Evolving Kentucky's Health Data Ecosystem

An overview of CRISP Shared Services and the benefits to the Commonwealth and the health of all Kentuckians.

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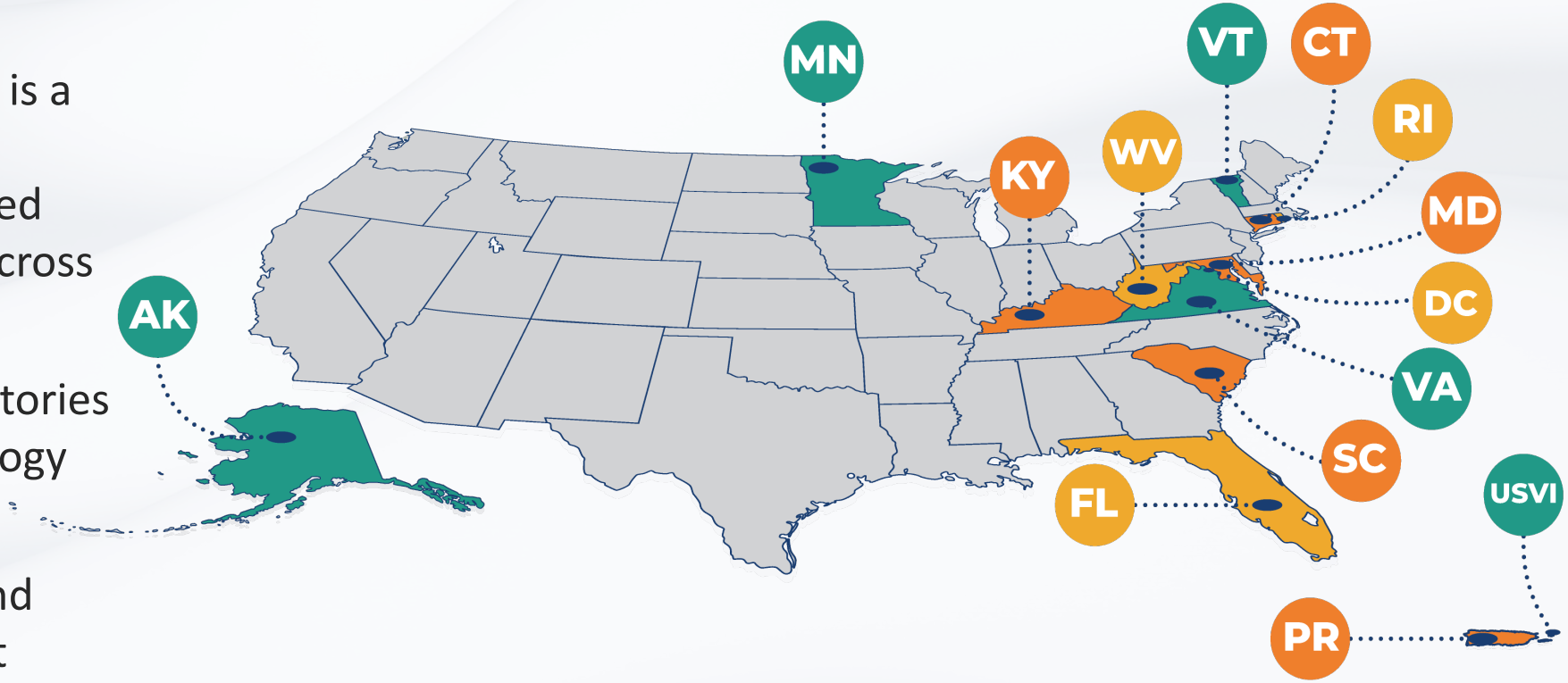
A Proven Approach to Multi-State Health Data Infrastructure

- CRISP Shared Services (CSS) is a non-profit, mission-driven organization operating shared health data infrastructure across the country
- Supports 12 states and territories through centralized technology and localized governance
- Multi-sector connectivity and petabyte-scale environment enables secure data exchange, analytics, public health, care coordination, and Medicaid use cases



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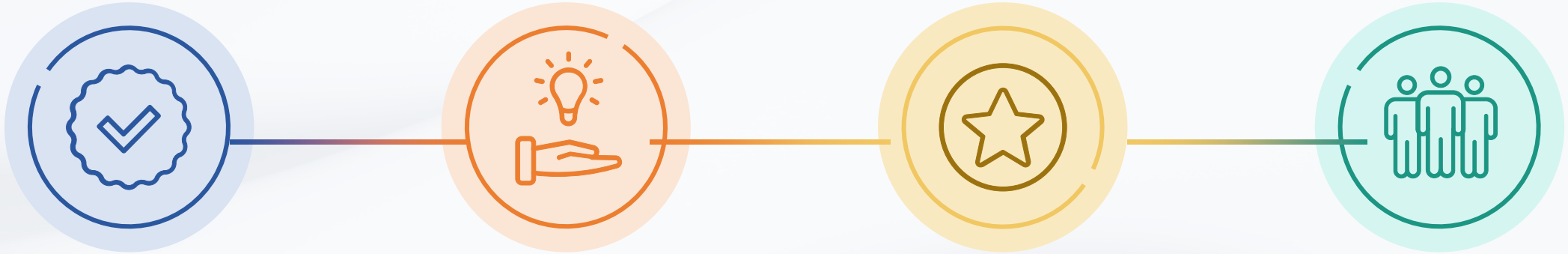
What We Believe

We enable frictionless data exchange, aggregation, and privacy through good governance and smart technology to improve quality and reduce the cost of healthcare.



