Assessing the organizational change towards care coordination and telehealth

ACT Programme

Example of the Basque Country

Miren David. KRONIKGUNE
International Center for Research on Chronicity
Outline: 3 Blocks

• ACT Programme
• Work packages
• Evaluation Framework
• Evaluation Engine
• Basque Country: First Results and Conclusions
• Potentials of the Evaluation Engine
ACT Programme

- EC 2nd Health Programme
- EC Funding: 1.6 M Euros
- Start: 15 Feb 2013
- Duration: 32 Months
- Coordinator: Philips Healthcare Boeblingen

Advancing Care Coordination and Telehealth Deployment
Why are we doing ACT?
From scientific evidence to Care Coordination & Telehealth deployment

CC&TH potentially bring
• 15% reduction A&E visit
• 20% emergency admission reduction
• 14% elective admissions reduction
• 14% bed days reduction
• 8% tariff cost reduction
• 45% mortality reduction


• Why is CC&TH not fully implemented yet?
  – From pilots to implementation
  – Barriers in translating telehealth into routine care

• CC&TH needs to be integrated into a local care delivery process
  – Re-structuring towards care coordination
  – Education of care providers
  – Tailoring to disease state and acuity level
  – Patient self-care and adherence

Organisational and structural changes are needed
What is ACT?

“Identify ‘best practice’ organizational and structural processes supporting integration and implementation of telehealth in a care coordination context for routine management of chronic patients”

First time in Europe

- Five leading regions in four countries
  - Experienced in delivering telehealth / coordinated care
  - At least 3,000 CHF, COPD, DM patients per region
- Leading medical experts
- Fully aligned with EC strategy on active and healthy ageing (EIP-AHA)
- Iterative improvement to arrive at a toolkit for care coordination & telehealth use across EU
  - Spread plan to 15-20 other EU regions
What ACT is not?

• Another Randomized clinical trial
  We aim at real life experiences, integrated into healthcare routine

• Another technology push initiative
  or a technology assessment
  We look at the problem from the people perspective. It is not a research on technology solutions

• A unique vendor push initiative
  Regions may have different solutions. It is about moving on the whole concept of CC &TH
Where is ACT?

Osakidetza
Kronikgune
AIAQS
IDIBAPS-Hospital Clinic
Aristotle University of Thessaloniki
Telbios
University of Würzburg
Philips
University of Edinburgh
University of Hull
Guy & St Thomas NHS
Imperial College
University College London
NHS/SCTT
University Medical Center Groningen
What are we evaluating?
ACT Regions and Programmes

- Elderly at home
- Ambulatory intensive care program
- Long term chronic care program
- Transitional care/ post discharge
- Patient self-care management
- HEALTHY
Core Work Packages

- WP4: Organisation / workflow optimisation
- WP5: Patient Stratification
- WP6: Patient Adherence / Staff Engagement
- WP7: Efficacy & Efficiency

Measure Individual Patient Outcomes
Measure Population Outcomes

Select Intervention adapted to patient needs
Develop integrated care pathways
Engage for Patient Centered Care
ACT Evaluation Framework

4 Work Packages
- WP4: Organization and Workflows
- WP6: Patient adherence and staff engagement
- WP5: Patient Stratification
- WP7: Efficacy & efficiency

Domains and Subdomains
- Questionnaires
  - Programme Directors
  - Frontline Staff
  - Patients
- Indicators
  - Regional Dashboards

Key Drivers
- Key Results
ACT Evaluation Engine
Technological Infrastructure

Consolidates statistics (indicators etc)

Storage server
- Statistics database
- Survey database

Web application server
- Interactive statistics visualization tool
- Online survey tool

User interface
- Content management system

User’s environment (office or mobile)

1. Controls access using roles, permissions etc
2. Validates file upload content
3. Implements application’s business logic
4. Exposes Rshiny and LimeSurvey functionality
The Basque Country
Distribution of Organizational Units

Population of 2.2 M

1. Bilbao
2. Uribe
3. Ezkerraldea-Encarterri
4. Interior
5. Araba
6. Gipuzkoa
7. Bidasoain
8. Goierri-Alto Urola
9. Bajo Deba
10. Alto Deba
11. Donostia
The Basque Country

STRATIFICATION: 100% population stratified since 2010

- General population
- Chronic patients
- High risk patients
- Highly complex multimorbidity

