Kira Levy

Head of Healthcare UK - AWS

aws health

AWS for Health

Unlocking the value from health data

Kira Levy, UKPS Head of Healthcare

© 2021, Amazon Web Services, Inc. or its Affiliates.

is the cloud computing arm of

AWS Healthcare Mission

Enable access and delivery of person-centered care to improve outcomes at a lower cost by accelerating the digitisation and utilisation of healthcare data

© 2021, Amazon Web Services, Inc. or its Affiliates.

aws healthcare

Healthcare Value Drivers

Providing the **security, compliance, and data privacy** that healthcare organizations can trust

Accelerating innovation with the broadest and deepest portfolio of cloud-based services, including purpose-built healthcare specific solutions

Unlocking the value of data and **providing actionable insights** to improve clinical and operational efficiency, develop personalised treatments, and predict healthcare events

Powering the transition to **personalised healthcare**

© 2021, Amazon Web Services, Inc. or its Affiliates.

aws healthcare

Converging Needs Across ICS Customers

01 ICSs will be required to integrate technologies across continuums of care, which will make a seamless user experience for citizens and staff even more important

02 Unlocking value of data is increasingly dependent on combination of assets across healthcare, research and genomics/life sciences applied to a wider range of use cases

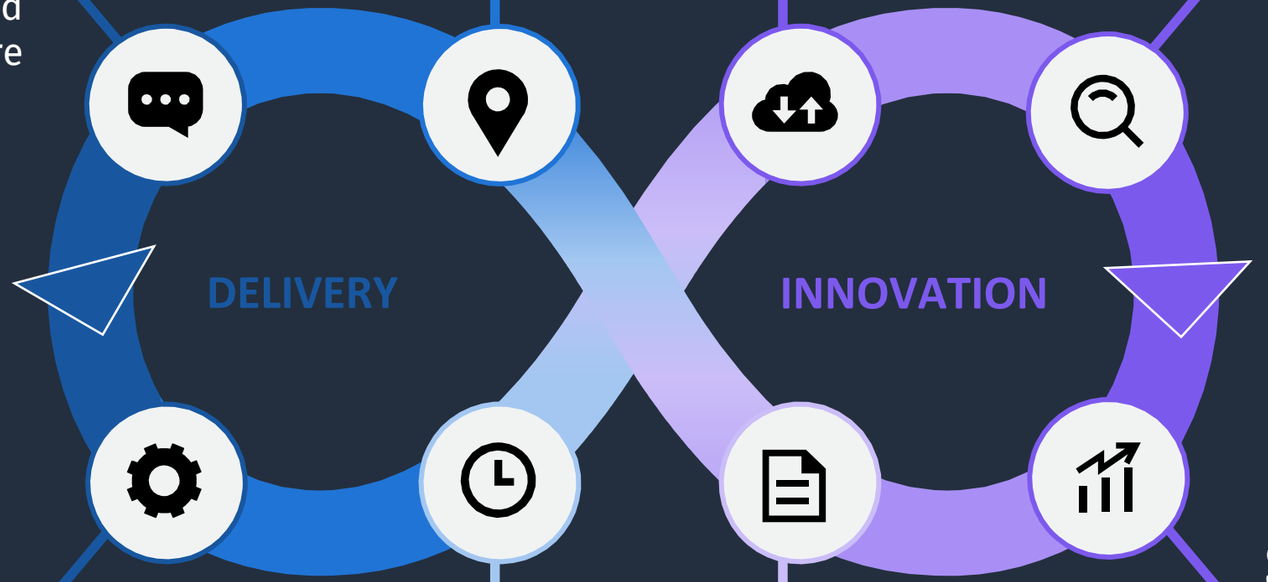
03 COVID-19 and accelerated digital transformation has highlighted the value of public/commercial partnerships

04 Cloud requires new technical and business skills to make is more accessible

© 2021, Amazon Web Services, Inc. or its Affiliates.