Privacy and Security

Transparency and Accountability

Efficient and Effective Care

Innovation and Alignment

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CSS Mission

To assist member organizations in achieving economies of scale, pooling innovation efforts, and implementing best practices

- Data prioritization, funding, and relationships remain locally controlled
- CSS customers participate in governance and strategic decisions
- Technology is designed for reuse and operational efficiency

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Our National Shared Services Model

Allows states to leverage enterprise-level infrastructure and user applications without building independently from the ground up

Reduces duplication of technology investments

Accelerates implementation timelines

Supports long-term operational sustainability

Enables states to share proven best practices

Preserves states' governance and local decision-making

Managed services model reduces state staffing and operational overhead

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Our Approach to the Next Generation of Health Data Infrastructure

1. Move from exchange to operational infrastructure
   - Document exchange is largely solved for treatment; modern systems require longitudinal, multi-sector data to support real workflows, analytics, and outcomes
2. Governance enables use and must be local to do so
   - Trust depends on transparency, consent, and protection of sensitive data; local governance understands the nuance required
3. Build once and reuse everywhere
   - Sustainable innovation requires shared infrastructure and common approaches, not fragmented integrations for every program

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Core HIE Technology

Scalable Technical Infrastructure

- **Master Patient Index:** Ensure data accuracy with seamlessly complete and reconciled patient records.
- **FHIR/USCDI API Integration Layer:** Utilize efficient data interoperability and advanced patient matching and parsing.
- **Data Lake:** Master and link data sets from multiple sources for curated reporting efforts using cloud-based infrastructure.
- **Integration Engine:** Modernized and standardized data exchange capabilities and compatibility.

Data Management & Analytics

- **Reporting and Analytics Platform:** Turns massive, multi-sector health data into actionable insight for care delivery, population health, and policy decisions.
- **Public Health Registry Infrastructure:** Enhance public health efforts with centralized infrastructure and data.
- **Social Determinants of Health Integration Layer and Tools:** Gain insight into social health needs and streamlined tools for screening and closed-loop referrals.

Patient & Provider-Centric Tools

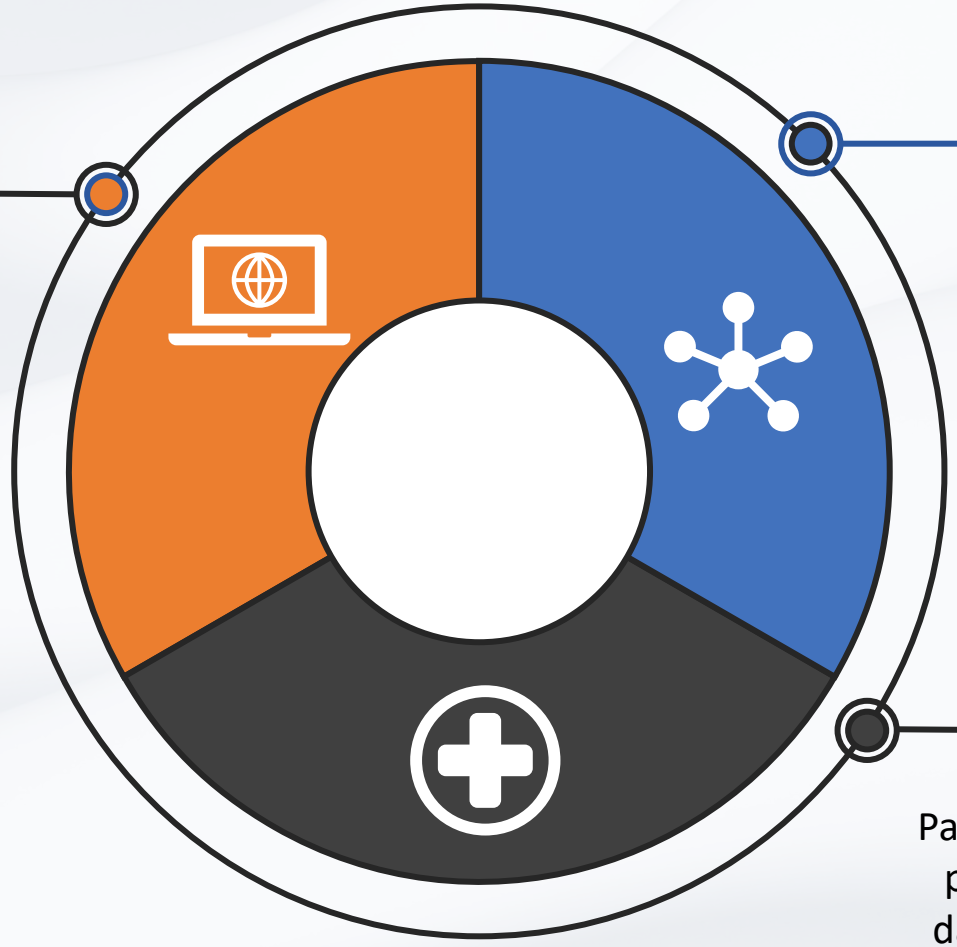
- **Advanced Consent Management:** Give patients advanced consent options and control over their data.
- **CSS Event Notification Delivery (CEND):** Provide critical and timely notifications to care providers for improved patient outcomes.
- **Portal and InContext App Integration:** Ensure flexible and dependable access to vital patient information through portal access and seamless EHR integration.

