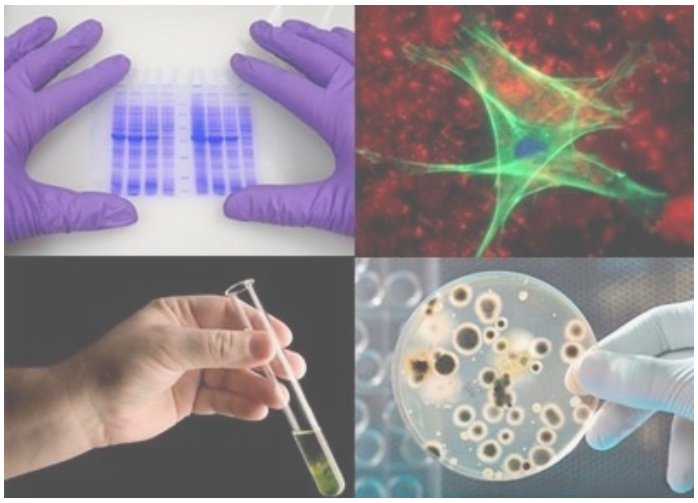

# BIOSCIENCE & HEALTH INDUSTRY CLUSTER ASSESSMENT

## Eastern Washington & Northern Idaho

Spokane & Coeur d'Alene Region

*Prepared for:*

**Coeur d'Alene Area Economic Development Corporation**

*Prepared by:*

**The Metts Group**

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*Draft*

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# Methodology

This assessment was conducted by The Metts Group with primary research responsibilities carried by the project team: Alivia Metts (Principal Economist, Project Manager), Mark Norton (Stakeholder Engagement Lead), and David Munson (Subject Matter Expert).

The analysis draws on a substantial body of secondary research compiled over several months, together with primary stakeholder engagement conducted across the Spokane–Coeur d'Alene region. David Munson served as the lead researcher, collecting, reviewing, and organizing the secondary research that formed the evidentiary foundation for this assessment. Artificial intelligence (AI) tools were used to assist with summarizing and synthesizing large volumes of published research and to support editorial review for clarity, readability, and grammar. All analyses, findings, interpretations, and recommendations were developed, reviewed, and validated by The Metts Group project team.

## Regional Labor Market Data: Lightcast

Regional employment, wage, economic output, supply chain, and labor demand data were compiled from Lightcast's Q1 2026 data release. Lightcast (formerly known as EMSI Burning Glass) is the leading provider of labor market analytics in the United States, used by economic development organizations, workforce agencies, universities, and governments to analyze industry composition, employment trends, job demand, and economic impact.

The regional dataset covers 21 NAICS industry sectors defined as the Bioscience and Health Industry Cluster across an 8-county geography comprising:

- Kootenai County, Idaho
- Benewah County, Idaho
- Bonner County, Idaho
- Boundary County, Idaho
- Shoshone County, Idaho
- Spokane County, Washington
- Stevens County, Washington
- Pend Oreille County, Washington

Lightcast data encompasses QCEW (Quarterly Census of Employment and Wages) employees, non-QCEW employees, and self-employed workers. Economic impact figures (total sales, employment multipliers, supply chain analysis) are derived from Lightcast's MR-SAM (Multi-Regional Social Accounting Matrix) input-output model. Job posting data reflect unique 12-month postings as of Q1 2026. Ten-year trend comparisons use 2015 as the baseline year.

The Lightcast dataset was also used to produce the standalone Industry Snapshot Report covering 21 industries in 8 counties and the Industry Table for the EDA Bioscience and Health Care Cluster Assessment, both of which informed the regional analysis in this report.

An independent cross-check of regional employment figures was conducted using TechHelp's regional industry data, which produced a comparable total cluster employment figure of 21,291, consistent with the Lightcast estimate of 20,501 and within normal variation between data providers.

## Research Approach and Analytical Framework

The research process followed a structured literature review and synthesis methodology organized around the ten task areas defined in the project scope of work. For each task area, the research team identified and reviewed relevant published sources, synthesized findings into working documents, submitted those documents for subject matter expert review, and refined conclusions through iterative discussion with the project team and client.

The analytical framework drew on three primary methodologies:

- Industry cluster analysis using NAICS code taxonomy to define industry boundaries and measure economic performance
- Comparative regional benchmarking against peer markets (Boulder CO, Rochester MN, Madison WI, Research Triangle Park NC, and other emerging bioscience hubs)
- SOAR assessment (Strengths, Opportunities, Aspirations, Results) integrating quantitative data with qualitative stakeholder input

All working documents, source summaries, and draft report sections were maintained in a shared project repository and subjected to internal review by the full Metts Group project team prior to delivery.

## Note on Industry Scope and Terminology

There is no universal definition or consistent scope for the term 'bioscience' or 'biotechnology industry' in the published literature. In the United States, biopharmaceuticals and biomedicine represent approximately 80% of the total 'bio' industry by most measures. Some industry sources publish annual reports using biopharmaceuticals and biomedicine as the full scope of the industry. Reports with a larger scope, including bioagriculture, biomanufacturing, industrial biotechnology, and other sectors, may appear to report different or conflicting market size figures.

The difference lies in how many discrete sectors are included in the definition. Several variants and contractions of 'bioscience' and 'biotechnology' are used interchangeably throughout this report, consistent with industry norms. Where a specific source uses a narrower or broader definition than the full 21-sector cluster definition used in this report, that is noted in context.

Similarly, market size figures reported in global and national industry research typically reflect industry revenues (the total value of products and services sold). These figures are distinct from total economic output figures (which include multiplier effects from supply chains, induced economic activity, and downstream sectors) and should not be compared directly. Both types of figures appear in this report and are labeled accordingly.

