Helping High Utilizers of Government Services

Lessons from the Field

CALIFORNIA POLICY LAB

Sonoma County - August 9, 2017

Contents

- Why the focus on high utilizers?
- Examples from California counties
- Nationwide examples
- Appendix of system diagrams

For each site we describe:

- The target population
- Insights from the data
- Interventions and, where applicable, results
- Best practices and lessons learned

Why the focus on high utilizers?

- A small percentage of citizens often account for a large percentage of utilization and costs
  - E.g., California's top 5% of Medi-Cal users account for 51% of spending
- Risk factors for high utilization -- such as homelessness, substance abuse, and mental illness -- are high in California's communities
  - California has 12% of the country's population, but 22% of its homeless
  - LA Sheriff: "I run the biggest mental hospital in the country."
- Misuse of emergency services results in fragmented care, inappropriate responses, and unnecessary costs
- Counties that have focused on better addressing the needs of high utilizers have seen dramatic success in improving outcomes and reducing costs

Aligning Forces for Quality

Humboldt County, CA

This project was a joint initiative of county departments, hospitals and other health care providers, and the California Center for Rural Poverty at Humboldt State University. It examined health care utilization patterns for high utilizers of the emergency department and deployed a multidisciplinary coordinated care team to help especially high utilizers.

Target Population Insights

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- Built Health Information Exchange that linked various health systems; now looking to add additional data (jail, education, etc.)
- Target Population: Top 50 ED patients of largest hospital in the county (avg 2 visits per month in 6 month timeframe)
- Highest utilization was Wednesday morning, and clients 41 to 65 years old
- Complex, chronic disease was not prevalent
- 95%+ had unaddressed mental health or substance use problem
- 70% had 1+ adverse childhood experience

Interventions

- Most intensive care coordination
    - Goals setting, case planning, referral services to other medical providers and community organizations, transportation assistance, phone card/minutes assistance, nutrition planning, behavioral health services and care coordination between providers
- Embedded care transition nurse in the ED
- Cloud-based care coordination record called ACT.MD
    - discharge reports in real time, tools on care coordination and developing care plans for a care team, helps individuals with day to day tasks.

Outcomes & Results

Goals

- 10% decrease in health utilization—acute, urgent, and emergency
- Reach 30 of the top utilizing patients and apply more intensive care coordination
- Reduce staff turnover and improve efficiency

Results

- 70.4% decrease in ED utilization for 18 clients enrolled in the “Super Utilizer project” for at least six months
- Dramatic drop in uncompensated care

Lessons

- Very important to get agencies on the same page and working toward common goal
- Make sure direct service staff are trained in early childhood trauma and social determinants of health
- Communication was kept open and transparent between stakeholders, and a public/private steering committee helped resolve conflicts if they arose
- Would be good to track results collaboratively across organizations; their diverse make-up makes this difficult

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Project Welcome Home & Partners in Wellness

Santa Clara County, CA

Santa Clara undertook a multi-year project to link health, justice, and human services (including homelessness) data to better understand utilization among their homeless population. They then launched two projects to better serve high-utilizing populations, both using a performance-based contracting model. Project Welcome Home provides permanent supportive housing to the high-utilizing homeless population, while Partners in Wellness provides community-based behavioral health services to those with serious mental illness. Evaluations of both projects are in progress.

Target Population and Insights

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- Analysis of population of 104,206 residents who experienced homelessness in Santa Clara County at any point during a six year period from 2007-2012
- Costs: Health care 53%, Human Services 13%, Justice system 34%
- Top 5% accounted for 47% of all costs with avg annual costs of over $100,000
- 2,800 chronically homeless residents had average costs of $83,000/year
    - 70% had ongoing high costs, 84% had 12+ months of continuous homelessness

Interventions

Project Welcome Home

- Provide permanent supportive housing to 200 chronically homeless heaviest users of multiple systems over 6 years (Pay for Success with Abode Services)
- Access to community-based clinical services and permanent supportive housing using evidence-based Assertive Community Treatment (ACT) and a Housing First approach

Partners in Wellness

- Provide community-based behavioral health services to approximately 250 severely mentally ill over 6 years (Pay for Success with Telecare Corporation)
- Recovery-centered, community-based mental health and housing services that are specifically designed to serve people with extremely complex needs