High-Level Data Governance Controls

ASOS

Back-end configuration controlling access to applications and data based on user roles.

- Can I access the system?
- What applications can I see?
- What data and from what state can I see?



Consent

Provider-mediated form allowing patients to consent to the sharing of their certain “sensitive" data

[consent tool is the back-end configuration]

Opt-Out

Patient-facing form allowing individual patients to wholly* opt-out of their data exchange through CRISP Shared Services

*some legislative exceptions

When I am seeing a patient’s data, have they consented for me to see their “sensitive” / ACR data?

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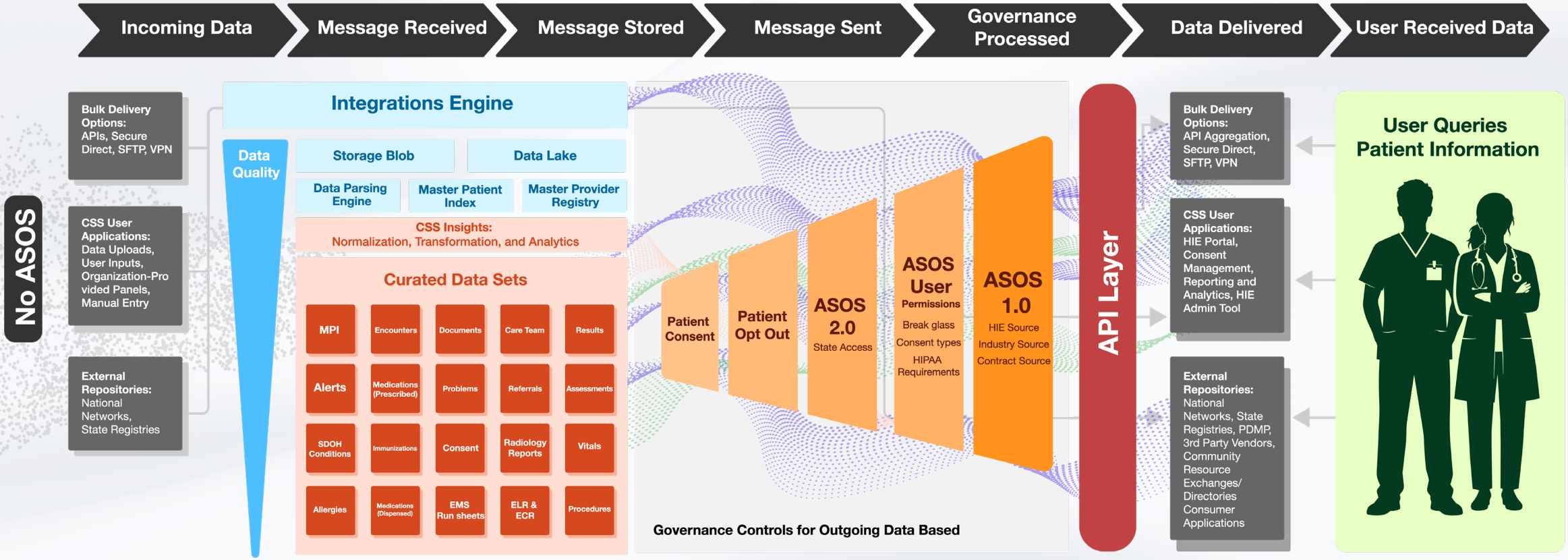
Infrastructure



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Expansive Technical Delivery at Scale

Implementations

- A proven technical infrastructure and platform for rapid implementation and migration of entire healthcare ecosystems
- Successfully implemented and managed 12+ state and territory-wide infrastructure deployments and migrations
- End-to-end statewide deployments range from 9-18 months depending on the size, complexity, and community readiness
- Technical and programmatic data analytics and reporting initiatives with government agencies and health systems

