



Faculty of Design

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Navigating the Complexity of Cancer Diagnosis: Synthesis Maps for Diagnosis of Common Cancers in Canadian Contexts

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Navigating the Complexity of Cancer Diagnosis

A Clinical System Perspective of Pan-Canadian Cancer Diagnosis

The Clinical Process of Canadian Cancer Pre-Diagnosis synthesis map represents the complex practices of diagnosis typical in Canadian healthcare for patients living within three geographic regions. Three cancer sites are represented – Colon, Non-Hodgkin Lymphoma, and Lung – as a range of types to indicate for the wider variety of all cancers. The companion map, Patient Experience in Cancer Pre-Diagnosis also presents cancer diagnosis "journeys" for the same three cancer types, as experienced in the steps reported by patient advisors and studies for these cancers.

A complete cancer lifecycle from clinical suspicion to diagnosis is shown in both the clinical and patient maps, as the interval between a patient's initial concern to receiving a confirmed diagnosis from a cancer specialist. The Clinical process map presents the relative complexity of cancer diagnosis as understood by clinicians, showing variances in access to care in known geographies across Canada, and presents system interventions that might resolve barriers and access issues. Interventions are drawn from emerging models of diagnostic practice for improving cancer outcomes in Canadian provinces and territories, as well as established leading practices currently adopted in other countries.

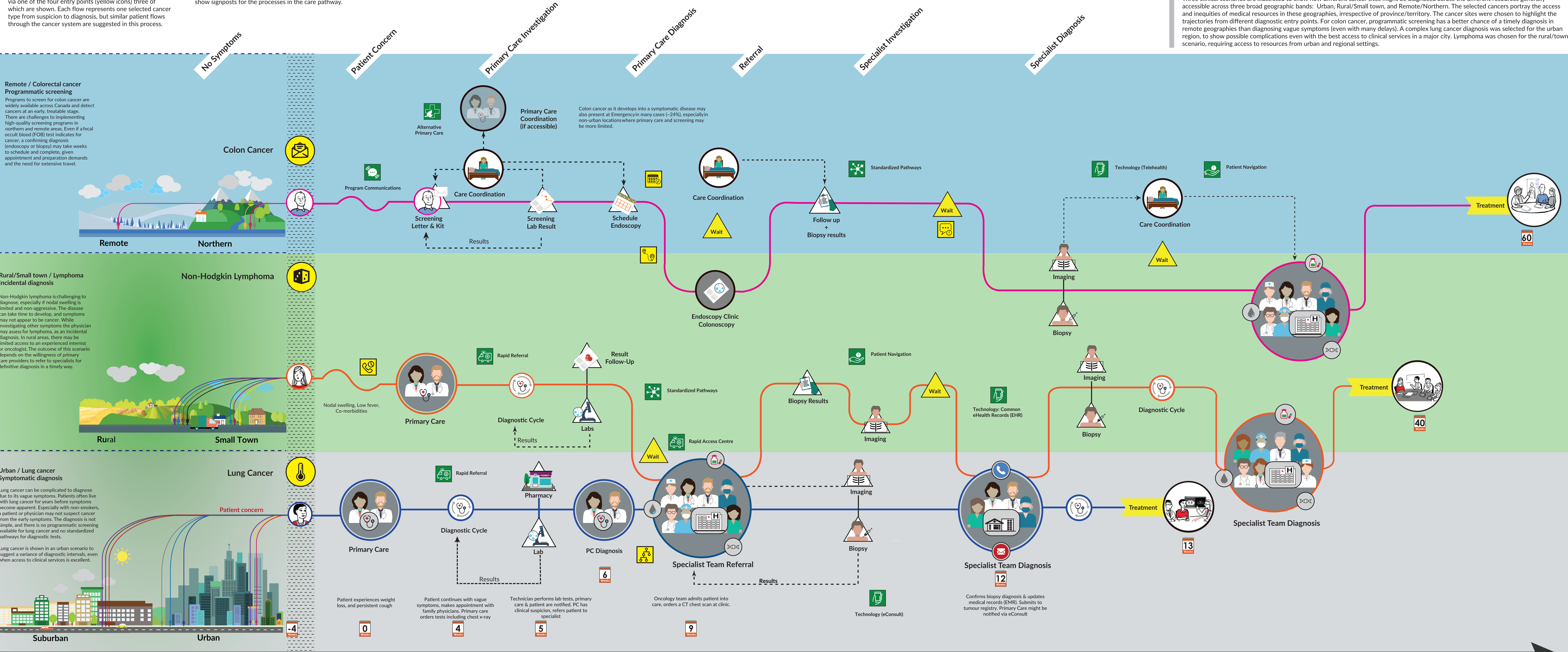
Three clinical scenarios are illustrated to show how different cancer sites might be diagnosed across the different resources generally accessible across three broad geographic bands: Urban, Rural/Small town, and Remote/Northern. The selected cancers portray the access and inequities of medical resources in these geographies, irrespective of province/territory. The cancer sites were chosen to highlight the trajectories from different diagnostic entry points. For colon cancer, programmatic screening has a better chance of a timely diagnosis in remote geographies than diagnosing vague symptoms (even with many delays). A complex lung cancer diagnosis was selected for the urban region, to show possible complications even with the best access to clinical services in a major city. Lymphoma was chosen for the rural/town scenario, requiring access to resources from urban and regional settings.