Service Utilization Pre/Post-Housing

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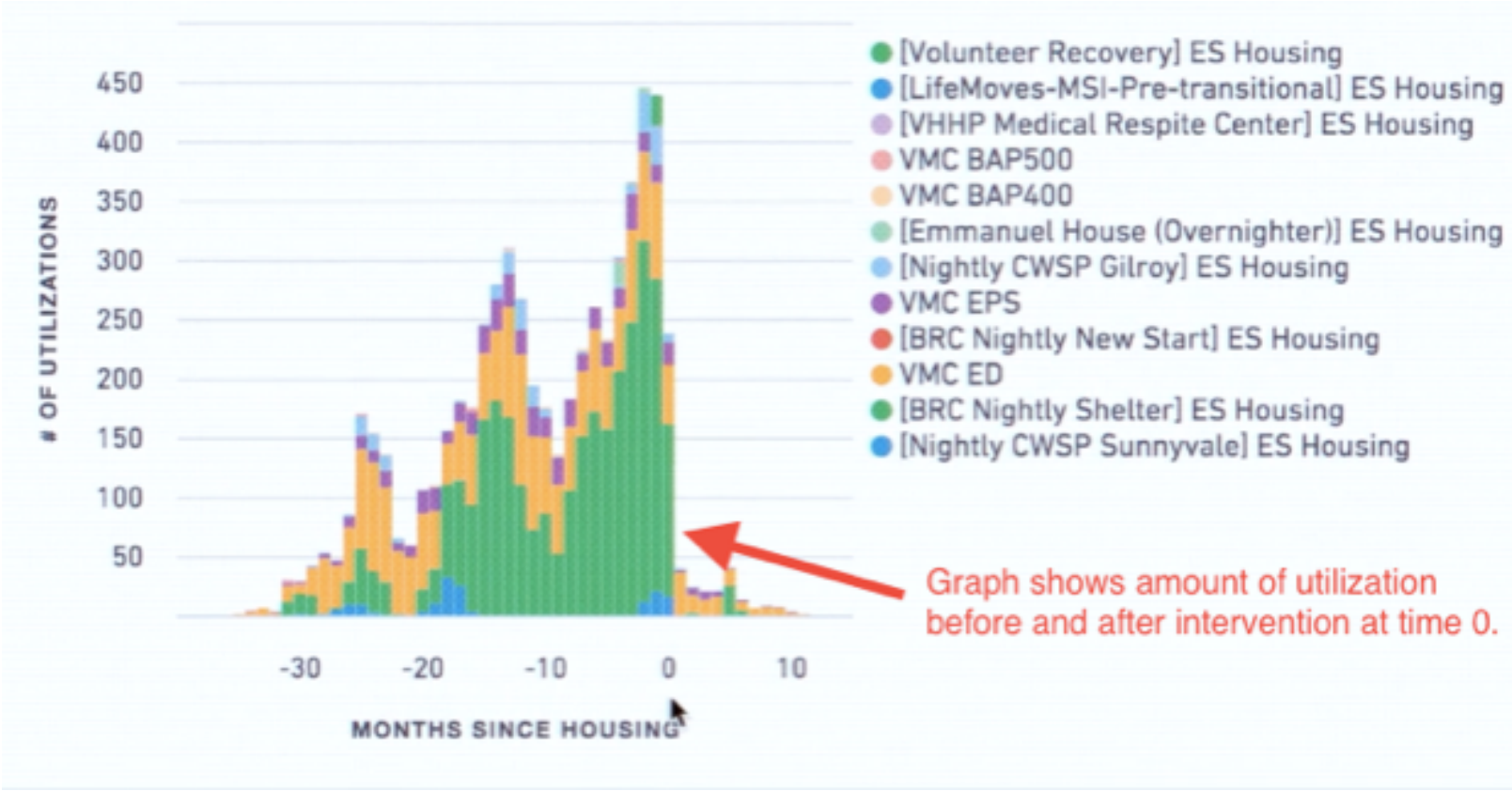
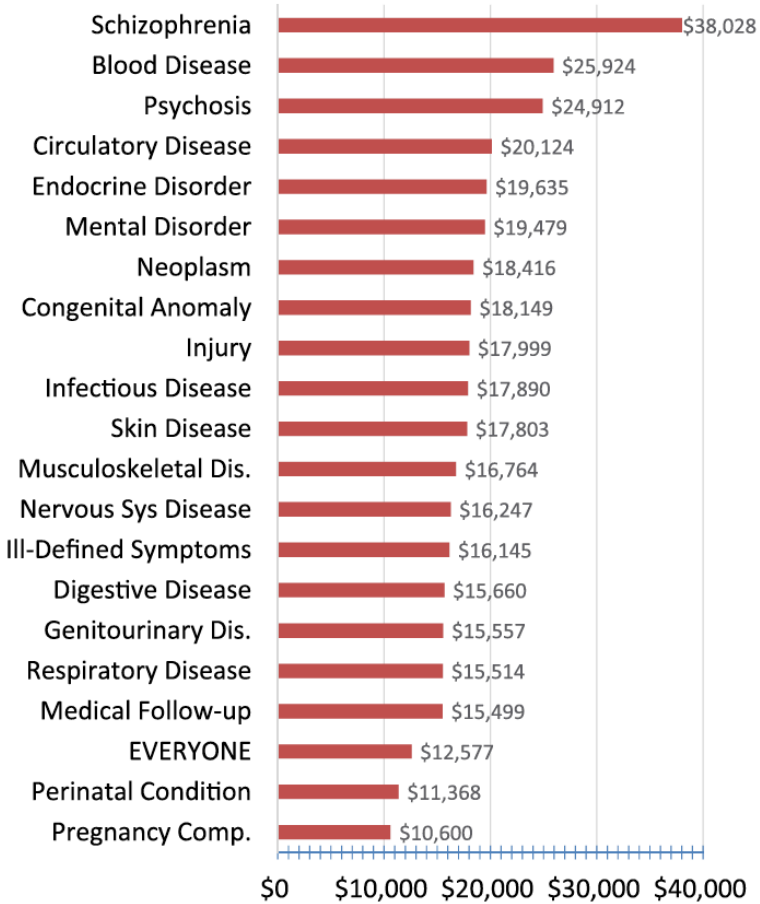
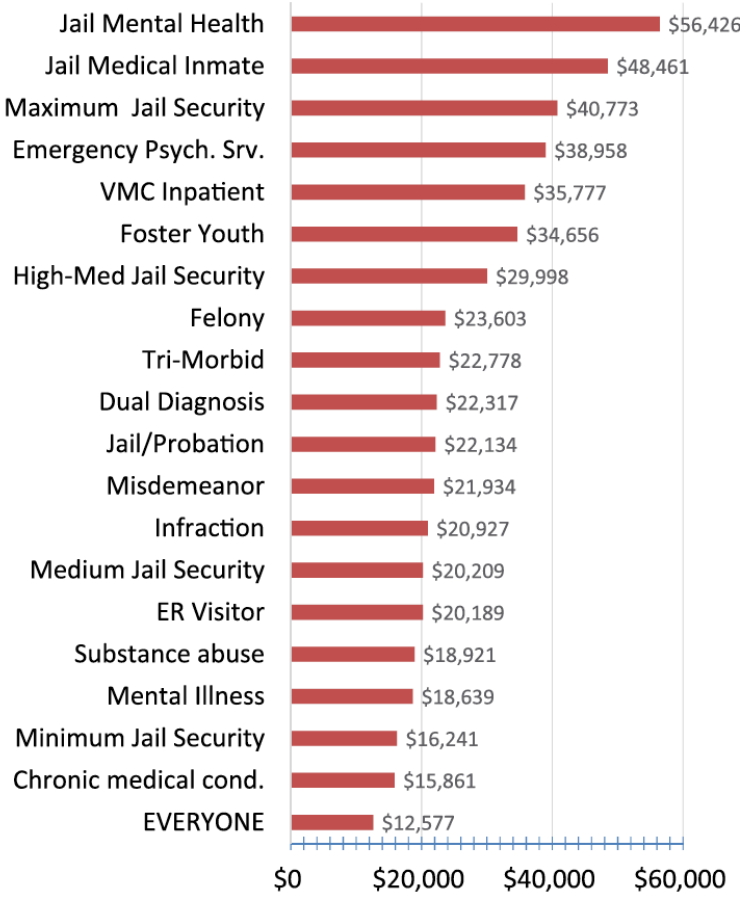


Average Annual Cost 2011-12 based on *Medical Diagnosis* (2014 dollars)



Average Annual Cost 2011-12 based on *Institutional Links* (2014 dollars)



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Lessons

- Leadership role from county counsel helped with data integration/sharing
- Don’t build a data system for one project -- build for longevity
- Pro-bono data integration development from Palantir sped up work but led to ongoing maintenance costs
- Cost efficiencies are an important motivator but “deferred maintenance” and waiting lists mean that those dollars may not return to county coffers