Population without chronic conditions: 1,400,000
- 636,000
- 173,000
- 43,000

- Prevention and Promotion
- Self management support
- Disease management
- Case management
Population Intervention Plans (PIP)
In the 2012 Framework Contract

Intervention strategies for each segment or strata of the population

- **Case management**
  - PIP Multi-morbidity
  - PIP Diabetes
  - PIP COPD
  - PIP CHF

- **Disease management**
  - Active patient
  - Physical activity and diet
  - Cardiovascular risk
  - Anti-flu vaccine
  - Tobacco withdrawal

- **Self-management support**
  - Tobacco withdrawal screening and advice
  - Anti-flu vaccination

2.7% of Basque population is included in four PIP programs with about equal proportions across districts, and 0.15% in Active Patient
First results 2012
Analyses within the Basque Country

- Disease Prevalence: DM, HF, COPD
- Use of resources in the PIPs:
  - HF vs COPD vs DM (Disease management level)
  - Disease management vs. Case management
  - Comparison of PIP PP in different organizational units
First results
Disease Prevalence in 2012

DM most prevalent, 5.7% of the population
COPD and HF low prevalence, probably under-diagnosed and under-registered
First results 2012
Consultations per patient per year: Disease Management
(average of all organizational units)

DM shows the highest amount of Consultations in all organizational units
First results 2012
Emergencies per patient per year: Disease Management (average of all organizational units)

EMERGENCIES

HF  COPD  DM

HF highest amount of Emergencies in all organizational units
First results 2012
Admissions per patient per year: Disease Management (average of all organizational units)

HF highest amount of Admissions in all organizational units
First results 2012
Disease Management vs Case Management

A&E figures double the amount in Case Management while Consultation figures do not
First results 2012
Comparison of Population Intervention Plans in Pluripathology

Comarca Gipuzkoa organizational unit shows high number of consultations with lowest admissions and emergencies

* Tolosaldea organizational unit has a concerted hospital from which we could not retrieve any activity data.
Conclusions I

The evaluation engine allowed to identify:

- DM most prevalent disease, still lower than the European level according to WHO (10% male, 9.6% female)
- COPD is underdiagnosed in the Basque Country, in agreement with data from the European COPD Coalition
- HF seems to be under-registered
- DM shows the highest amount of consultations, while HF shows the highest number of admissions and emergencies
- Admissions and emergencies in case management double figures of disease management, while consultations do not
- Patients seem to be adequately classified by the stratification tool in the multi-morbidity group, showing higher resource consumption, underlying higher morbidity levels
- The CC&TH model of Gipuzkoa organizational unit will be analyzed and collected in the ACT cookbook as a best practice and disseminated to the rest of participating regions
Potential of Care Coordination analyses
WP4/6 Baseline Status Surveys to Programme Directors
Programme A vs. Programme B from ACT

- CARE PROVIDERS COORDINATION
- PATIENT EXPERIENCE
- ORGANIZATIONAL STRUCTURE AND FUNCTION
- EVALUATION
- TECHNOLOGY
- CARE PATHWAYS
- MULTI-MORBIDITY
- FINANCIAL ALIGNMENT
- ORGANIZATION
- ADMINISTRATIVE EFFICIENCY

9/12/2014 ACT Programme
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9/12/2014
ACT Programme
THANK YOU!

Miren David: mdavid@kronikgune.org
### Potential of Care Coordination analyses

WP4/6 Baseline Status Surveys to Programme Directors
Programme A vs. Programme B from ACT

| CARE PROVIDERS COORDINATION | Frequent information exchange between care providers | Not frequent service and team meetings  
Social care does not play a prominent role |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>PATIENT EXPERIENCE</td>
<td>Patients can book appointments, engage in daily self-monitoring</td>
<td>Have no access to their data and are not involved shared decision making in CC</td>
</tr>
<tr>
<td>ORGANIZATIONAL STRUCTURE AND FUNCTION</td>
<td>Classical configuration of GP, nurses, clinicians, but also new roles such as case managers</td>
<td>Social care and home care are less frequent</td>
</tr>
<tr>
<td>EVALUATION</td>
<td>Frequent evaluation, including achievement of financial targets, patient adherence, patient outcomes, staff performance, program outcomes</td>
<td>Does not make patient symptoms reporting review</td>
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Potential of Care Coordination analyses

WP4 Baseline Status Surveys to Programme Directors of Programme A vs Programme B from ACT

**TECHNOLOGY**

Uses EPR, the program offers a 24/7 service

**CARE PATHWAYS**

Identification of patients supported by stratification tool, the program is much larger

**MULTI-MORBIDITY**

Identification of patients diagnosed with X disease, judged medium/high risk by stratification tool

More extensive use of the EPR, including social care and reporting to various stakeholders, including reporting from EPR between care providers, patients, and informal care givers / family

The program entails more services and has a bigger focus on self-management.