Distribution of Cancer in Pre-Diagnosis

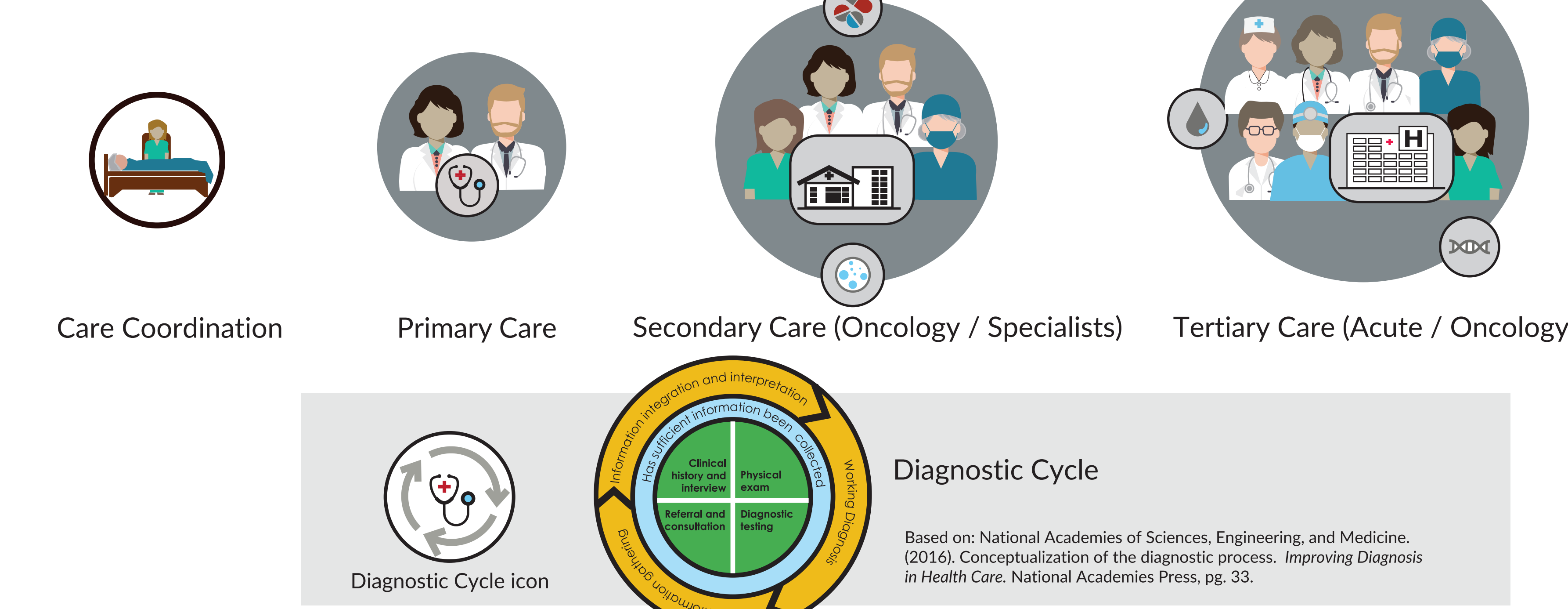
The left side of the map visualizes the relative distribution of undiagnosed cancer across the three broad geographic regions of Canada, showing progressively more cases in more populated regions. The line colours indicate a type of cancer, and as symptoms form, patients enter into diagnosis via one of the four entry points (yellow icons) three of which are shown. Each flow represents one selected cancer type from suspicion to diagnosis, but similar patient flows through the cancer system are suggested in this process.