Integrations

- 4,500+ individual data contributing organizations across 50+ discrete EMRs for an array of data types and use cases
  - 1,000 additional contributors to be live on CSS Network this year
- Facilitating public health interoperability in 9 states and territories, including bi-directional eCR, eLR, SyS, immunizations, and PDMPs
- Receiving 90M encounter notifications and delivering 17M curated clinical notifications directly to care providers each month

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KHIE vs. CSS

KHIE

Administrative

- Governance
- Policy
- Communications

Operational

- Outreach
- User training
- Account management
- Public health reporting onboarding

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Technical

- HIE applications, software and tools (e.g., portals, event notifications)
- Interface services with data-sharing partners
- Tech infrastructure environments inc. public health reporting systems
- End-user technical assistance (24/7 Help Desk)
- Patient consent and sensitive data processing

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KHIE: Cost Efficiency and Financial Sustainability

Year 1 (Apr. 2025–Jun. 2026): $8.9M

- ~75% implementation and statewide migration
- ~25% operational support beginning March 2026

Years 2–3 (Jul. 2026–Jun. 2028): $19.7M

- ~$9.8M/year for statewide operations
- ~5% allocated to enhancements/new development

TOTAL COST PER CAPITA:

- Year 1: $1.93
- Year 2 –3: $2.14

CSS results in a 56.9%-61.2% reduction in costs for KY compared to national average per capita cost ($4.97)

National Benchmarks

ID	Year	Midpoint Expenses	Est. Population Served	Per Capita Cost
HIE15	2024		12,000,000	$ 0.86
HIE14	2024		9,000,000	$ 1.25
HIE16	2024		5,000,000	$ 1.56
HIE17**	2023		5,000,000	$ 1.63
HIE11	2024		4,000,000	$ 1.95
HIE6	2024		11,000,000	$ 2.57
HIE8	2024		7,000,000	$ 2.82
HIE9	2024		6,000,000	$ 2.92
HIE13**	2023		4,000,000	$ 3.18
HIE2	2024		13,000,000	$ 3.95
HIE1	2024		14,000,000	$ 4.52
HIE20	2024		2,000,000	$ 4.61
HIE3***	2023		10,000,000	$ 4.62
HIE7	2024		5,000,000	$ 4.90
HIE5**	2023		5,000,000	$ 6.11
HIE4***	2023		6,000,000	$ 6.73
HIE12	2024		2,000,000	$ 7.93
HIE18***	2023		1,000,000	$ 8.89
HIE10	2024		1,000,000	$ 13.71
HIE19	2024		1,000,000	$ 14.63

** utilizing 2023 revenue from public tax return*
*** utilizing 2023 expenses from public tax return*
**** utilizing both 2023 revenue and expenses from public tax return*

KHIE cost per capita with CSS as technology vendor

Source: Civitas Networks for Health, 2025 National Health Information Organization (HIO) Survey Results

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How Good Data Drives Good Policy

- Effective policymaking depends on accurate, timely, and actionable information
- Fragmented and delayed data leads to reactive decision-making and inefficient resource allocation
- A strong HIE transforms disconnected healthcare data into trusted intelligence for state leaders

High-quality HIE infrastructure helps states:

- Identify care gaps and underserved populations faster
- Monitor emerging public health and behavioral health trends in near real time
- Improve rural health planning and resource allocation
- Measure the impact of taxpayer-funded healthcare initiatives
- Improve emergency preparedness and response capabilities
- Strengthen accountability through measurable outcomes and longitudinal analysis

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Case Study: Valley Healthcare Systems WV – Behavioral Health Integration & Crisis Reduction

CSS Solutions Used (through WVHIN)

- **Population Explorer**
- **ENS alerts**
- **Integrated EHR access**
- **Care team and provider look-up**
- **Medication and hospitalization histories**

Key Outcomes

- Hospitalizations dropped from 61 to 3 in four months (October to February) for mental health/substance abuse ER visits — **an over 95% reduction.**
- **Identified "frequent flyers" visiting ERs up to 3–4 times per week** — led to behavioral interventions reducing their reliance on emergency care.
- Care coordination improved dramatically by identifying outside providers and allowing direct contact to align treatment.
- Enabled proactive crisis planning with tools like advanced directives and follow-up protocols, reducing unnecessary ER utilization.
- CQI and CCBHC reporting requirements supported by WVHIN data

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Shared Technology Supporting Local Health Needs

Diabetes in Rural Communities - WV

Aggregate lab values, admission data, and care gaps across independent providers to identify patients with uncontrolled diabetes who may not regularly engage with primary care. Support targeted outreach and preventive interventions.

Asthma in Urban Regions - MD

Combine emergency department utilization data with environmental and public health indicators to identify asthma hotspots and support neighborhood-level intervention planning.

Hospital Readmission Reduction

Use ADT notifications, medication history, and longitudinal encounter data to identify patients with congestive heart failure who are at high risk for readmission after discharge. For rural patients, prioritize telehealth and home health coordination. For urban patients, focus on emergency department diversion.