# Executive Summary

The Spokane–Coeur d'Alene (Spokane–CdA) region sits at a pivotal moment in its economic development trajectory. While it does not yet rank among the nation's established bioscience clusters, it possesses a distinctive combination of institutional assets, geographic advantages, quality-of-life attributes, and emerging infrastructure that, if strategically leveraged, position it to become a competitive Inland Northwest hub for targeted segments of the bioscience and health industry.

This assessment, commissioned by the Coeur d'Alene Area Economic Development Corporation (CdA EDC) through a U.S. Department of Commerce, Economic Development Administration (EDA) grant, and prepared by The Metts Group team, examines the region's bioscience and health industry cluster across nine tasks:

- Industry overview outlook
- Workforce analysis
- Market analysis and macroeconomic factors
- Supply and value chain analysis
- Competitive landscape
- Technological trends
- Risk assessment and regulatory environment
- SOAR assessment and stakeholder engagement findings
- Strategic implementation framework.

Several overarching themes emerge from this work:

- The global bioscience market is large and growing rapidly. Valued at $1.3-1.7 trillion in 2025, the global biotechnology market is projected to reach $4.25-5 trillion by 2034 at compound annual growth rates of 12.5-14.3%. The United States holds approximately 43% of global market share, directly employing 1.74-2.3 million people and generating $3.2 trillion in total economic output.
- The U.S. bioscience environment is undergoing a period of unprecedented disruption. Three simultaneous policy shocks, a proposed 40% reduction in NIH funding (-$20.5 billion), pharmaceutical tariffs of 100%, and significant FDA staffing reductions, are reshaping risk profiles, supply chains, capital markets, and strategic planning horizons across the industry.
- These national disruptions create regional opportunity. Supply chain reshoring, biomanufacturing investment, and geographic diversification of R&D activity are generating openings for emerging markets like Spokane–CdA to compete for business that may not have considered the region previously.
- Washington State's life sciences industry is a major regional asset. Washington's $41.2 billion life sciences industry (a top 10 U.S. cluster) and the broader Pacific Northwest ecosystem anchored by the University of Washington, Fred Hutchinson Cancer Center,

Seattle's AI-biotech nexus, and Pacific Northwest National Laboratory (PNNL) provide proximity advantages and partnership potential for the Spokane–CdA region.

- Idaho's bioscience ecosystem is gaining momentum. Recent investments in translational research, rapid population growth, expanding healthcare infrastructure, and strong industry recruitment efforts position Northern Idaho as an increasingly important contributor to the Inland Northwest bioscience economy.
- The Spokane–CdA region has a credible foundation. Universities (WSU Spokane, Gonzaga, University of Idaho, LCSC, EWU), three community colleges, a multi-hospital healthcare ecosystem, a growing innovation infrastructure (EBIC, Ignite Northwest, LaunchPad INW, established and emerging industrial land), and a cross-border collaboration model modeled on European 'trading zones' provide a platform for growth.
- Realistic niche opportunities exist. The region's most viable bioscience opportunities are in biomanufacturing and contract manufacturing (CMO reshoring), agri-biotechnology, rural health innovation, medical device and diagnostic manufacturing, and environmental biotechnology (not in directly competing with large biopharma clusters).

The report concludes with a SOAR assessment and actionable implementation framework organized around four strategic priorities:

- Building and formalizing the innovation infrastructure
- Developing niche competitive strengths
- Growing the talent pipeline
- Activating capital and partnerships

# 1 Defining the Bioscience & Health Industry Cluster

## 1.1 Geographic Region Under Analysis

This assessment focuses on the Spokane, Washington and Coeur d'Alene, Idaho metropolitan markets, collectively referred to as the Spokane–CdA region or the Inland Northwest. The primary geographic scope encompasses Spokane County (Washington) and Kootenai County (Idaho), while recognizing that the regional labor shed, educational ecosystem, and economic partnerships extend across a broader multi-county, two-state area of eastern Washington (Spokane, Stevens, and Pend Oreille counties) and northern Idaho (Benewah, Bonner, Boundary, Kootenai, and Shoshone counties).

The two cities are separated by approximately 30 miles, or a 30-minute drive, and function as an integrated economic market. Commerce, workers, and students flow in both directions, effectively multiplying the available workforce, talent resources, and institutional assets beyond what either city could claim individually. This cross-border integration is a defining and differentiating feature of the region, modeled in this assessment on the concept of 'trading zones' that bypass political boundaries to define economic activity.

Northern Idaho contributes several unique assets to the regional ecosystem:

- Available industrial development sites in Post Falls, Rathdrum, and Kootenai County
- A growing healthcare sector anchored by Kootenai Health's Mayo Clinic Care Network affiliation
- Expanding university partnerships through the University of Idaho and Lewis-Clark State College (LCSC). Both of which have Coeur d'Alene campus presences.
- North Idaho College, which offers a direct workforce pipeline through allied health training, biology and health sciences, CTE programs, short-term workforce credentials in pharmacy technology, medical assisting, CNA, phlebotomy, and dental assisting, and a seamless transfer pathway to the University of Idaho and LCSC Coeur d'Alene campus. This creates practical near-term talent sources for the cluster's high-demand clinical and technical roles.
- A pro-business tax and regulatory environment that consistently ranks among the most competitive in the western United States
- One of the fastest-growing regional populations in the country, which is expanding the labor force and consumer base simultaneously

Where relevant, the analysis references the broader Pacific Northwest context, including the Seattle–Puget Sound market (Washington State's primary life sciences hub), the Portland–Oregon market, and the Montana (primarily Bozeman) market, to situate the region within the larger bioscience ecosystem it is embedded in and adjacent to.

