research → practice → research
   ï Explore and promote pharmacist adherence services
   ï Clearly characterize multicomponent pharmacist adherence interventions to improve understanding in research community
   ï Take advantage of the chain of pharmacy care to reinforce (or divide and enhance) adherence work with patients
   ï Mobilize pharmacists across this spectrum to improve medication adherence for ART and other chronic disease therapies