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Enterprise Linkages Project

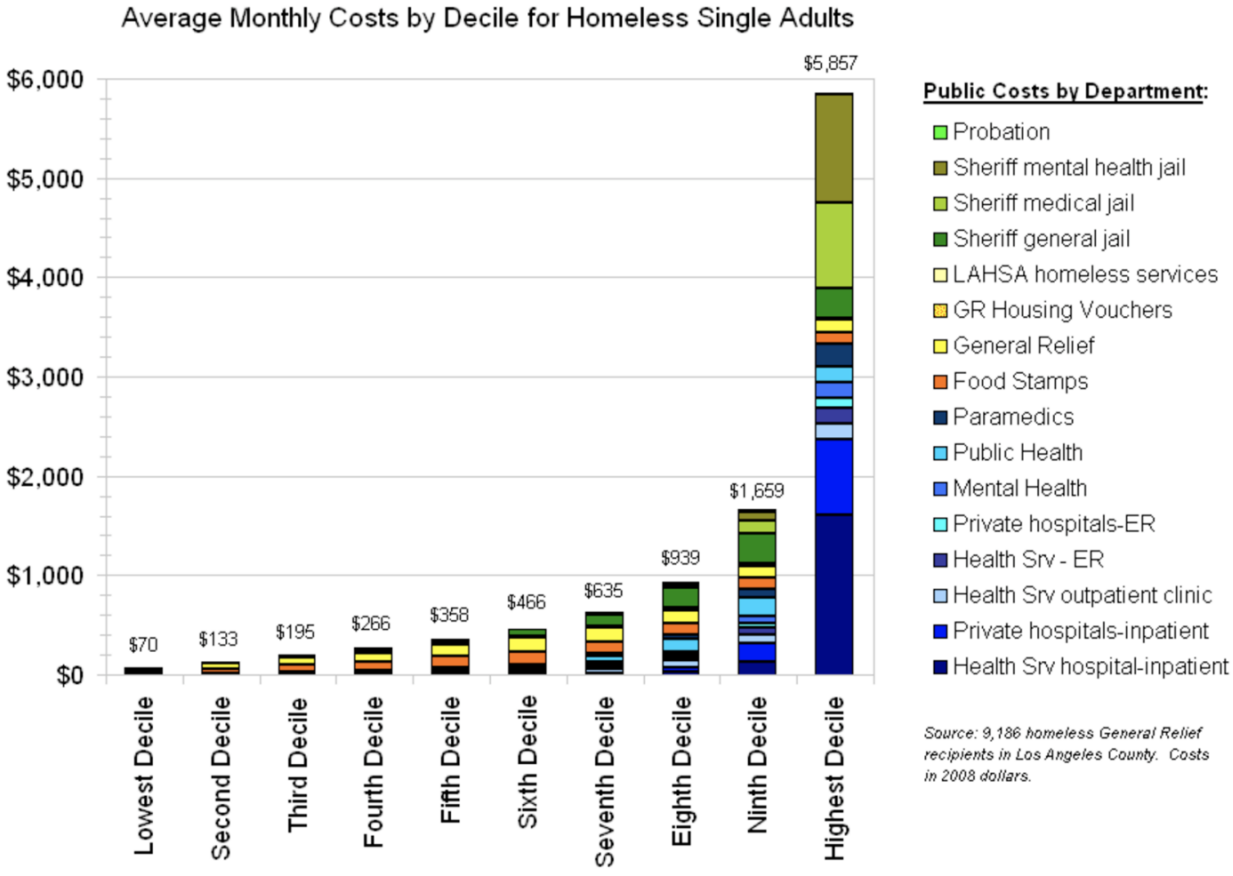
Los Angeles County, CA

LA created a data warehouse that links County service records from health, justice, housing, and human services with the goal of informing and improving the delivery of targeted services.

Target Population Insights

- The most expensive 5% of homeless adults in FY 2014-15 accounted for $328 million in spending, roughly 40% of the costs of all homeless adults studied
- Avg cost per person for all 6 county agencies was $51,227
- Costs: 86% Health, 8% Law Enforcement, 6% Human Services
- 70% of arrests involved < 1 month in custody, but 50% of jail maintenance costs come from the ~10% jail stays that lasted > 3 months

Example of ELP utilization insights



Source: 9,186 homeless General Relief recipients in Los Angeles County. Costs in 2008 dollars.

Interventions

- Analyze departmental discretion in re-directing treatment revenues
- Predict future heavy utilizers and future homelessness
- Rapid rehousing for top 5% most expensive homeless
- Develop better discharge planning guidelines

Lessons

- Master MOU to facilitate collaboration between the Departments and provide a systematic process for future projects to be reviewed and added, so that separate agreements are not required for each new project
- The process of obtaining client information for data linkage and subsequently removing identifiable client information from the collected data prior to leaving a department's premises is permitted by HIPAA
- Don't make it too difficult to link more data later
- Don't make it too hard to share linked data with other partners
- Try to avoid giving each data provider veto power

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ConnectWellSD

San Diego County, CA

Integrated data from 8 agencies and 2 community partners that enables continuous improvement of health and social services for those they serve.

Target Population & System Capabilities

- Target populations of
  - AB109 (2011 Public Safety Realignment) – nonviolent offenders
  - Low Income Health Program -- short-term health coverage program for individuals who were previously uninsured, and transitioned to Medi-Cal in 2014
- Agencies involved
  - Aging & Independence Services, Alcohol & Drug Services, Benefits Eligibility, Child Welfare Services, Housing and Community Development, Mental Health, Probation, and Public Health.
- ConnectWellSD Capabilities
  - Participate on a collaborative service team
  - Send/receive/manage electronic referrals
  - Receive alerts & notifications

Goals

Staff Benefits

- Access to more information will help them tailor their service to each individual
- Collaborate more easily and securely with others
- Search more easily for services that meet their customer's needs
- More easily follow the progress and activities of the individuals they serve

Client Benefits

- Each customer is treated as a unique individual with needs, goals and priorities
- No "wrong door" -- easier to access information and create referrals to services
- Secure technology enhances privacy
- Customer portal will empower people to be an engaged

Lessons

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- Client consent is captured in the system
- Treat the data fields based on type rather than origin (e.g., ‘Race’ not restricted if captured in medical file)
- Linked data will not be used to reduce benefits or revoke eligibility
- Build an extensive set of user roles that show different amounts of information based on job role and other factors
- Roll-out is a process, not an event. Users, functions, and data will increase over time

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Coordinated Case Management System & Frequent Offender Research

City and County of San Francisco, CA

CCMS is a composite database of integrated medical, psychological, and social information about high risk, complex, and vulnerable populations served by the San Francisco Department of Public Health. The SF District Attorney has also separately undertaken research on frequent offenders in the criminal justice system.