## 1.2 Industry Scope: Defining the Bioscience/Health Cluster

The bioscience and health industry cluster encompasses a broad range of sectors unified by the application of biological knowledge and living systems to develop products, processes, and services. For purposes of this assessment, the cluster is defined to include the following primary sectors that are most relevant to the 8-county region, organized by NAICS code taxonomy (see the appendix for a detailed list of NAICS codes):

- **Biopharmaceuticals and Biomedicine:** Drug discovery, development, manufacturing, and distribution; biological therapies; clinical research organizations (CROs); contract development and manufacturing organizations (CDMOs/CMOs).
- **Medical Devices and Diagnostics:** Medical equipment manufacturing; diagnostic instruments; surgical supplies; imaging systems; point-of-care diagnostics.
- **Agricultural Biotechnology:** Crop improvement; precision agriculture technologies; plant-based inputs; animal health products; food processing biotechnology.
- **Biomanufacturing:** Industrial biotechnology; fermentation-based manufacturing; bio-based materials and chemicals; contract manufacturing.
- **Environmental Biotechnology:** Bioremediation; water quality; waste treatment; environmental monitoring.
- **Health Technology and Bioinformatics:** Digital health; health information technology; genomic data analytics; AI-driven drug discovery support.
- **Healthcare Services with Research Components:** Academic medical centers; hospital-based research programs; clinical trial sites.

The biopharmaceuticals and biomedicine segment represents approximately 80% of the U.S. 'bio' industry by most measures, and global market estimates are often reported with this narrower scope. This report is explicit when data refers to the full bioscience cluster versus the narrower biopharma/biomed segment.

## 1.3 Stakeholder and Working Groups

Stakeholder engagement was conducted through interviews and working sessions with regional leaders representing the following constituencies: pharmaceutical companies and contract manufacturers; biotech startups and early-stage firms; medical device manufacturers; higher education institutions (four-year universities and community colleges); healthcare systems and hospitals; workforce development organizations; economic development agencies; and innovation ecosystem organizations. A full summary of stakeholder engagement findings is provided later in this report.

# 2 Industry Overview, Outlook & Workforce Analysis

## 2.1 Global Bioscience Industry: Market Size, Jobs & Trends

The global biotechnology market was valued at an estimated $1.38–1.7 trillion in 2025. At a compound annual growth rate (CAGR) of 11.8–12.5%, the market is projected to reach $4.25–5 trillion by 2034. The United States accounts for approximately 43% of global revenue. The bio-pharmacy application segment dominates at roughly 42% of market share, followed by bio-industries at approximately 24%.

The U.S. biotechnology market alone was valued at $246 billion in 2025 and is projected to reach $764 billion by 2034 (CAGR of 11.9%). The sector directly employs approximately 1.74–2.3 million Americans across nearly 150,000 establishments, with total economic output of $3.2 trillion, representing approximately 6.8% of U.S. private sector GDP. Average annual compensation in the sector is $131,562–$132,000, approximately 83% above the national private sector average.

*Table 1. Global Bioscience Industry*

| Metric | Value / Range |
|---|---|
| Global market size (2025) | $1.38–1.7 trillion |
| Projected global market (034) | $4.25–5 trillion |
| Global CAGR (2033) | 12.5-14.3% |
| U.S. market size (2025) | $246 billion |
| U.S. projected market (2034) | $764 billion |
| U.S. direct employment | ~1.74–2.3 million |
| U.S. total economic output | $3.2 trillion |
| U.S. share of global revenue | ~43% |
| Average annual compensation (U.S.) | $131,562–$132,000 |
| Premium over national private-sector avg. | ~83% |

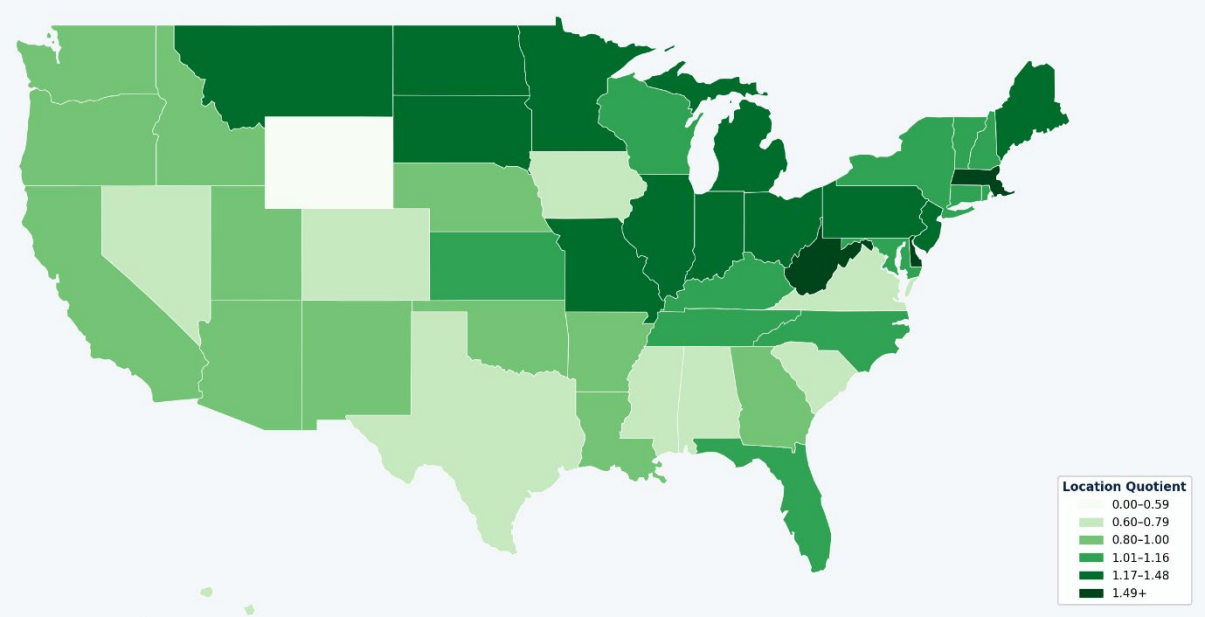
*Source: BIO/CSBA U.S. Bioscience Economy Report 2024; EY Beyond Borders 2025; Precedence Research; Emerging Technologies in Bioscience-Biotechnology (01-05-2026)*

