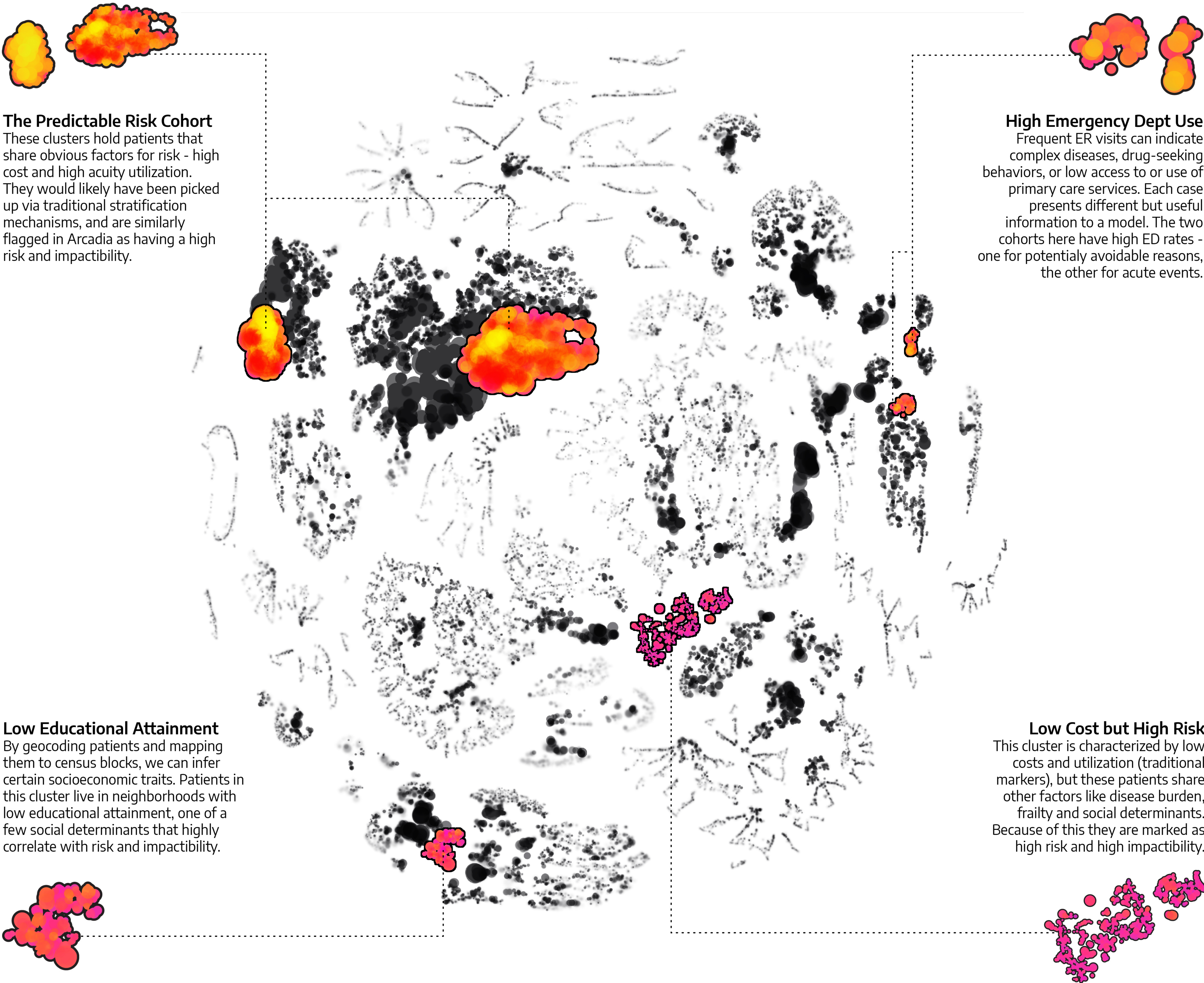


# A POPULATION UNDER A MICROSCOPE

## MEASURING RISK AND IMPACTIBILITY

Each bubble is a patient, sized by average cost, and clustered into groups with similar social and medical characteristics.

Many of these traits contribute to risk and impactibility. High risk groups are in the foreground, with four clusters highlighted.



**The Predictable Risk Cohort**  
These clusters hold patients that share obvious factors for risk - high cost and high acuity utilization. They would likely have been picked up via traditional stratification mechanisms, and are similarly flagged in Arcadia as having a high risk and impactibility.

**High Emergency Dept Use**  
Frequent ER visits can indicate complex diseases, drug-seeking behaviors, or low access to or use of primary care services. Each case presents different but useful information to a model. The two cohorts here have high ED rates - one for potentially avoidable reasons, the other for acute events.

**Low Educational Attainment**  
By geocoding patients and mapping them to census blocks, we can infer certain socioeconomic traits. Patients in this cluster live in neighborhoods with low educational attainment, one of a few social determinants that highly correlate with risk and impactibility.

**Low Cost but High Risk**  
This cluster is characterized by low costs and utilization (traditional markers), but these patients share other factors like disease burden, frailty and social determinants. Because of this they are marked as high risk and high impactibility.

### FACTORS OF RISK & IMPACTIBILITY

**Education Level**  
High-resolution census data of high school and college completion.

**Emergency Visits**  
Recent ED utilization, both avoidable and otherwise, contribute to risk.

**Medical Expense**  
Looking at cost alone is too crude, but is useful with other metrics.

**Disease Burden**  
Traditional risk scores focus only on morbidity scores like HCC.

