Virginia Coordinated Care: A Model of Care Delivery for the Uninsured

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Outline of Presentation

• Background, Description of VCC and early results
  – Dr. Bohannon

• AHRQ Comparative Effectiveness Evaluation and results to date
  – Aim 1 Dr. Smith
  – Aim 2 Mr. Hurdle
  – Summary Dr. Smith
VCUHS’ Medicaid and uninsured patients come from all corners of the state...

Losses from Uncompensated care and Medicare totaled $98.6 m in 2011

Distribution of Uninsured patients receiving care at VCUHS
Virginia Coordinated Care for the Uninsured (VCC)

• Established in the Fall of 2000
• Primary objective is to coordinate health care services for a subset of the patients who qualify for the Commonwealth’s Indigent Care program utilizing managed care principles
• Target population is uninsured in the Greater Richmond and Tri-Cities
VCC Program Goals

• Establish community base Primary Care Physician (PCP) medical homes
• Improve the health of the VCC population
• Enhance the patient experience of care
• Reduce, or at least control, the per capita cost of care delivered
Program Plan

- Utilizes existing Indigent Care program financial screening process to initiate enrollment
- Virginia Premier Health Plan serves as third party administrator for the program (TPA)
- Assigns patients to a “medical home”
- Assigns Outreach Workers to the VCUHS Emergency Department to educate patients
VCC Enrollment Trends

*Cumulative Enrollees are accumulated over time throughout the FY; Enrollees are counted at a point in time (15th of the last month of the FY); Restrictions in access to VCC were implemented in November 2011.)*

Prior Evaluations

- Have shown that VCC is an innovative program that can provide the framework for future health care delivery models.
- Suggest lessons learned from the VCC program would be beneficial in shaping health care under ACA.
VCC Program has demonstrated utilization reductions

Emergency Department Visits

- One Yr Enrollment: 1.02
- Multiple Year Enrollment: 0.74
- Continuously Enrolled: 1.0

Inpatient Hospitalizations

- Year 1: 0.2
- Year 2: 0.11
- Year 3: 0.22

38% reduction
45% reduction

Bradley, C., Gandhi, S., Neumark, D., Garland, S., Retchin, S. Lessons For Coverage Expansion: A Virginia Primary Care Program For The Uninsured Reduced Utilization And Cut Costs, Health Affairs 31, No. 2 (2012): 355
VCC Program has also demonstrated reductions in costs

VCC Population
Average Cost/Year
(2000 – 2007)

<table>
<thead>
<tr>
<th>Enrollment Type</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Yr Enrollment</td>
<td>$6,833</td>
<td>$5,768</td>
<td>$4,726</td>
</tr>
<tr>
<td>Multiple Year Enrollment</td>
<td>$7,604</td>
<td>$6,106</td>
<td>$4,569</td>
</tr>
<tr>
<td>Continuously Enrolled</td>
<td>$8,899</td>
<td>$6,106</td>
<td>$4,569</td>
</tr>
</tbody>
</table>

Summary of Pre and Post Analyses
Year 1 Evaluation of the Complex Care Clinic

Year 1 analysis comparing the health care utilization, costs, and clinical outcomes for ACC2 patients before (November 1, 2010 – October 31, 2011) and after (November 1, 2011 – October 31, 2012) enrollment in the clinic showed improvements in:

Better Care
- Inpatient utilization dropped 44% and emergency department use fell 38%

Better Health
- Percent of patients with hemoglobin A1c under control (HbA1c <7%) increased from 35% to 47%
- Percent of patients with cholesterol under control increased (LDL-C <100 mg/dL) increased from 39% to 50%
- Percent of patients with blood pressure under control (< 140/90 mmHg) increased from 39% to 58%
- Mean body mass index of patients decreased from 35 to 33 kg/m²

Lower Cost
- Hospital costs were reduced by 49% for a total of $3,930,748 in net savings
  - Inpatient costs were reduced by 66%
  - Emergency Department costs were reduced by 36%
Pre- and Post- Clinic Study  
(n=365)

- Evaluated patients with at least one visit to the clinic between November 2011 and October 2012
- Cost of care for the population was reduced by approximately 49%
- Inpatient utilization dropped 44%
- Emergency Department use fell 38%
- Percent of patients with hemoglobin A1c under control (HbA1c <7%) increased from 35% to 47%
  - Percent of patients with cholesterol under control (LDL-C <100 mg/dL) increased from 39% to 50%
- Percent of patients with blood pressure under control (< 140/90 mmHg) increased from 39% to 58%

VCC Patient Costs*  
Pre- and Post-Complex Care Clinic Enrollment

Pre-Clinic | Post-Clinic
---|---
$8.0 | $4.1

* VCC Patient Costs
Transition to Populations Health Management Model

- Stratification of population
- Enhanced case management model
- Medical home assignment based on diagnosis
- Payment reform
- Enhanced data analytics
VCU Health System Population Health Management Model