The U.S. bioscience industry is heavily concentrated in a handful of states, with some regions employing far more bioscience and health care workers, relative to their overall workforce, than others. This concentration is measured using a Location Quotient (LQ), where a score above 1.0 means a state has a higher share of bioscience and health care employment than the national average.

Massachusetts leads the nation with an LQ of 1.73, nearly double the national average, driven by the Boston/Cambridge cluster and world-class research institutions including Harvard, MIT, and the Broad Institute. West Virginia (1.60), Delaware (1.49), and New Jersey (1.30) follow closely, each supported by strong pharmaceutical manufacturing and large hospital systems. The Midwest is a consistently strong region, with Minnesota (1.28), Michigan (1.24), Pennsylvania (1.23), Indiana (1.23), Ohio (1.18), Illinois (1.19), Missouri (1.17), and North Dakota (1.18) all exceeding the national average. Interestingly, California, home to the San Francisco Bay Area and San Diego biotech hubs, scores below average at 0.84, not because it lacks bioscience activity, but because its total workforce is so large that even a substantial bioscience sector appears smaller by comparison.

The Inland Northwest currently scores below the national average, with Washington at 0.80 and Idaho at 0.88. This reflects the region's early-stage position in bioscience development and points to a significant opportunity to build a more concentrated cluster through targeted investment, infrastructure, and workforce strategy.

*Figure 1. Employment Concentration (LQ), Bioscience and Health Industry Cluster (2025)*




*Source: Lightcast Q1 2026 Data Set*

## 2.2 Key Industry Trends

Several macro-level trends are reshaping the bioscience industry and carry direct implications for the Spokane–CdA region's strategic positioning:

### Artificial Intelligence Integration

Artificial intelligence has become one of the most transformative forces in bioscience. As of 2024–2025, 75% of surveyed life science companies have implemented some form of AI within the past two years. Applications span target identification, molecular design, toxicology prediction, clinical trial

optimization, and genomic analysis. The global AI-in-biotech market is growing rapidly, with over half of senior industry leaders planning to allocate at least 25% of their total budget toward AI investment over the next 12 months.

### CRISPR and Advanced Gene Editing

2025 marks a watershed year for CRISPR-based therapeutics. The FDA had approved 46 cellular and gene therapy products as of August 2025. The first personalized CRISPR treatment was administered to an infant in 2025, developed and delivered in just six months, establishing both technical and regulatory precedent for rapid platform therapy approvals. The global CRISPR therapeutics market is projected to reach $8.5 billion by 2027, growing at a 34% CAGR. Next-generation editing technologies (base editing and prime editing) are generating their first human clinical efficacy data.

### Biomanufacturing and Supply Chain Reshoring

Biomanufacturing has emerged as a critical national security and economic priority. As of late 2024, biopharmaceutical companies had committed more than $480 billion toward U.S. manufacturing and R&D projects either under construction or planned. The industrial bioeconomy supports nearly 644,000 domestic jobs, contributes $210 billion to U.S. GDP, and generates an exceptional employment multiplier: each direct biomanufacturing job supports approximately 11 additional indirect and induced jobs.

### Precision Medicine and Personalized Healthcare

The growing demand for biosimilars and the rise of precision medicine (tailoring treatments to individual genetic profiles) are expected to be major drivers of market growth through 2033. Bioinformatics, which supports this trend, is projected to grow at 12.6% annually.

### Bioprinting and Tissue Engineering

Bioprinting and tissue engineering are expected to be significant emerging trends, offering promising prospects for medical applications including the fabrication of bioartificial organs and the potential to reduce dependence on donor organs.

## 2.3 U.S. Industry Outlook: Resilience Under Pressure

The U.S. biopharmaceutical industry demonstrated resilience in 2025 despite three simultaneous and compounding policy shocks. These disruptions are covered in detail in the Market Analysis, Risk Assessment, and Regulatory Environment sections later in this report, but their implications for the industry outlook are summarized here:

- **NIH Funding:** The proposed FY 2026 NIH budget represents a 40% reduction from current levels ($20.5 billion cut), which would reduce research grant success rates from 18.5% to 7.3% and eliminate approximately 70,000 jobs in research communities. While partially blocked by federal courts and legal settlements, the policy intent continues to create planning uncertainty.

- **Pharmaceutical Tariffs:** Tariffs 100% on imported pharmaceuticals and active pharmaceutical ingredients (APIs) have inflated manufacturing costs by 12–20%. Approximately 90% of U.S. biotech firms depend on foreign suppliers for at least half their FDA-approved products.
- **FDA Capacity:** Approximately 3,500 FDA staff departures have halved device classification decisions, extended drug review timelines by six months, and reduced PDUFA deadline compliance from 95% to 75%.