Cardiovascular Disease - AK

Use longitudinal HIE data to identify patients with recurring admissions, medication nonadherence, or gaps in preventive screenings to support care management and reduce avoidable hospitalizations.

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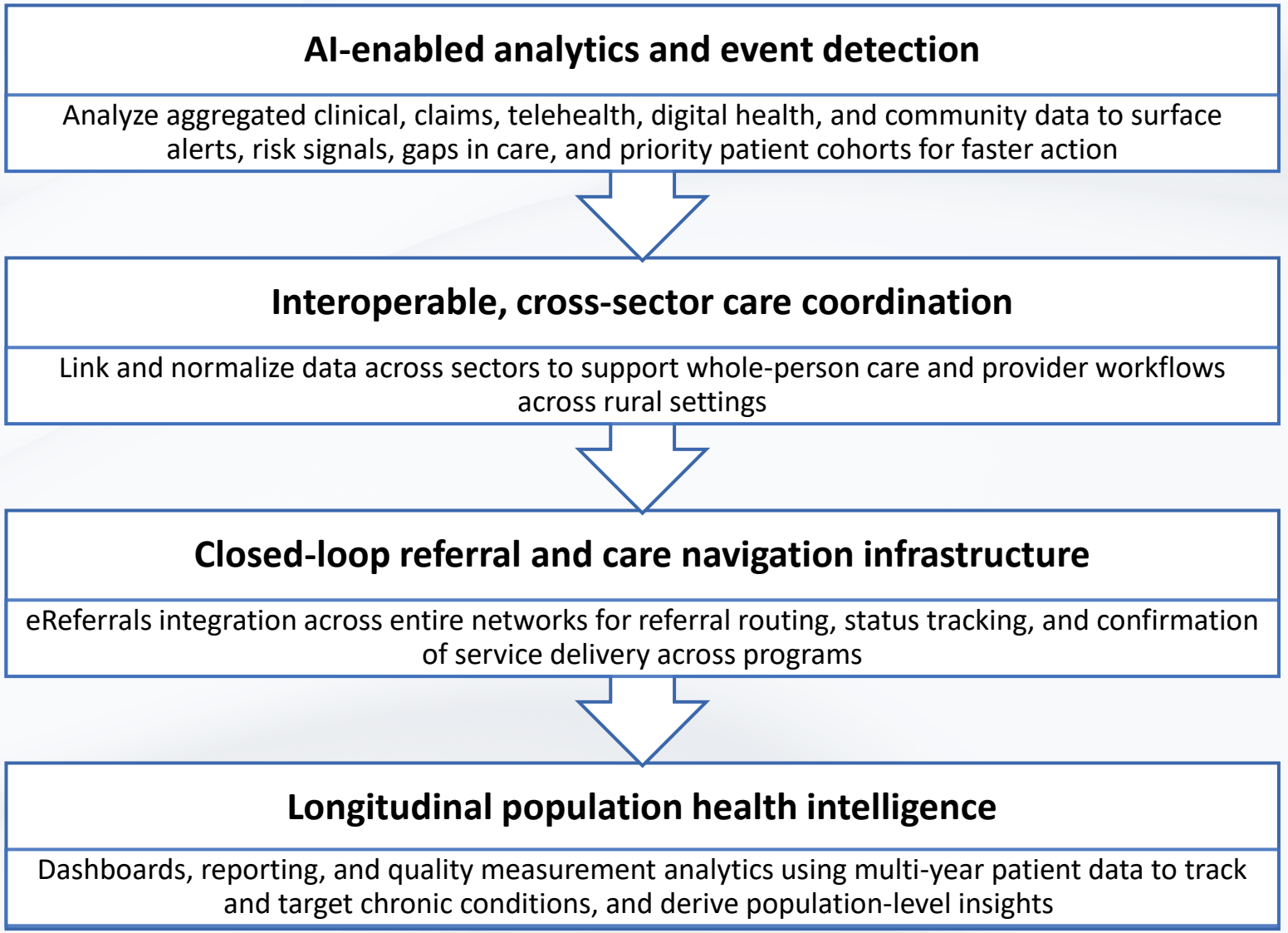
Supporting Rural Health Transformation

- **Ready-made infrastructure to launch rural initiatives quickly and effectively**
- Reusable, sustainable platform that avoids one-off procurements to ensure state investments scale for the future
- Ensure patient information follows individuals across diverse care settings, including new digital, hybrid, and remote care delivery methods



Scalable Platform to Grow with Kentucky's Needs

NOW (0-2 Years)

- Expand connectivity and participation
- Strengthen interoperability and governance
- Increase utilization and day-to-day operational value
- Improve visibility across healthcare systems

NEXT (2-5 Years)

- Deliver centralized reporting and analytics capabilities
- Identify high-need populations and emerging risks earlier
- Strengthen coordination across clinical, behavioral health, Medicaid, and public health systems

FUTURE (5+ Years)

- Enable whole-person and cross-sector care coordination
- Support future statewide initiatives and innovation
- Deliver cleaner, more timely, and more actionable statewide health intelligence

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Thank you.