**COMPASS**
( Coordinated Care Options to Manage Patient Access to Systems and Services)

- Results:
  - Improve Care for Patients
  - Improve the Health of the Population
  - Reduce per capita costs
INTERVENTIONS

Redefining the VCC Model

Care Coordination Case Management
- Population Stratification
- Level 3 Identification
- Enhanced Care Management Model
- Complex Care Clinic
- Community Case Management focus on transition of care

Community Partnerships
- Daily Planet Behavioral Health Initiative
- Richmond City Health Department Referral Initiative
- The Healing Place Referral Initiative

Payment Reform
- Phase I: September 2012 - Hospital Discharge Quality Initiative
- Phase II: January 2013 – Enhanced Diabetes Care Management

Information Exchange, Data & Analytics
- Enhanced analytics through OHI
- VCC Dashboard Developed & Improved
- Patient Keeper
Summary

• Transition to Population Management Model
  – VCC risk stratification
  – Medical home assignment based on diagnoses
  – Complex clinic started for superutilizers
  – Enhanced care coordination
  – Physician incentive model
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Preliminary Results, Comparative Effectiveness of Virginia Coordinated Care Delivery System

AHRQ MD-10-012

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Virginia Commonwealth University
America’s Essential Hospitals
Aim 1

- Comparative analyses of utilization (done) and adverse outcomes (planned) among VCC and control cohorts
- Comparisons between PCMHs, group practices within the VCC (planned)
No. VCC pts with at least one visit to a VCUHS facility increased, though not in every year.

Grant to help with patient navigation hired 4 outreach workers to recruit into VCC.
Patient Selection Aim 1

• All Patients
  – Age 18 to 63 years
  – 2003-2009 utilization or enrollment
  – Live in VCC-eligible geographic areas during analysis period(s)
  – Uninsured for at least a part of the study period

• Experimental cohort
  – VCC enrollees

• Control cohort
  – VCC eligible or self-pay
  – Used VCC zip codes
  – Selected controls with FPL<400% poverty
  – Frequency matched on employment
Analytic Methods, Aim 1

- Each patient followed for up to 4 years via claims data
  - grouped by VCC exposure
  - Assess changes over time pre-post VCC enrollment.
- Compare various risk subgroups by exposure to VCC
  - consider models with interactions between risk covariates and enrollee status
Comparative Hospitalizations

Hospitalizations /1000/6 months

- VCC - not engaged
- VCC - Engaged
- Control

Percentage of Hospitalizations at VCU

2004 cohort

2007 cohort
Percent with Hospitalizations

### Initial Enrollees

- **Mean Control**: N=4104*  
  - 2004: 8.0%  
  - 2007: 7.5%
- **Mean VCC**: N=4055  
  - 2004: 8.5%  
  - 2007: 7.8%

### Reenrollees

- **Mean Control**: N=647*  
  - 2004: 13.0%  
  - 2007: 12.5%
- **Mean VCC**: N=1035  
  - 2004: 15.0%  
  - 2007: 14.2%

- **Mean Control**: N=407**  
  - 2004: 14.0%  
  - 2007: 13.5%
- **Mean VCC**: N=1005  
  - 2004: 16.0%  
  - 2007: 15.5%

*Percent with any hospitalizations, months 7-12 post enrollment*

*Percent with any hospitalizations, months 19-24 post enrollment*
Hospitalization Outcomes Statistical Comparisons, VCC vs Controls

Initial Enrollees Looking Over 12 Months

• 2004 cohort
  – \( p=0.3305 \) for any hosps, mos 7-12, VCC lower
  – \( p=0.0797 \) for no. hosp days, mos 7-12, controlling for baseline, VCC lower

• 2007 cohort
  – \( p=0.0014 \) for any hosps, mos 7-12, VCC higher
  – \( p=0.9312 \) for no. hosp days mos 7-12, controlling for baseline, no difference
Hospitalization Outcomes Statistical Comparisons, VCC vs Controls

Reenrollees Looking Over 24 months

• 2004 cohort (VCC always lower)
  – p=0.0066 for any hosps, mos 7-12
  – p=0.0347 for no. hosp days, mos 7-12, controlled for baseline
  – p<0.001 for any hosps, mos 19-24
  – p=0.0044 for no. hosp days, mos 19-24, controlled for baseline

• 2007 cohort (VCC always lower)
  – p=0.0211 for any hosps, mos 7-12
  – p=0.0085 no. hosp days, mos 7-12, controlled for baseline
  – p=0.3913 for any hosps, mos 19-24, VCC lower
  – p=0.791 for no. hosp days, mos 19-24, controlling for baseline
Percentage of Admissions from ED

2004 cohort

2007 cohort

OTH  RCH  VCU

OTH  RCH  VCU
Comparative ED, Ambulatory Care Visits

- Incomplete data, VCUHS claims only
- Unable to extrapolate from hospitalization utilization patterns
- Can draw no valid conclusions about these comparisons
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America’s Essential Hospitals and VCU

• Aim II of AHRQ Study
• Qualitative Interviews with providers and leadership of VCC program
• Providers Chosen based on the following Criteria
  – Tenure with VCC Program
  – Geographical Location
Key Themes