Target Population Insights

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- Whole Person Care Target Population: homeless adults, especially high users of urgent/emergent health systems

Risk Category	Homeless Population (FY1415)	Total Adults	Total U/E Costs
All	Homeless with DPH health record	9,975	$149M
Severe	High User and Long-term Homeless	13%	71%
High	High User, not Long-term Homeless		
	Long-term Homeless, not High User	27%	11%
Elevated	Not Long-term Homeless, not High User	60%	18%

- Findings from frequent offender research are forthcoming

Goals

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Whole Person Care

- ‘Any door’ policy for housing and healthcare
- Reduced crisis events
- Increase number of managed care Medi-Cal enrollees
- Sustain stable housing
- Decrease in high utilizer and homeless population

Frequent Offender Research

- Reduce high users’ interactions with the criminal justice system
- Lower recidivism rates of high users
- Help stabilize high users
- Decriminalization of Behavioral Health Issue
- Reduce system wide racial and ethnic disparities

Interventions

- Create new navigation centers (functions as resource center during the day and shelter allowing couples, pets and belongings at night), bringing together services from multiple agencies to streamline benefit connection
- Expand and strengthen care coordination services
- Expand medical respite (shelter alternative to emergency department and destination for hospital discharges)
- Support detoxification centers
- Extend residential substance use disorder treatment
- Reduce institutional care for homeless seniors (provide intensive transitional care management services)
- Multi-Agency Care Coordination System (MACCS): a data sharing platform

Lessons

- Separate efforts don't garner synergistic benefits
- Develop design team (Clinical, Epidemiology, IT, and Management) to determine what data are relevant
- Determine methodology after learning about the data you have
- Map existing processes and systems at the outset
- Identify transactional datasets that collect bio-psycho-social information about high-risk patients
- Develop shared outcomes targets, evaluation, performance plans and system of care measures
- For justice usage, arrests are the best metric

Alameda County Care Connect (AC3)

Alameda County, CA

Whole Person Care Pilot that seeks to achieve better health outcomes for a particular population of high users of Medi-Cal health services -- those who cycle in and out of emergency rooms, complaining of panic attacks or frequent admits to the John George Psychiatric Pavilion.

Target Population Insights

- Target Population: homeless (~10k), high utilizers of multiple systems (~6k)
- Individuals in high poverty areas visit EDs for serious mental illness 2.7 times more than those in affluent areas
- Of the 6,527 multi-system users in 2015, almost 40% (2,445) were also in jail at some point in 2014
- Themes: substance use and mental health treatment access, housing, and revolving door crisis care

Goals & Interventions

- Goals
  - Reduce admissions to Psychiatric Emergency Service
  - Increased supportive housing, housing navigation services, and ongoing case management
  - Consistent “front door” experience and care coordination
- Proposed Interventions
  - County-wide data-sharing and care coordination system
  - Community Health Record (Data system)
  - Backbone Organization/Human infrastructure to sustain system transformation
  - Linking clients to primary care, substance use treatment, behavioral health care and housing resources in real time

Sacramento City and County

Project Summary

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- Social Finance is working with the Sacramento City and County and others affiliated with Sacramento Steps Forward
- 2015-2016 persistently homeless high utilizer population study using integrated data on program utilization from Sacramento's emergency shelter system, the County's behavioral health services and jail system, and the City's public ambulances and Police IMPACT team
- Outcome Goals: reduce reliance on shelters, inpatient psychiatric hospital care, jail bookings, days incarcerated, ambulance rides, and rates of crime and victimization with a positive net benefit
- Intervention: Permanent Supportive Housing and intensive case management (e.g., ACT)
- Lesson: Joint targeting approach: City and County jointly establish the list of high-utilizers, and engage in a coordinated approach to outreach and enrollment

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Early Interventions System

Johnson County, MO

JoCo originally integrated data on justice and health services, and has since added several additional data sources. They applied machine learning to predict which individuals arrested in a given year were most at risk of going to jail within the next 12 months, but whose needs would be better served by being redirected to effective mental health services.

Target Population Insights

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- Goal: enable gov to provide mental health and social service interventions to prevent jail time, improve the lives of residents, and enable jurisdictions to invest their resources more efficiently
- Target Population: 4,430 people who had interacted with both mental health services and the criminal justice system
    - Stayed in jail 2x as long
    - Risk factor: avg 28 months since last contact with mental health services
- Data from 2010-2016:
    - Justice Information Management System, data from booking to probation
    - Ambulance service provider MED-ACT
    - Public mental health care services data

Research results

- Machine learning to prioritize outreach to individuals most at risk of being booked into jail within the next year
- System generates a list of 200 individuals ranked by risk scores, which indicate the risk of a person entering jail within the next year
- Predicted jail bookings in the following year with 51% accuracy
- Model performed 500% better than random baseline and 25% better than several simple heuristics that domain experts are likely to use and implement

Up Next

- Automate data transfers
- Move to predicting jailing in the next 30 days
- Operationalize mutual-client real time email alert
- Adding datasets: local police, transit, probation, electronic monitoring company

Lessons

- JoCo took data as is, and offered to clean the data for each component
- JoCo also took all of the liability from non-county partners
- If they were starting today, they would use OpenLattice for data integration

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Familiar Faces

King County, WA

The Familiar Faces initiative is systems mapping, design, and improvement work centered on creating a system of integrated care for complex health populations that can eventually benefit any user of publicly-funded health services.