Despite these headwinds, the sector continues to show long-term structural strength. U.S. and European public biotech revenues grew 6.8% year-over-year to $205.4 billion in 2024. Larger, established firms are adapting through supply chain diversification, domestic manufacturing investment, and AI-driven efficiency gains. The disruptions disproportionately affect smaller and early-stage companies, which lack the resources for preemptive supply chain restructuring.

At the same time, these disruptions are creating a specific, time-limited opportunity for regions like Spokane–CdA. Pharmaceutical and biotech companies that have relied on Chinese contract manufacturers for decades are now being forced (by tariffs, the BIOSECURE Act, and supply chain risk) to find domestic alternatives quickly. This is not a gradual shift; it is an urgent business decision that many companies are making right now.

Regions with available industrial land, existing biological manufacturing capacity, and lower operating costs than coastal markets are well-positioned to capture that demand. Spokane–CdA checks all three boxes. In particular, emerging industrial and employment sites in Post Falls, Rathdrum, and other northern Idaho communities provide a competitive advantage for pursuing biomanufacturing, contract manufacturing, and supply-chain reshoring opportunities.

The window will not stay open indefinitely. Companies making reshoring decisions today will commit to long-term facilities and partnerships that could anchor the regional bioscience economy for decades. The question is not whether this opportunity exists, but whether the region moves fast enough to capture it.

## 2.4 Washington State Life Sciences Overview

Washington State's life sciences industry is a critical regional asset for the Spokane–CdA area. The state's $41.2 billion industry is ranked among the top 10 U.S. life sciences clusters and grew 50% over the decade from 2013 to 2023. More than 118,900 jobs are supported by the industry, with 47,800 employed directly. Women account for 45% of Washington's life sciences workforce, among the highest concentrations in any STEM-based industry.

The industry contributed $23.1 billion to Washington State's GDP and $1.6 billion in local and state tax revenue in 2024. Total investments in Washington life sciences reached $2.65 billion in 2024, up from $854 million in 2023. The state's unique strength lies at the intersection of biotechnology and artificial intelligence, anchored by the University of Washington's Nobel Prize-winning Institute for Protein Design and world-class institutions including Fred Hutchinson Cancer Center, Seattle Children's Hospital, and the Allen Institute.

However, Washington's research ecosystem faces significant risk from proposed federal funding cuts. Research facilities in Washington received $1.4 billion in funding from NIH and NSF in 2024 (ranked 9th nationally). Fred Hutchinson Cancer Center faces a potential $125 million loss from indirect cost cap implementation and has already lost more than $508 million in unspent grant funding through grant terminations, the largest single-institution loss nationally.

## 2.5 Idaho Bioscience Overview

Idaho's bioscience sector is emerging compared to neighboring states. Key metrics include approximately 2,282 bioscience and health care establishments (2,061 in bioscience alone), 40,316 direct bioscience and health care employees (9,588 in bioscience only), and $31.6 million in NIH funding across 63 active research projects. Average bioscience wages in Idaho ($71,085) are below the national average ($107,610), reflecting the early-stage nature of the sector. The industry grew 16% between 2018 and 2020, outpacing national growth rates from a small base.

Idaho's population growth is among the top five fastest-growing states nationally and is expanding the regional labor force and healthcare consumer base faster than most comparable markets, creating both workforce supply and demand-side tailwinds for bioscience development.

A significant development occurred in November 2025 when Idaho secured a transformative $10.7 million, five-year NIH grant to establish the Healthy Idaho Clinical and Translational Research Development (CTR-D) Program. This represents Idaho becoming the fifth of 23 IDeA-eligible states to receive this type of award and marks a meaningful step toward building competitive research capacity. The program partners Boise State University (lead), Idaho State University, University of Idaho, and the Boise VA Medical Center, with clinical affiliates including Kootenai Health in Coeur d'Alene, a member of the Mayo Clinic Care Network.

Idaho faces several structural challenges: the absence of a public medical school, geographically dispersed universities and health systems, limited clinical research infrastructure, and a small biotech company ecosystem. These gaps underscore the importance of cross-border collaboration with Spokane and partnership with Washington State's stronger institutional base. At the same time, Idaho’s rapid population growth (among the fastest in the nation), its consistently business-friendly regulatory environment, low corporate tax burden, and available industrial land create structural advantages that Washington cannot match. Idaho is not a junior partner in this region, it is a complementary one with distinct strengths.

## 2.6 The 8-County Bioscience & Health Cluster

The data that follow provide the most granular and current picture available of the bioscience and health industry cluster in the eight-county Spokane–Coeur d’Alene region. The dataset is drawn from Lightcast’s Q1 2026 data release, covering Spokane County and Stevens and Pend Oreille counties in Washington, and Kootenai, Benewah, Bonner, Boundary, and Shoshone counties in Idaho. Industry coverage spans 21 NAICS sectors including pharmaceutical and biological product manufacturing, medical device manufacturing, laboratory services, research and development,

healthcare retail, and hospital services. All figures represent combined QCEW employees, non-QCEW employees, and self-employed workers unless otherwise noted.

The data reveal a cluster with genuine but uneven momentum. One whose headline growth over the past decade masks a more complicated structural story that has direct implications for economic development strategy.

### 2.6.1 Cluster Size and Ten-Year Employment Trend

The bioscience and health cluster employed 20,500 people across the eight-county region as of 2025 (confirmed by TechHelp at a comparable 21,291). For a labor market of this size, the national average would be approximately 19,100 cluster employees, meaning the region is modestly above average in cluster size relative to comparable markets nationally. The cluster represents approximately 4.9% of the region's total nonfarm employment of 415,335.