• Increased access to quality healthcare
• Use of electronic medical records a big benefit
• Strong Communication with VCC administration is a vital component
• Access to specialty care is limited and problematic
• Problems with the patient population, such as low health literacy, undermine effective care
• Case management extremely helpful for care coordination
Access to Quality Care

• Quote
  – “If anything, I thought VCC was more freeing than when I was doing this in private practice with uninsured patients. [Prior to VCC] I had to balance every single treatment decision on the patient’s ability to pay for every single piece of it”
Electronic Medical Records

• Quote:
  – “…If you’re a VCC provider, you can see how your patients have been treated or are being treated in the hospital through the computer. You can see the reports that they got, when they were in the hospital what they’ve done. You can look up the patient history. So that has made [my work] a lot better …”
Communication at All Levels

• Quote:
  – “…for the most part the doctors are engaged, and because the doctors are engaged, the VCC program is engaged in listening to them to make the changes that are needed. And I think that’s been their biggest success is that they’re not stagnating. I’ve also noticed that not only are they listening, they’re actively trying to figure out what their barriers are…”
Access to Specialty Care is a Problem

• Quote:
  – “One of the biggest barriers is specialty appointments. ‘Cause if someone has stomach pain and we’ll get them to a specialist...sometimes it’s an eight-, nine-month wait and that’s a long time if you have stomach pain, you know to wait. So if there was one thing that I wish, it’s the speed of the referrals, you know. I wish it was a faster process”
Issues with Patient Population

• Quote:

  “Health literacy is gonna be a big issue in the community to begin with, and I think that that then translates into our settings. So how well people understand the importance of both, borderline blood pressure or slightly harsh sugar, we can do our part to explain it and hopefully we do, but it takes a little bit of patient contribution to understand also why that matters.”
Case Management

• Quote:
  – “As the time goes, they have more Caseworkers they have brought in. If we have a problem, we can call somebody, and a Caseworker has started monitoring these patients...they have really worked with the patients and they’ve had good outcomes”
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Explanations for Utilization
Findings

• VCC did not include heavy case management until later in the program

• VCC does not put up barriers to ED access
  – Moral hazard
  – EMTALA
    • Any patient who "comes to the emergency department" requesting "examination or treatment for a medical condition" must be provided with "an appropriate medical screening examination" to determine if he is suffering from an "emergency medical condition". If he is, then the hospital is obligated to either provide him with treatment until he is stable or to transfer him to another hospital in conformance with the statute's directives
Conclusions

• In the 6 months prior to enrollment, participants in VCC surprisingly utilized mostly “out-of-network” hospitals, more often than controls.

• 1-6 months after enrollment, VCC enabled “participating network” community physicians and hospitals to reroute their patients to VCU.

• Pent-up hospital demand appeared 1-6 months post-enrollment, but subsided by 7-12 months post-enrollment.

• 7-12 months after enrollment, some patients reverted to utilize “out-of-network” hospitals.
Conclusions (cont’d)

• Initially enrolled patients showed no consistent differences in hospital use (rates or days) compared to controls.

• The minority of patients who re-enrolled in VCC consistently showed decreased hospitalization.

• Case management clinics for needy and consistently enrolled VCC patients further reduced utilization.

• Providers, program managers, and patients were pleased with the program, but found subspecialty access difficult.
Consistency of Current and Previous Evaluations of VCC

<table>
<thead>
<tr>
<th>Citation</th>
<th>Design</th>
<th>Sample</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retchin SM, AJMC 2009</td>
<td>Group before/after comparison</td>
<td>Continuous VCUHS users, 2389, who enrolled into VCC, of 18k total users</td>
<td>Reductions in % w inpatient hosps (17.6% vs 13.8%) and with ED vis (73.9% vs 42.9%)</td>
</tr>
<tr>
<td>Bradley C Health Aff</td>
<td>Within subject, before after comparison</td>
<td>Continuously enrolled VCC enrollees (3 yrs)</td>
<td>Reductions in hosps and ED vis, esp by 3 yrs</td>
</tr>
<tr>
<td>February 2012</td>
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- (Initial, transitory) need drives utilization, enrollment
  - VCC-eligible enroll, usually don’t re-enroll
- Financing enables utilization
  - Self-pay avoid utilization
- VCC Re-enrollment required before gains in utilization realized among needy, well-managed patients
Safety Net Hospitals: The Path of Least Resistance

• Affordable Care Act may see pent-up hospital demand temporarily push up costs of care, but that demand may be satisfied by as soon as 7-12 months post-enrollment.

• Hospital and communities anticipating forming cooperative safety nets of care can expect rerouting to hospitals that are the financial path of least resistance.

• Sharing this rerouting load among several hospitals in a geographic area may avoid strain on safety net hospitals.

• Safety net hospitals cannot afford to forgo DSH payments in exchange for coverage under the Affordable Care Act. Patients may preferentially flood these hospitals as the newly uninsured come into coverage.