For more information, please email info@crisphealth.org.

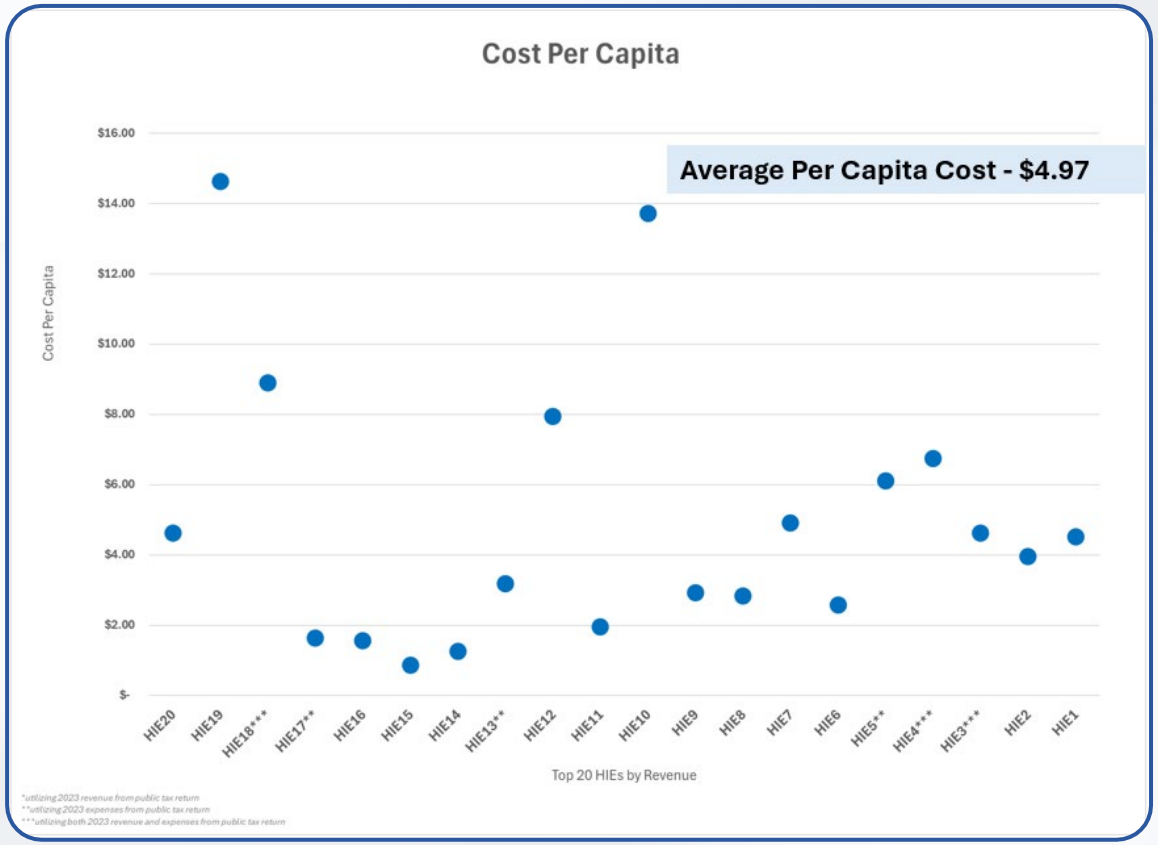
Appendix

Why the Shared Services Model Matters

KY avoids the need to independently build and sustain:

- Large interop and infrastructure teams
- 24/7 ops/hosting/maintenance environments
- Costly "rip and replace" rebuilds
- Duplicative vendor ecosystems for different state priorities (ex: public health, Medicaid, rural health, behavioral health, etc.)

Shared services model results in a 56.9%-61.2% reduction in costs for KY compared to national average per capita cost ($4.97)



Source: Civitas Networks for Health, 2025 National Health Information Organization (HIO) Survey Results

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Path Towards a More Connected, Intelligent, and Sustainable Health Data Ecosystem

Strengthen the Foundation

- Expand statewide interoperability and provider participation
- Modernize core infrastructure and improve data quality across the ecosystem
- Increase adoption and utilization across healthcare, Medicaid, behavioral health, and public health

Expand High-Value Services

- Integrate clinical, Medicaid, and public health data assets
- Advance behavioral health and complex care coordination
- Expand analytics, reporting, and population health capabilities
- Support near real-time care coordination and public health response

Support Kentucky's Priorities

- Rural health transformation and sustainability
- Chronic disease and maternal health initiatives
- Behavioral health and substance use disorder coordination
- Data-driven operational planning and policymaking

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Coordinating Care Across Fragmented Systems

Foster Care/Youth Services

Enable secure coordination between healthcare providers, behavioral health organizations, schools, and state agencies to improve continuity of care for children moving between placements or service systems.