Target Population Insights

- Target Population: those booked 4+ times in a 12 month period and have a mental health and/or substance use condition
- 94% of all people with 4+ jail bookings have a behavioral health indicator
- 93% had 1+ acute medical condition (average 8.7 conditions); 51% had 1+ chronic health condition
- > 50% were homeless
- Most serious offenses: Non-compliance (41%) – Failure to appear for court, supervision violations, etc., property crime (18%), drugs (13%)

Proposed Interventions

- Intensive Care Management Team
- Jail Release Planning Coordination with a Managed Care Organization
- Cross-Sector Data Integration Project - (a) enabling individual client "lookup" for direct care coordination, (b) identifying high risk groups based on flexible criteria for system-level care coordination, and (c) extracting datasets, based on flexible criteria, for analysis of population health, program evaluation, and costs
- Prosecutorial Resources & Diversion
- Single Diversion Portal - resource for first responders to divert MH/SA clients (e.g., eligibility criteria and number of bed openings for local health and human services triage centers)

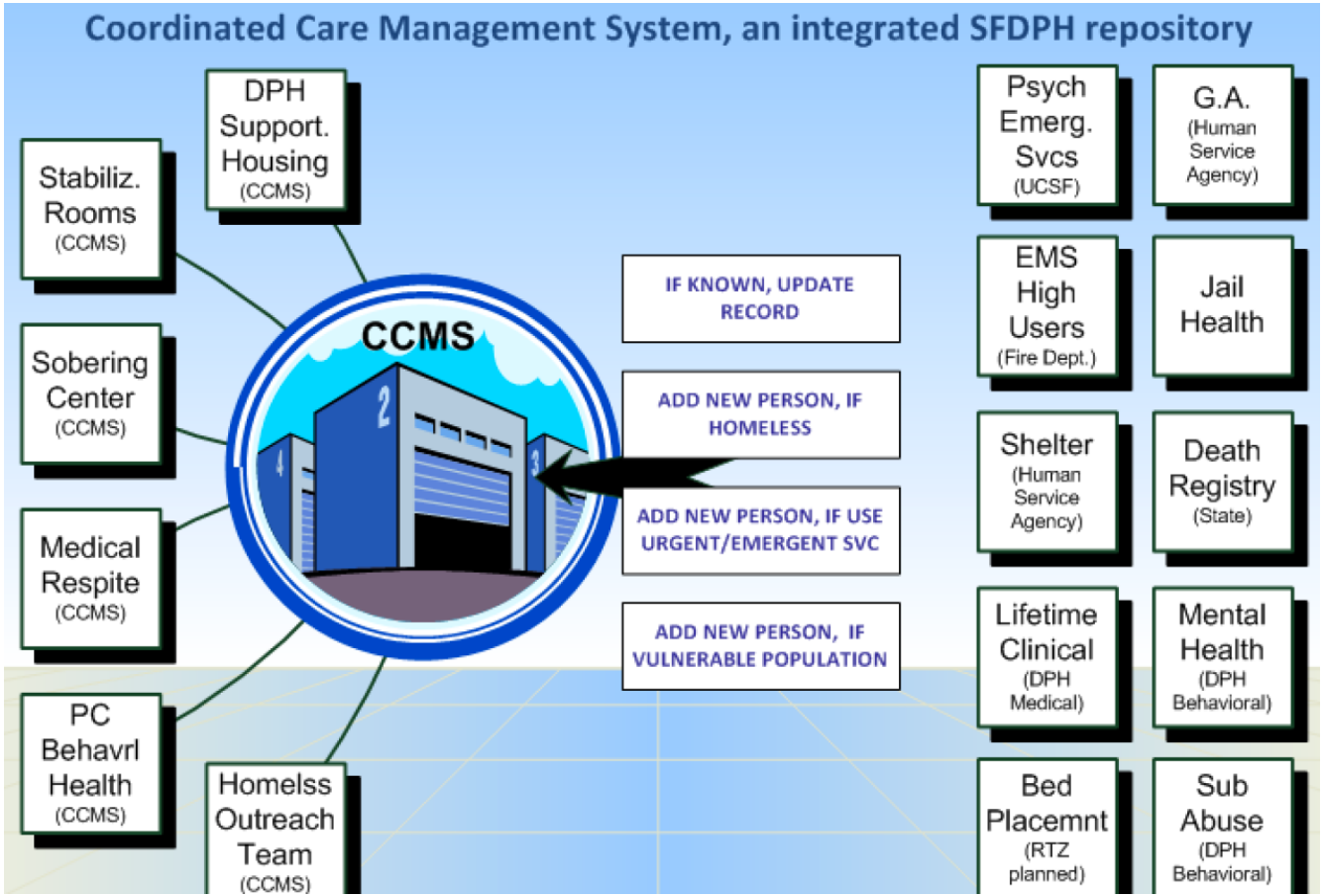
Lessons

- Develop a Current State Map of the various systems serving the target population by talking to clients, “process walks”, and looking at the population data
  - It’s not really a system, it’s more a collection of uncoordinated services
  - The current “system” is program-centric, not people-centric
  - Funding stream requirements drive the current system
  - There are philosophical difference across the value stream
  - Need to stop “brick and mortar thinking”

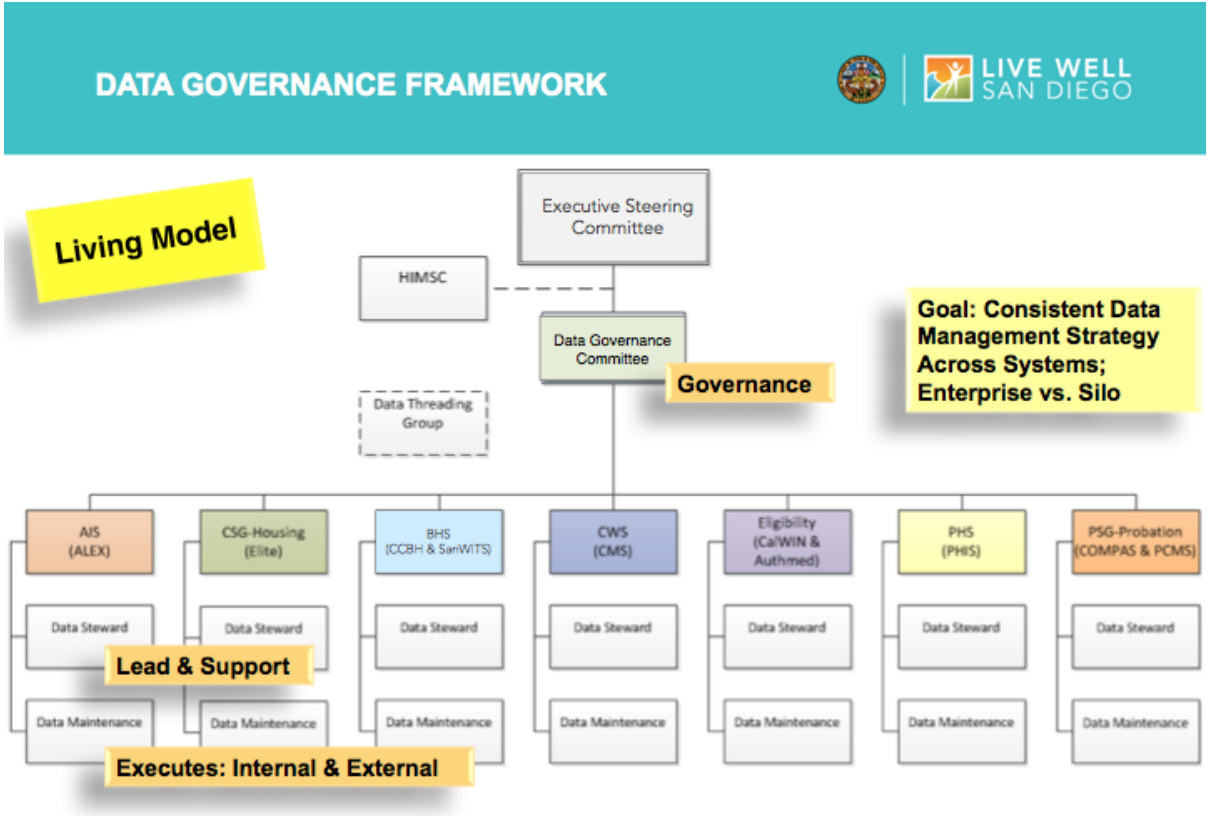
Questions?