Stages of Pre-Diagnosis

While pre-diagnosis often shows as a single, complex stage in the cancer treatment cycle, a regular series of clinical encounters take place that reveal six stages within the cycle from suspicion (or symptom) to confirmed diagnosis. Listed across the top, these stages show signposts for the processes in the care pathway.



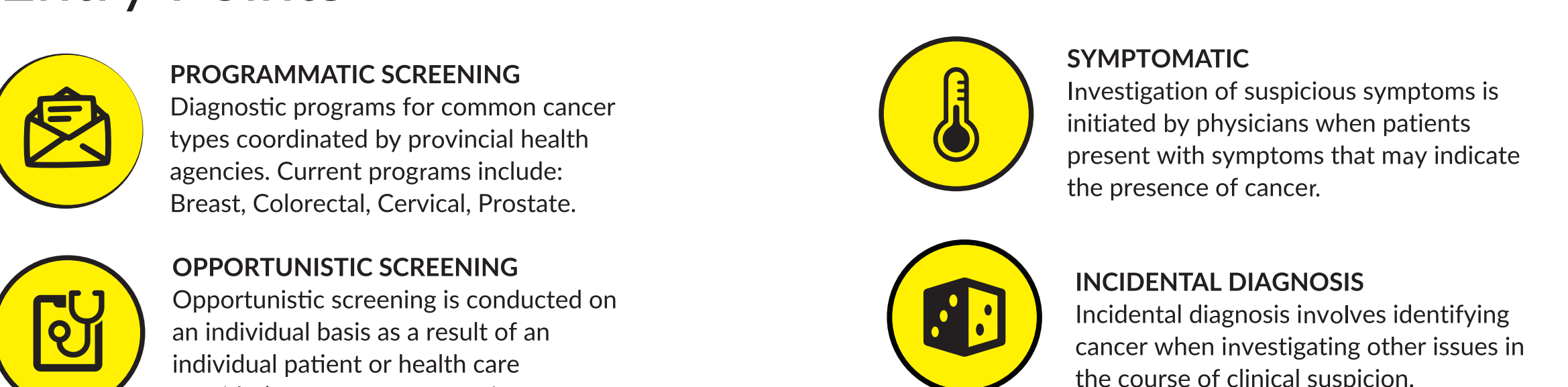