High-Risk Maternal Health

Use near real-time encounter notifications and care coordination tools to identify high-risk pregnancies, missed prenatal visits, or repeated emergency visits to support proactive intervention.

Justice-Involved Populations

Support transitions of care for individuals reentering communities after incarceration by ensuring providers have access to medication history, care plans, and behavioral health information where permitted.

Medically Complex Populations

Identify individuals cycling repeatedly through emergency departments, hospitals, behavioral health settings, and social services to support multidisciplinary intervention and reduce avoidable utilization.

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Driving Principles

Our Values:

Connectivity: Building a truly connected healthcare ecosystem with seamless data exchange

Trust: Being accountable and transparent, upholding local data control, and prioritizing patient choice

Impact: Delivering meaningful data-driven solutions across healthcare sectors to improve patient wellbeing

Partnership: Working to drive relationships with critical ecosystem stakeholders to overcome barriers and solve real-world problems.

Governance and State Oversight:

- Kentucky maintains governance authority
- Role-based access controls
- Privacy and security frameworks
- Consent and auditability
- Data access governed through state-defined policies

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Why CRISP Shared Services

Challenges States Face

- Rising Healthcare Costs
- Rural provider and facility shortages
- Fragmented data systems
- Staffing / resource constraints
- Increasing reporting requirements
- Growing technological demand to providers and systems

Why States Adopt Shared Services

- Shared infrastructure lowers costs
- Faster implementation timelines
- Proven operational models
- State-governed data control and locally-driven use cases
- Scalable and sustainable long-term technology and managed services

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CRISP as a Health Data Utility

Bi-directional interfaces, data platform, and governance enable critical point of care and population health interventions:

- Data in workflow for providers and real-time alerts for care coordination
- Timely reporting and situational awareness for public health
- Secure sharing of sensitive and health-related social needs data shared with consent
- Analytics to support alternative payment models and program management

Journey to a Multi-State Platform

Trust, sustainability, and impact is best done locally; technology, best practices, and innovation require scale:

- Active governance means data use goes well beyond treatment for public health, research, payer exchange, and human services
- Patient match, data lake, streaming, delivery, and monitoring highly performant at scale:
  - Inbound 25M ADTs, 2M ORUs weekly
  - Outbound 5M alerts, 500k queries weekly

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Why Health Data Infrastructure Matters

- Effective policymaking depends on accurate, timely, and actionable information
- Fragmented and delayed data leads to reactive decision-making and inefficient resource allocation
- A strong HIE transforms disconnected healthcare data into trusted intelligence for state leaders

Shared statewide infrastructure creates a more complete view across:

- Hospitals and health systems
- Behavioral health providers
- Public health agencies
- Medicaid programs
- Community organizations
- Rural healthcare providers

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How High-Quality HIE Data Supports the State

High-quality HIE infrastructure helps states:

- Identify care gaps and underserved populations faster
- Monitor emerging public health and behavioral health trends in near real time
- Improve rural health planning and resource allocation
- Measure the impact of taxpayer-funded healthcare initiatives
- Improve emergency preparedness and response capabilities
- Strengthen accountability through measurable outcomes and longitudinal analysis

Why this matters:

- Timely, curated data enables proactive policymaking instead of delayed reaction
- Strong governance and consent frameworks ensure responsible and privacy-conscious data use
- Shared infrastructure lowers duplication, improves efficiency, and supports long-term sustainability

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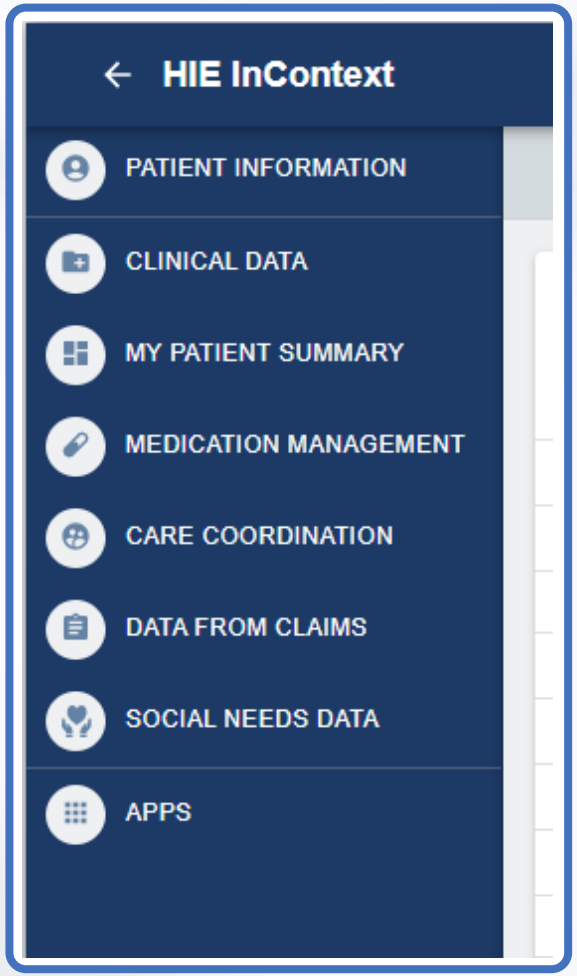
Point-of-Care: InContext & HIE Portal