Defined by drug prescription, general welfare at discharge, nutritional status, Barthel/Downton/Lawton index, Pfeiffer test, geriatric syndromes
Potential of Care Coordination analyses

WP4 Baseline Status Surveys to Programme Directors of Programme A vs Programme B from ACT

- **FINANCIAL ALIGNMENT**
  - Budget bound by results to target indicators

- **ORGANIZATION**
  - Coordination by 11 region managers, monitoring also by Government and not only by health providers.
  - Major role for GP/primary care
  - New roles/functions for nurses and specialists

- **COORDINATION AND MONITORING**
  - Coordination and monitoring by multidisciplinary expert group
  - Major role for case managers
  - Includes social care
  - New roles/functions for home care, its teams and case managers

- **ADMINISTRATIVE EFFICIENCY**
  - Demand established by risk stratification and health records

  - Demand established by patient lists, in/exclusion criteria, preventive home nursing and home visits
Limitations
Comparison of two different programs

<table>
<thead>
<tr>
<th>PROGRAMME A</th>
<th>PROGRAMME B</th>
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<tbody>
<tr>
<td><strong>IDENTITY</strong></td>
<td><strong>Basque Population Intervention Plan for HF patients</strong></td>
</tr>
<tr>
<td><strong>PATIENTS ENROLLED</strong></td>
<td>Large: 12642</td>
</tr>
<tr>
<td><strong>SETTING</strong></td>
<td>Whole Region</td>
</tr>
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**Basque HF Programme:** a large size **24/7 program** with focus on **primary care**. The program has **frequent evaluations** that include **financial targets** and is supported by **stratification tools**. The **EPR** is used to exchange information within healthcare levels.

**B HF Programme:** smaller sized program with focus on **secondary care**. There is a strong focus on **self-management** and there are many **additional services**. The program is led by a **case manager** and involves **social care and home care**. The **EPR** is used to exchange information with various stakeholders.
Conclusions II

• We have learned how to identify comparable elements of programs that are different in scope and scale
• Topics such as availability of indicators to be compared between programmes and regions need to be fine tuned
• Indicator retrieval methods are very different between regions
• We are facing unexpected barriers such as ethical issues and patient data confidentiality issues, that are time consuming although necessary
• ACT is a programme in development and we are learning by doing
ACT evaluation Framework

Construction Process

1. Compilation of indicators
   - Regions
   - Literature/past experiences

2. Structure in domains/subdomains
   - Relevant per WPs
   - Avoid duplication

3. Selection of reduced number of domains/subdomains
   - Reflect drivers & outcomes in WP4, WP5, WP6 and WP7

4. Test indicators collection/availability at the regions
   - Definitions for data collection: data attributes, data schemes, units...
   - Definition of data transfer for baseline: secure file transfer, webservice, ...

5. Homogenization of indicators
   - Between HC systems
   - Per domain/subdomain

6. Baseline selection of:
   - Domains/subdomains
   - Indicators

7. Prioritization of:
   - Domains/subdomains
   - Indicators
   - Selection of ponderation scheme

8. Selection of targets per indicator

9. Data collection

10. Baseline Assessment
The Evaluation Engine
What works and why: key drivers vs. key outcomes

2. ACT defines Key Drivers
   a) Why does it work?
   b) What needs to change to make it even work better?

1. Define Key Outcomes
   a) Select Primary & Secondary
   b) Data elements needed
   c) How to compute?
   d) Targets, limits

3. Data collection & transfer
   a) Format
   b) Frequency
   c) Granularity

4. Analysis & Reporting
   a) What - outcomes
   b) Whom - all ACT stakeholders
   c) When - M6, M14, M18, ...

Values of Key
Relation Key Drivers & Key Outcomes

Care coordination and telehealth deployment

Report, review
ACT Programme

Baseline
First iteration
Final iteration

Key Outcomes

Key Outcome
current value

improvement needed

no further benefit

off-target
on-target
off-target

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