aws healthcare

Creating an ICS Ecosystem



Coordinate
care pathways across providers

Enable
citizens preferred circle of care

Treat
patients in the most appropriate care setting

Monitor
outcomes

Connect
and unify data flows

Stratify
Populations based on risk profiles

Segment & predict
Population needs at a local level

Commission
New Models of Care

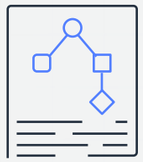
© 2021, Amazon Web Services, Inc. or its Affiliates.

aws healthcare

Population Health Challenges

Data liquidity and integration

- Shared frameworks and standards
- Interoperable
- Real-time (ish…)



Person-centric and clinically relevant

- System to person level organisation
- Clinically meaningful and explainable
- Events driven

Actionable insights

- Shift from disease-centred to person-centred
- Clinically meaningful to support ‘next best action’

© 2022, Amazon Web Services, Inc. or its Affiliates.

aws healthcare

Design Principles

Modular and easily integrated healthcare solutions

Self-generating data layer

Flexible and interoperable, with common ontology and metadata catalogue

Combination of collection-based and source-based ingestion

Secure and privacy preserving capability to manage patient data

Scalable and extensible to support a range of use cases

Simplified user experience – ‘single pane of glass’

© 2021, Amazon Web Services, Inc. or its Affiliates.

aws healthcare

Defining Use Cases Before Technology Solutions

Planner/Administrator

I want to…

Understand the health and care needs across my population
Stratify my population by risk
Make smart use of limited resources
Align resources based on predicted supply and demand
Incentivise better coordination across care providers
Track progress/outcomes

Health Professional

I want to…

Have fast, seamless, anywhere access to the right patient data
Understand next best action for my patient
Make best use of limited clinical time
Share information and coordinate care across providers
Limit the number of systems I need to interact with