Appendix of data system diagrams

San Francisco's Coordinated Care Management System



Live Well San Diego



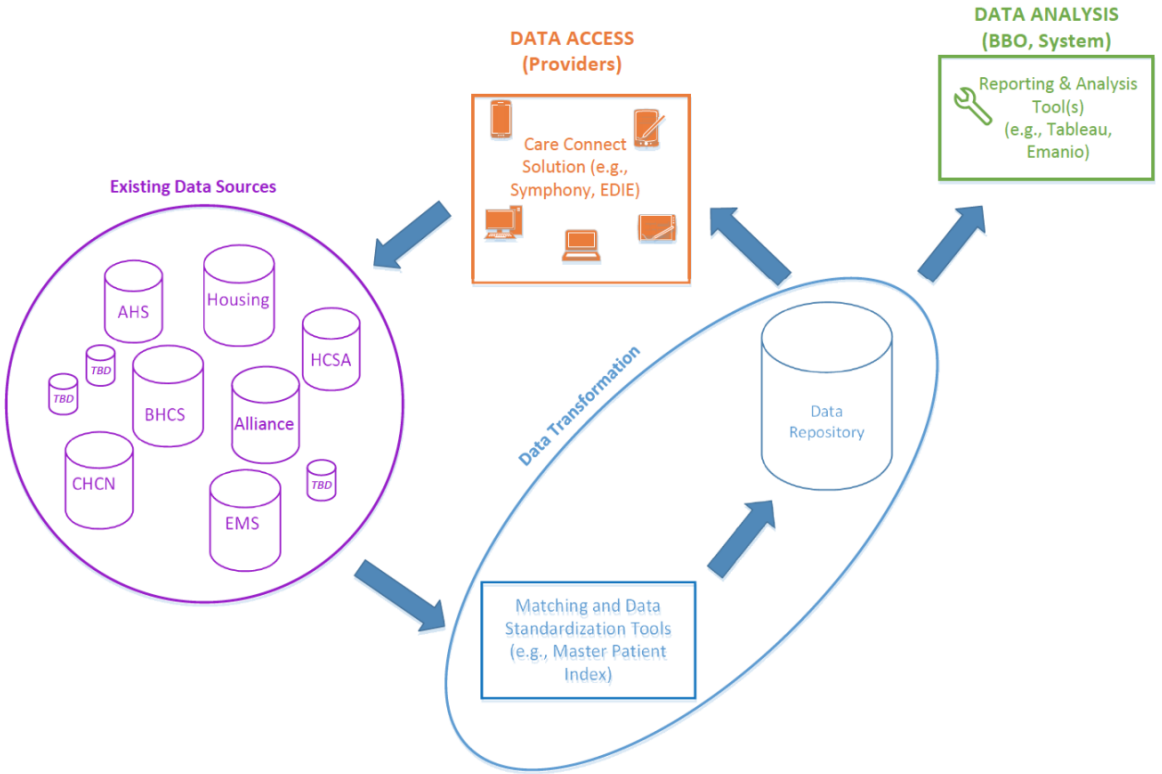
LA County Enterprise Linkages Project – Data Integration Process

1. Assemble the clients into a composite file
2. Un-duplicate and create a master file of unique homeless clients
3. Match the master file against the most recent 6 months of utilization data available for participating agencies
4. Use the service types and frequencies in the match results to calculate expenditures at the individual client level
5. Extract most expensive 5% from the master population and rank order them
6. Remove service records and all other information except for the encrypted/de-identified name, DOB, truncated SSN, and known contact info
7. Place list on a secure server that can be queried by designated personnel and contractors at DHS, DMH, DPH/SAPC, DPSS and LAHSA
8. Create agency-specific lists of adults in the 5% who are their clients