- **Demographics**
  - Next of Kin
- **Medication Management**
  - PDMP
  - Medications from CCDs
- **Clinical Data**
  - Encounters
  - Clinical Notes
  - Labs
  - Radiology Reports
  - CCDs
    - Problems, Allergies, Immunizations, Vitals*, Procedures*
- **Care Coordination**
  - Care Team
- **Claims**
- **Social Needs**
- **My Patient Summary**



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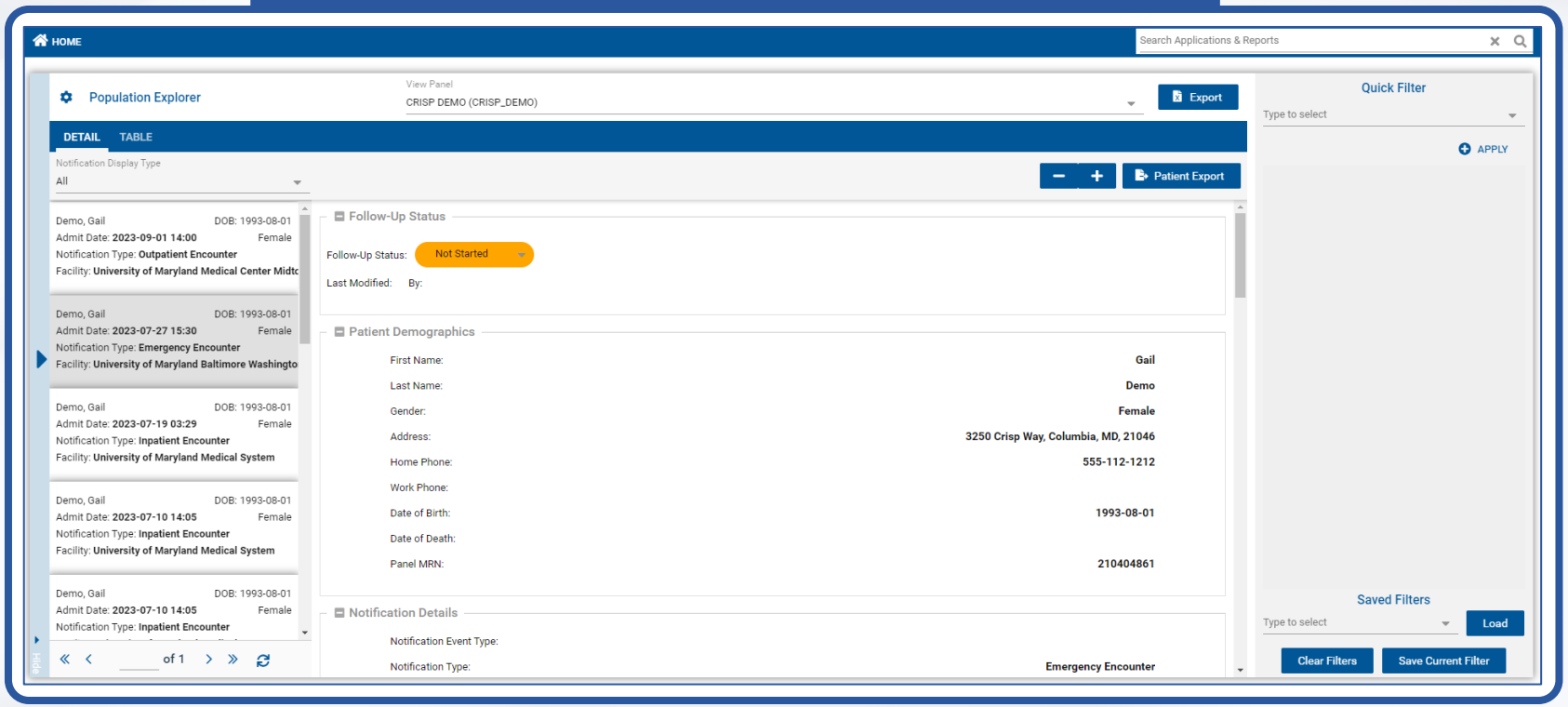
Care Coordination: CEND & Population Explorer

- **Real-time alerts** to appropriate end users based on treatment and care management relationships via CSS Event Notification Delivery Service (CEND)
- **Interactive user interface** within HIE Portal or messages delivered into EHRs
- **Subscription information** (a patient's Care Team) is displayed at the point-of-care through HIE Portal or InContext

Population Explorer



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