Citizen/Patient

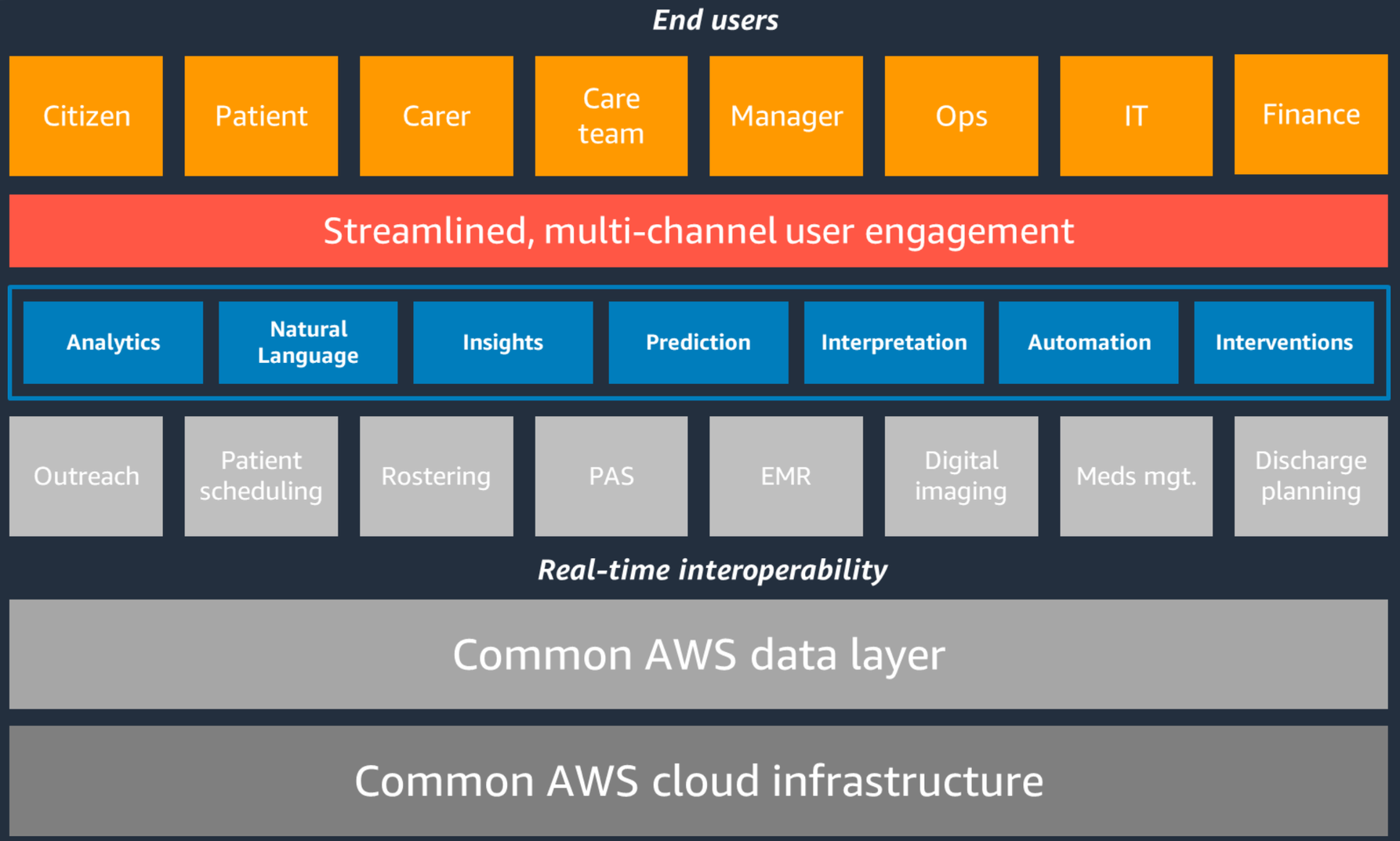
I want to…

Not constantly repeat my story
Have access my heath records
Include my wider care circle
Have a single point of access
Have my care fit around me
Use my connected devices

© 2021, Amazon Web Services, Inc. or its Affiliates.

aws healthcare

ICS High-level Architecture



© 2021, Amazon Web Services, Inc. or its Affiliates.

aws healthcare

Care Insights at a Population-Level

CHALLENGE

Health equity remains a challenge in the Chicago area with barriers to healthcare access across the city.

SOLUTION

Rush University Medical Center created a cloud-based analytics hub using Amazon HealthLake to bring together structured and unstructured data. This hub allows them to securely analyze patient admissions, discharges, and hospital capacity via real-time dashboards to provide care to the most critically ill patients.

Using the Amazon HealthLake API they are leveraging predictive models around social determinants of health across the West Side of Chicago to help identify and fill care gaps before they happen.

BENEFIT

Rush is now applying learnings from this effort to help it achieve its mission to provide personalized care and improve health equity for individuals that they serve.

© 2021, Amazon Web Services, Inc. or its Affiliates.

aws healthcare

Care Insights at a Clinician-level

CHALLENGE

Clinicians struggle to access data insights to guide patient decisions.

SOLUTION

Omada Health, a cloud-native digital healthcare provider built on AWS, is using machine learning and a mobile-friendly app to help healthcare professionals provide informed care with maximally effective timing. In 2021, Omada Health unveiled the **Omada Insights Lab**, an internal data analysis engine driving recommendations for personalizing care – enabling two-way conversations between patients and clinicians.

© 2021, Amazon Web Services, Inc. or its Affiliates.