Levels of Care



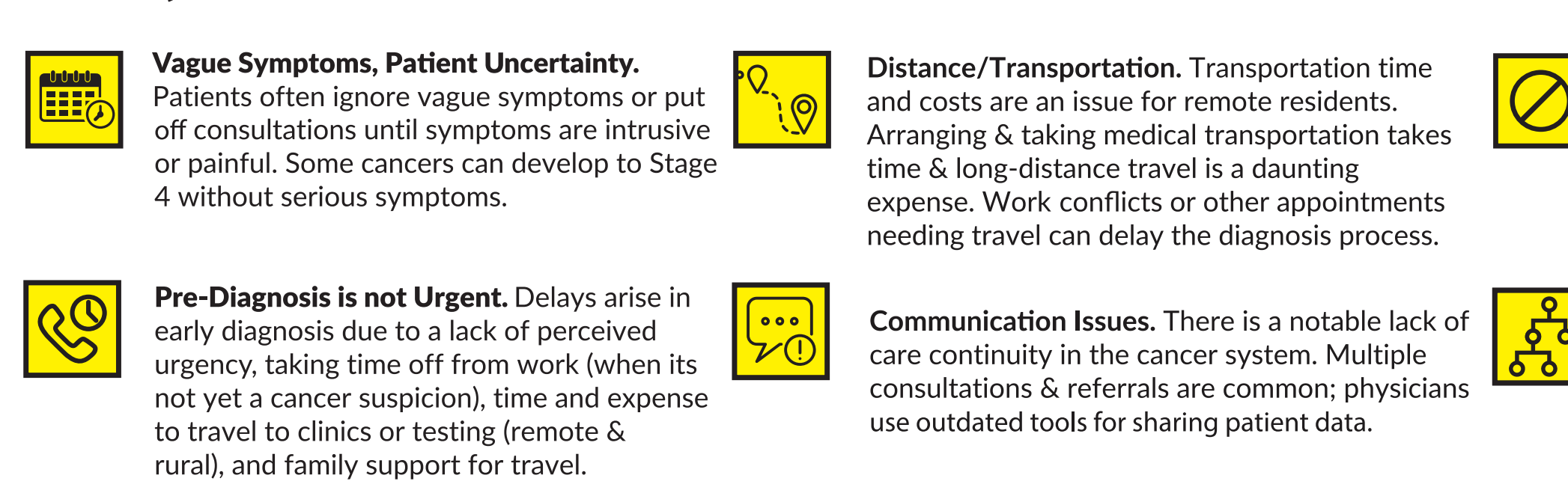
3x3x4 Framework

3 cancer sites: Colorectal, Lung, Lymphoma
3 geographic regions: Urban, Rural/Small town, and Remote
4 entry points: Programmatic screening, Symptomatic, Opportunistic, Incidental

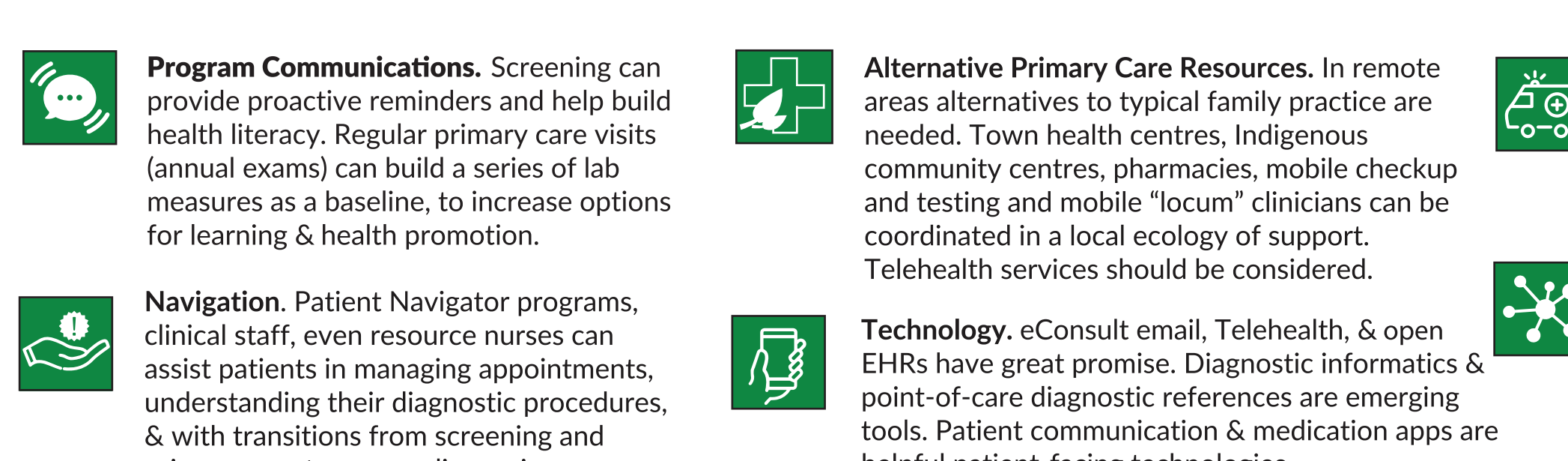
Entry Points



Delays and Barriers



Interventions & Solutions



Legend