Over the ten-year period from 2015 to 2025, the cluster grew by 6,008 jobs, **a 41.5% increase**. On its face, this is a strong performance. But the composition of that growth tells a more important story. Of those 6,008 new jobs, 6,299 came from hospitals alone. Strip out General Medical and Surgical Hospitals, and the rest of the bioscience and health cluster (pharmaceutical manufacturers, medical device companies, laboratories, biotech R&D, and clinical services) shrank by 291 jobs, a decline of 5.4%.

> **KEY FINDING: The Cluster's Growth Is Almost Entirely a Hospital Story**
>
> Over the past decade, hospitals added 6,299 jobs to the regional cluster while the non-hospital bioscience sector lost 291. The 41.5% headline growth figure obscures a structural contraction in the very sub-sectors (pharmaceutical manufacturing, medical devices, and laboratory services) that offer the highest wages, the strongest economic multipliers, and the most durable competitive differentiation. This finding is the central justification for the strategic recommendations in this report: the region must focus its economic development resources on building non-hospital bioscience capacity, because hospital growth, driven primarily by an aging regional population and nursing workforce demand, will continue regardless of targeted intervention.

The pre-COVID period (2015–2019) told a different story. During those four years, the non-hospital cluster was actually outperforming hospitals, adding 1,224 jobs while hospitals were flat (net loss of 25). What changed after 2019 was a combination of factors: the pandemic disrupted pharmaceutical and laboratory operations; medical labs continued a multi-year structural decline as consolidation shifted testing volumes to regional and national reference labs; and pharmaceutical preparation manufacturing lost its last major local producer. The COVID era also accelerated hospital employment dramatically as the regional healthcare system expanded capacity. The non-hospital cluster has not recovered to its pre-COVID trajectory.

*Table 2. Bioscience & Health Cluster Employment, 8-county region (2015–2025).*

| Segment | 2015 Jobs | 2025 Jobs | Change | % Change |
|---|---|---|---|---|
| **Total Cluster (all 21 sectors)** | 14,493 | 20,501 | **+6,008** | **+41.5%** |
| General Medical & Surgical Hospitals | 9,089 | 15,388 | **+6,299** | **+69.3%** |
| Non-Hospital Bioscience & Health | 5,404 | 5,113 | **−291** | **−5.4%** |
| Pre-COVID Non-Hospital Cluster (2015–2019) | 5,404 | 5,379 | **+1,224*** | See note |

**Pre-COVID change reflects non-hospital cluster performance vs. hospitals 2015–2019*

*Source: Lightcast Q1 2026 Data Set*

The cluster is projected to add approximately 3,500 additional jobs over the next five years (2025–2030), a 17% increase. The Lightcast national benchmark suggests the region's cluster growth rate will exceed the adjusted national average, though the composition of that growth, whether it is driven by hospitals alone or begins to include manufacturing and R&D gains, will depend substantially on the economic development strategies implemented in the near term.

### 2.6.2 Industry-by-Industry Employment and Economic Performance

The table below provides a detailed view of each sector within the cluster, covering 2025 employment, ten-year job change, average earnings per job, total sales generated in the region, and the employment multiplier, a measure of how many additional jobs in the broader regional economy are supported by each direct job in the sector. The multiplier is one of the most important metrics for economic development prioritization: a sector with a 3.5x multiplier generates far more regional economic activity per invested dollar than one with a 1.5x multiplier.

The region's bioscience and health care sector tells a clear strategic story. The high-growth sectors—Biological Product Manufacturing (+91%), R&D in Biotechnology (+180%), Scientific & Tech Consulting (+93%), and Diagnostic Imaging (+133%)—are already proving their value without outside intervention. The priority now is to accelerate what's already working: creating wet lab zoning that supports expansion, building graduate retention pipelines so trained talent stays in-state, and establishing anchor business programs that give emerging firms a reason to put down roots here rather than relocate to larger metros.

Pharmaceutical Preparation Manufacturing stands apart as a targeted opportunity. Employment has declined 20% over the decade, but national reshoring policy and mounting supply chain pressure have shifted the winds. What looked like a fading sector is now one where regions that move early will have a structural advantage. Meanwhile, General Hospitals form the foundation everything else depends on. With 15,388 jobs, a 2.60× economic multiplier, and $4.1 billion in total sales, they are the single largest anchor in the ecosystem. Connecting that hospital infrastructure directly to clinical trial activity is both the highest-leverage move available and a concrete response to the declining Medical Laboratories sector. The strategic frame isn't about picking winners from scratch. It's about protecting the base, accelerating what's already growing, and capturing the reshoring opportunity before other regions do.

*Table 3. Bioscience & Health Cluster: Industry Detail, 8-county region (2025)*

| Industry Sector | 2025 Jobs | 10-Yr Change | Avg. Earnings | Total Sales (2025) | Jobs Multiplier |
|---|---|---|---|---|---|
| **MANUFACTURING** | | | | | |
| Biological Product Mfg (except Diagnostic) | **1,085** | **+91%** | $119,522 | $914.7M | **3.40x** |
| Pharmaceutical Preparation Mfg | 84 | −20% | **$149,897** | $72.9M | **3.53x** |
| Medicinal & Botanical Mfg | <10 | −97% | Insuff. Data | $0.5M | 1.42x |
| Surgical Appliance & Supplies Mfg | 155 | −7% | $76,476 | $35.7M | 1.85x |
| Surgical & Medical Instrument Mfg | 21 | New | $119,135 | $11.8M | 2.36x |
| Dental Laboratories | 126 | −24% | $64,214 | $13.7M | 1.48x |
| **RESEARCH & DEVELOPMENT** | | | | | |
| R&D in Biotechnology (excl. Nanobio) | **63** | **+180%** | **$213,062** | $38.6M | **3.51x** |
| R&D in Nanotechnology | 25 | +64% | $196,726 | $13.2M | 3.37x |
| Scientific & Technical Consulting | 639 | +93% | $109,244 | $136.3M | 1.65x |
| **CLINICAL SERVICES** | | | | | |
| **General Medical & Surgical Hospitals** | **15,388** | +69% | $119,141 | **$4,133.9M** | 2.60x |
| Diagnostic Imaging Centers | 611 | +133% | $100,230 | $153.8M | 2.02x |
| Medical Laboratories | 680 | **−59%** | $88,931 | $152.0M | 1.89x |
| **DISTRIBUTION & RETAIL** | | | | | |
| Medical Equip. & Supplies Wholesalers | 251 | +16% | $132,101 | $97.2M | 2.79x |
| Pharmacies & Drug Retailers | 1,028 | −19% | $67,799 | $252.4M | 1.87x |
| **TOTAL CLUSTER** | **20,501** | **+41.5%** | **$113,671** | **$6,104.3M** | — |