aws healthcare

Care Insights at a Patient-level

CHALLENGE

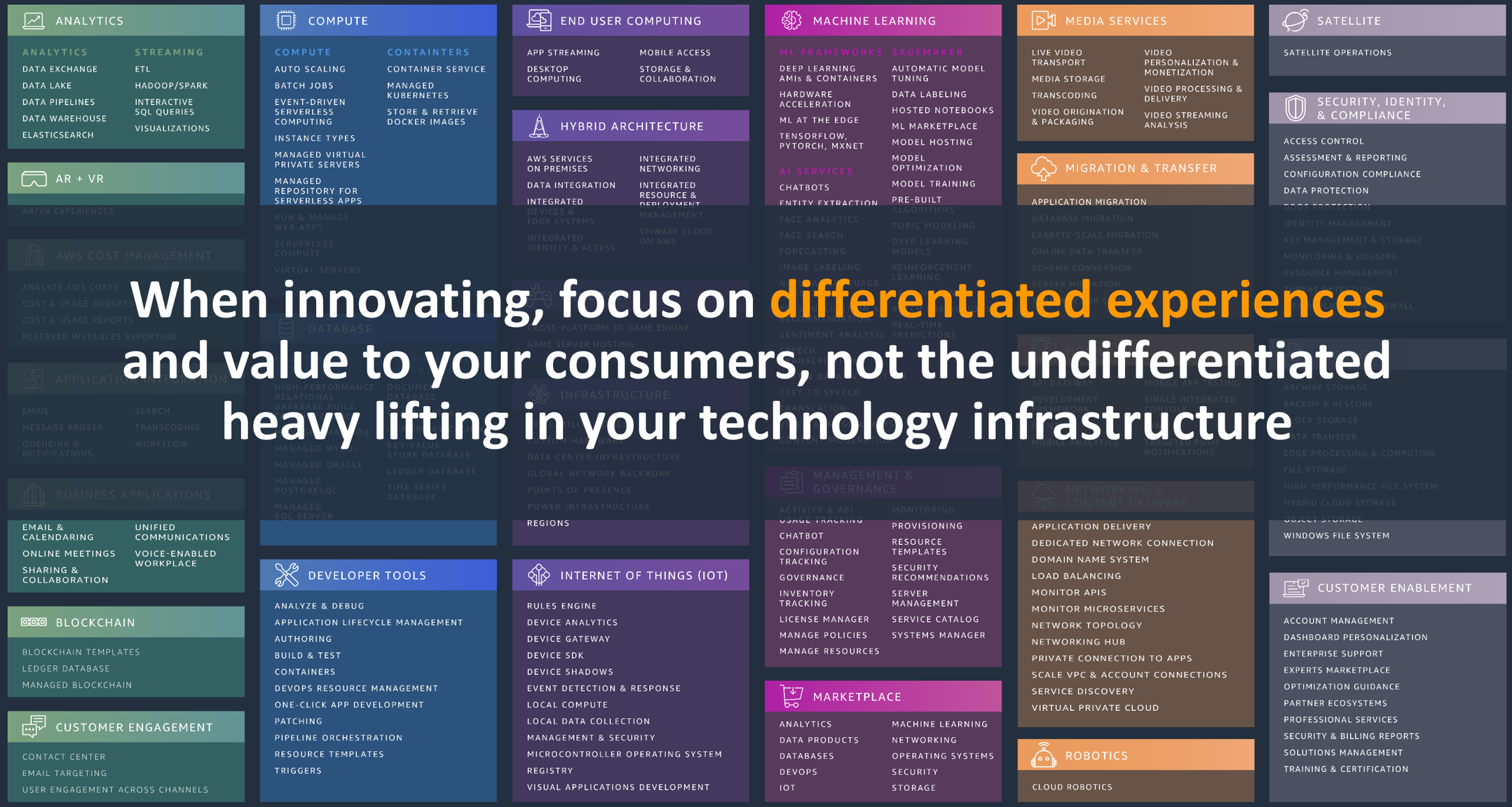
MetroPlus Health Plan, a wholly owned subsidiary of NYC Health + Hospitals, the largest municipal health system in the US. Identifying and connecting with high-risk individuals who may need help accessing healthcare and social services during the COVID-19 pandemic

SOLUTION

MetroPlus Health Plan deployed an SMS chatbot to reach out to high-risk members and connect them with health and social services, using Amazon Lex, Connect, Pinpoint, SNS, and DynamoDB. The solution was built and deployed in three weeks and scaled to reach more than 80,000 members in less than 2 months.

© 2021, Amazon Web Services, Inc. or its Affiliates.

aws healthcare



When innovating, focus on differentiated experiences and value to your consumers, not the undifferentiated heavy lifting in your technology infrastructure

© 2021, Amazon Web Services, Inc. or its Affiliates.

aws health