Alameda County Care Connect

Alameda County Whole Person Care Application rev. 10/19/16

Figure 4: Proposed AC^3 Data Exchange Workflow



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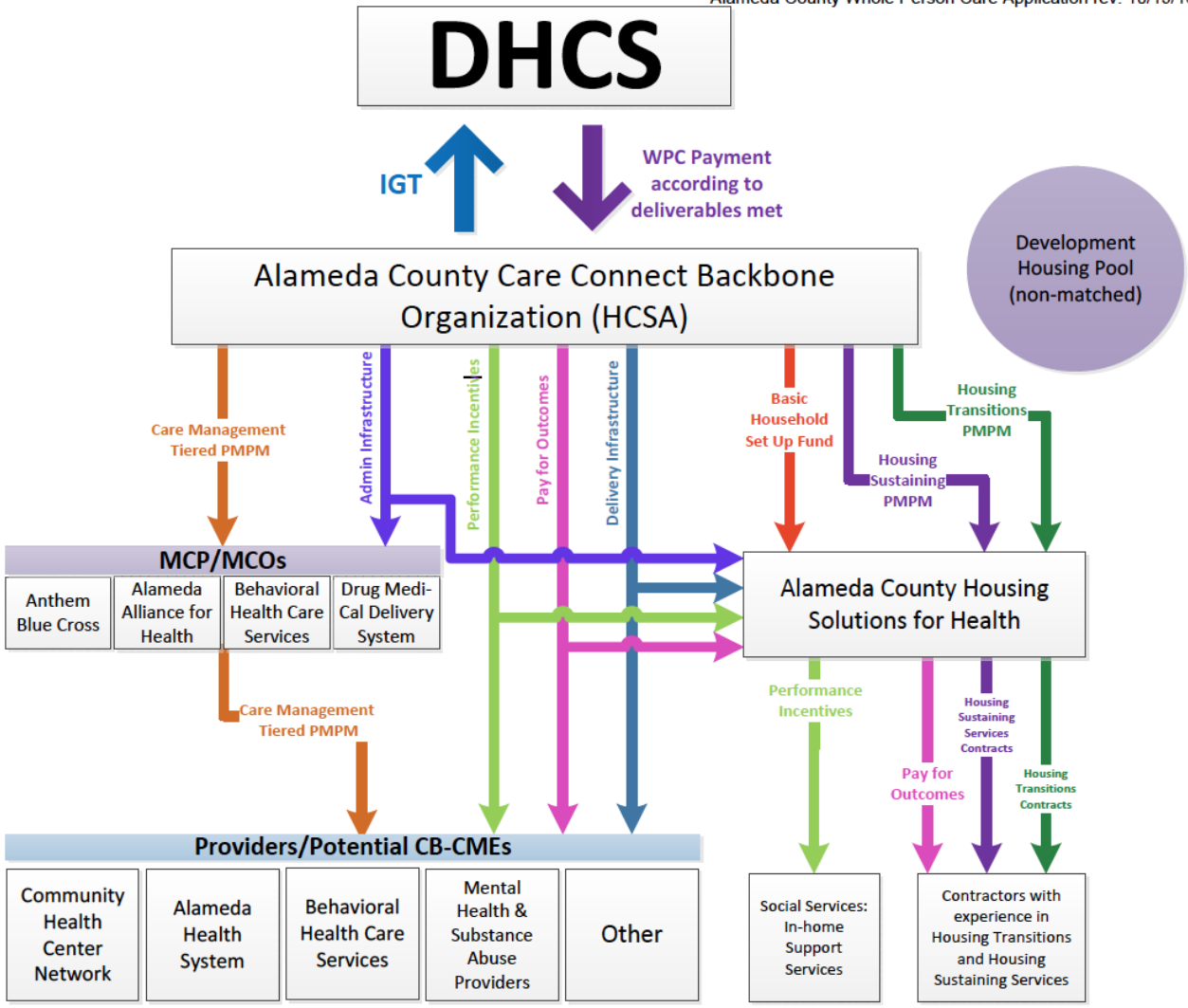
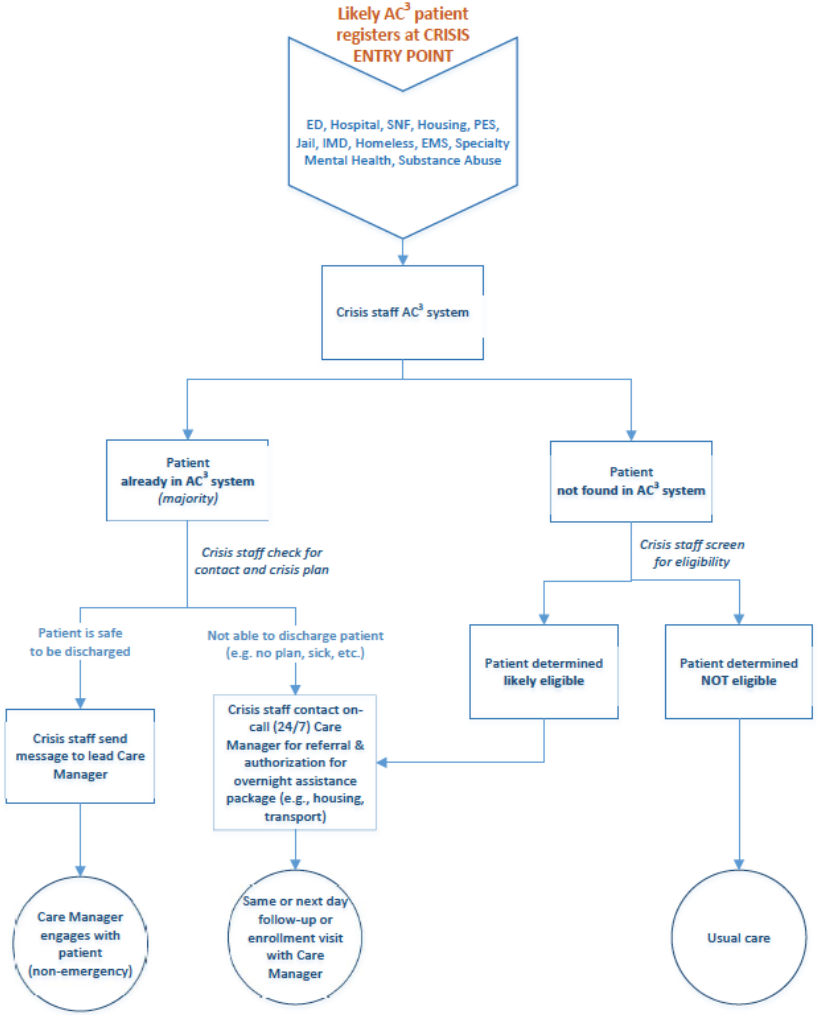


Figure 2: Patient-Centered Workflow for Alameda County Care Connect (AC^3)