*Source: Lightcast Q1 2026 Data Set; CdA EDC Industry Table.*

Idaho also offers several competitive advantages for bioscience growth, including a business-friendly regulatory environment, comparatively lower operating costs, available industrial land, strong population growth, and increasing statewide investment in research capacity. The recent award of the Healthy Idaho CTR-D program demonstrates growing federal confidence in Idaho's research

ecosystem and provides a platform for expanding clinical research, translational medicine, and industry partnerships across the state.

Idaho also has no personal income tax on capital gains above a threshold and offers competitive property tax rates and utility costs. These factors matter significantly to bioscience manufacturers evaluating facility and operations costs over a 10- to 20-year horizon.

Strategic frame

**Protect the base. Accelerate the growers. Capture the reshore opportunity before other regions do.**

**Protect the base**

Connect hospital infrastructure directly to clinical trial activity — anchoring the entire ecosystem and providing a concrete response to the decline in medical labs.

**Accelerate the growers**

Wet lab zoning, graduate retention pipelines, and anchor business programs for the bio/R&D and consulting sectors that are already growing fast without intervention.

**Capture the reshore**

Pharma Prep Manufacturing is down 20% over the decade, but national supply chain pressure and reshoring policy have shifted the winds — this is a first-mover window.

### 2.6.3 Standout Sectors: Where the Region Is Winning and Losing

#### Biological Product Manufacturing: The Cluster's Anchor Industry

Biological Product (except Diagnostic) Manufacturing (NAICS 325414) is the single most important bioscience manufacturing sub-sector in the regional cluster, and its trajectory over the past decade is genuinely remarkable. Employment grew from 570 jobs in 2015 to 1,085 jobs in 2025, a **91% increase**. Total sales reached $914.7 million in 2025. The sector carries the cluster's second-highest jobs multiplier at 3.40x, meaning each direct job supports approximately three additional jobs in the broader regional economy. Average earnings of $119,522 are well above the regional private-sector average.

Crucially, 96.7% of regional demand for biological products is met in-region, an unusually high local self-sufficiency rate that reflects the presence of a substantial manufacturing base. This sector is the foundation on which the region's CMO and biomanufacturing reshoring strategy should be built. It demonstrates that the region can attract, support, and grow biological product manufacturing at meaningful scale. Jubilant Hollister Stier, which appeared as the fourth-largest job-posting employer in the cluster (295 postings) in the Lightcast demand data, is the primary anchor in this sub-sector.

#### Biotech R&D: Small but Fast-Growing and High-Value

Research and Development in Biotechnology (NAICS 541714) is the cluster's smallest sector by employment (63 jobs) but its fastest-growing and highest-earning. Employment has grown **180% since 2015**, nearly tripling from 23 jobs, and average earnings of $213,062 are the highest of any sector in the cluster. The jobs multiplier of 3.51x is the highest in the entire cluster alongside

pharmaceutical preparation manufacturing. While small in absolute terms, this sector's growth trajectory and economic value per job make it a priority for targeted support through university R&D partnerships, SBIC programs, and EBIC's incubation infrastructure.

### Pharmaceutical Preparation Manufacturing: Contraction and Opportunity

Pharmaceutical Preparation Manufacturing (NAICS 325412) has contracted from 105 jobs in 2015 to 84 jobs in 2025, a 20% decline. This sector carries the cluster's highest average earnings ($149,897) and a 3.53x multiplier, making each job loss economically significant. More importantly, the sector's supply chain data reveals a critical gap: only 7.9% of regional demand for pharmaceutical preparation products is met locally, the remaining 92.1% ($461.6 million) is imported. This represents both the region's most significant bioscience supply chain vulnerability and its most immediate reshoring opportunity. A single mid-scale pharmaceutical preparation manufacturer locating in the region would represent a transformative investment.

### Medical Laboratories: A Decade of Structural Decline

Medical Laboratories (NAICS 621511) experienced the largest absolute employment decline in the non-hospital cluster, falling from 1,642 jobs in 2015 to 680 jobs in 2025, a loss of 962 positions, or 59%. This decline reflects a national pattern of consolidation in laboratory services, as high-volume reference laboratories in major markets have captured testing volumes previously processed locally. The trend predates COVID and has continued through the recovery. While some reversal is possible through specialized testing niches (particularly in agricultural, environmental, and clinical research applications) the structural forces driving consolidation are unlikely to reverse. The region's laboratory workforce and facility assets should be considered available supply for redeployment toward growth-oriented bioscience activities.