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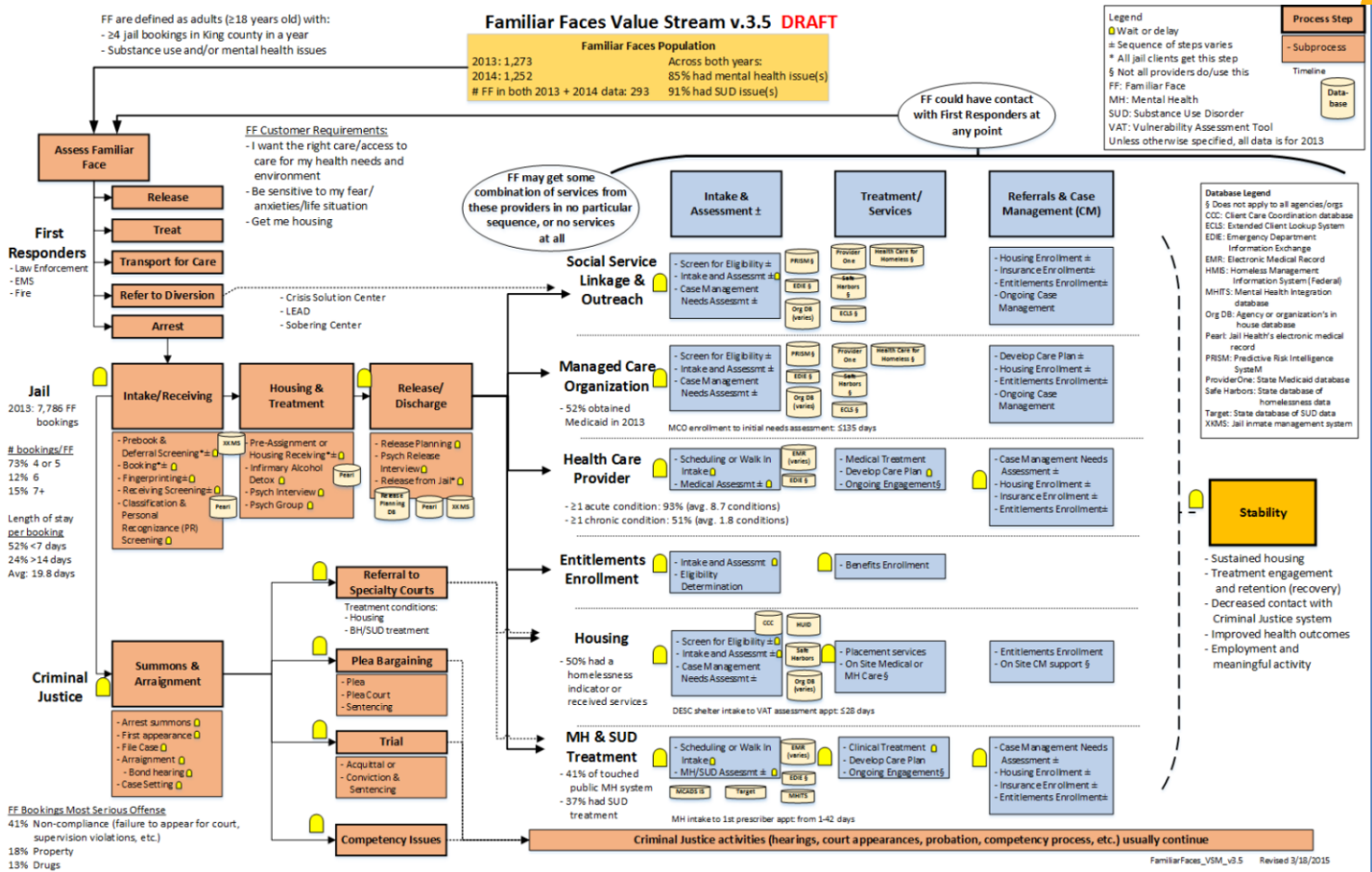
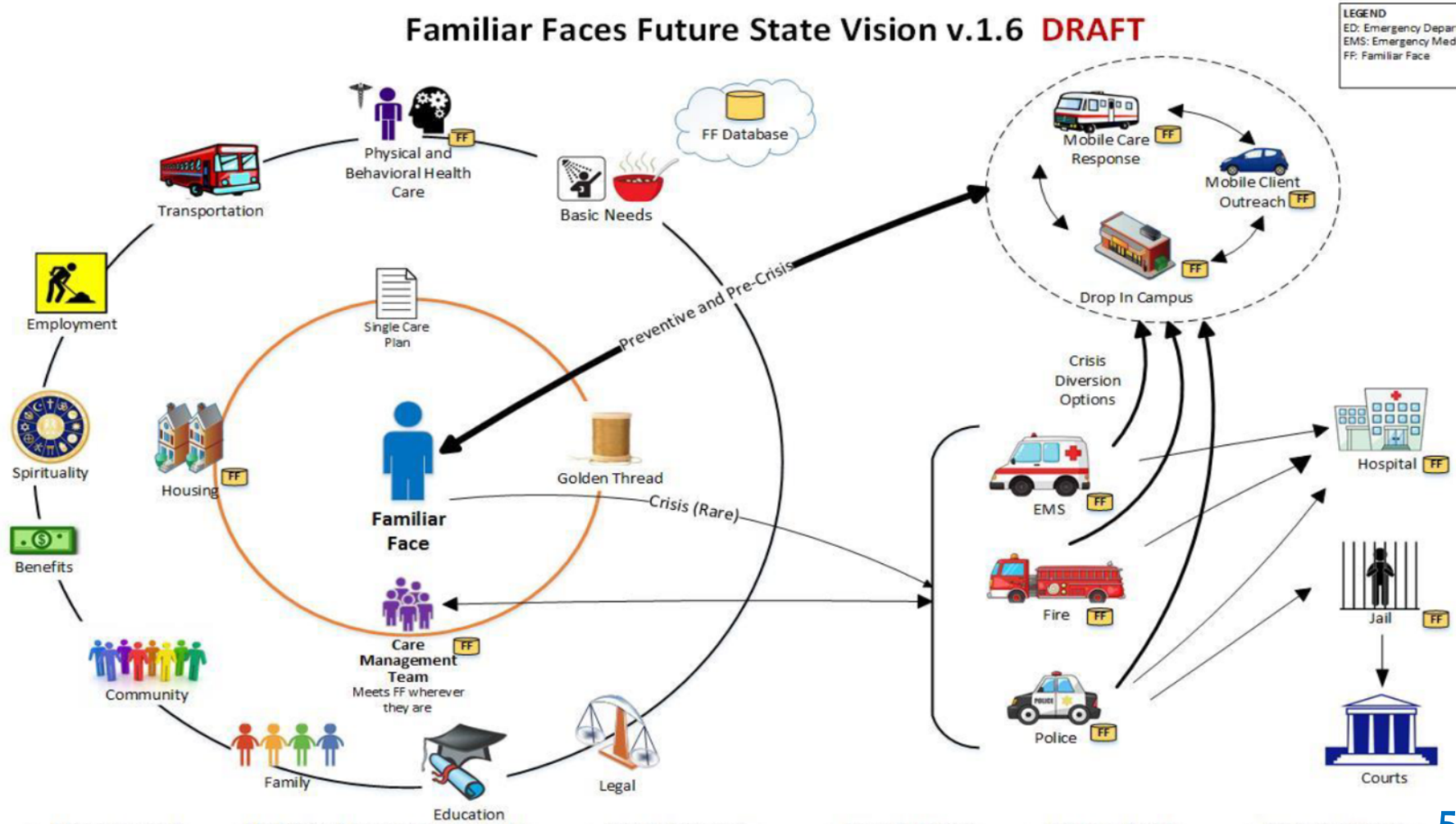
King County (WA) – Familiar Faces



Familiar Faces Future State Vision v.1.6 DRAFT



Revised 9/7/2015