### Diagnostic Imaging Centers: A Bright Spot in Clinical Services

Diagnostic Imaging Centers (NAICS 621512) have grown from 262 jobs in 2015 to **611 jobs in 2025, a 133% increase**. This growth reflects the expansion of outpatient imaging capacity across the regional hospital systems and the increasing role of diagnostic imaging in preventive and precision medicine. With 97.6% of regional demand met in-region and a 2.02x multiplier, this is a stable and expanding sector that supports the broader clinical research and precision medicine strategy.

### Scientific and Technical Consulting: A Quiet Success Story

Other Scientific and Technical Consulting Services (NAICS 541690) has more than doubled, growing from 331 jobs in 2015 to **639 jobs in 2025, a 93% increase**, with $136 million in total sales and 94.5% of demand met locally. This reflects the growing ecosystem of regulatory consultants, quality assurance specialists, clinical data managers, and technology transfer professionals supporting the region's bioscience activity. The presence of firms like Katrina Rogers Medical Regulatory Practice is characteristic of this sector. Its growth is both a strength (demonstrating that high-value professional services can scale in this market) and an indicator of underlying bioscience business activity that may not be fully captured in manufacturing or R&D headcounts.

### 2.6.4 Employment Multipliers: An Economic Development Case for Manufacturing

One of the most important strategic insights from the Lightcast data is the contrast in employment multipliers between the cluster's manufacturing and R&D sectors versus its service and retail sectors. The multiplier effect measures how many total jobs in the broader regional economy are supported by each direct job in a given sector, capturing the supply chain, spending, and induced employment that flows from a single direct hire.

*Table 4. Jobs Multipliers by Sector. Green shading indicates highest-priority sectors for economic development investment. Yellow shading indicates sectors with lower leverage or declining trajectories*

| Sector | Jobs Multiplier | Implication |
|---|---|---|
| Pharmaceutical Preparation Mfg | **3.53x** | Highest in cluster; 100 new jobs = 353 total regional jobs |
| R&D in Biotechnology | **3.51x** | Highest-earning sector; significant economic ripple |
| Biological Product Manufacturing | **3.40x** | Anchor sector; already proven at scale in region |
| General Medical & Surgical Hospitals | 2.60x | Large employer but lower multiplier than manufacturing |
| Medical Equipment Wholesalers | 2.79x | Strong distribution anchor with growing employment |
| Diagnostic Imaging Centers | 2.02x | Growing sector; moderate multiplier |
| Pharmacies & Drug Retailers | 1.87x | Declining employment; lower economic leverage |
| Dental Laboratories | 1.48x | Lowest multiplier in cluster; declining employment |

*Source: Lightcast Q1 2026 Data Set; Emsi MR-SAM Input-Output Model.*

The multiplier data make a clear strategic argument: every dollar of investment directed toward pharmaceutical manufacturing, biotech R&D, or biological product manufacturing generates approximately twice the regional economic return of the same investment directed toward retail pharmacy or dental laboratory development. The region's strategic priorities should be calibrated accordingly.

### 2.6.5 Labor Demand and Top Employers

The Lightcast dataset captures active hiring demand through job postings analysis. Over the past 12 months, 262 companies in the cluster posted 8,094 unique job openings across the eight-county region, with a median posting duration of 18 days, four days shorter than the regional average, indicating that bioscience and health positions tend to fill relatively quickly despite the supply constraints described earlier.

*Table 5. Top Employers by Job Postings, 8-County Region (12 months)*

| Employer | Unique Postings (12 mo.) | Significance | Sector |
|---|---|---|---|
| **Providence Health** | **3,383** | Dominant regional employer; ~42% of all postings | Hospital / Health System |
| MultiCare Health System | 1,392 | Second-largest; ~17% of all postings | Hospital / Health System |
| Kootenai Health | 706 | Primary Idaho anchor; CTR-D clinical affiliate; Mayo Clinic Care Network member | Hospital / Health System |
| **Jubilant Hollister Stier** | **295** | Only major pharma manufacturer in postings; reshoring candidate | Pharma CMO / Mfg. |
| Walgreens Boots Alliance | 295 | Retail pharmacy; declining sector nationally | Drug Retail |

*Source: Lightcast Q1 2026 Data Set.*

The employer concentration data underscores both the region's dependence on its three major hospital systems and the strategic importance of Jubilant Hollister Stier as the cluster's primary non-hospital bioscience manufacturer. Providence alone accounts for 42% of all bioscience and health job postings, a concentration that makes the entire talent demand picture highly sensitive to Providence's hiring plans and workforce strategy. Building out additional industry employers is not just an economic development goal; it is a labor market diversification imperative.

The top job titles by posting volume further reflect the cluster's hospital dominance: Respiratory Care Practitioners (180 postings), Pharmacy Technicians (131), Medical/Surgical Registered Nurses (93), and Certified Medical Assistants (78) lead the demand picture. The relative absence of biomanufacturing technicians, clinical research coordinators, bioinformaticians, and quality assurance specialists in the top posting categories is itself a data point. It reflects the current composition of the cluster rather than the composition it needs to achieve its strategic aspirations.

Looking at the biosciences sector alone, excluding hospitals, the data reveal both the depth of regional demand and the key employers shaping the biosciences labor market. Almost 200 employers posted jobs over the last 12 months with over 1,600 unique job postings. Jubilant HollisterStier stands out as the region's largest bioscience employer, posting 309 unique positions, more than Walgreens Boots Alliance (279), CVS Health (85), and Labcorp (72) combined. The top job titles reinforce the sector's clinical and technical orientation, with Pharmacy Technicians, Pharmacy Interns, Certified Pharmacy Technicians, and Phlebotomists accounting for the bulk of demand. Taken together, this data confirms that workforce need in the region is concentrated in credentialed, mid-skill roles, precisely the pipeline that stronger connections between local colleges, clinical training programs, and anchor employers like Jubilant HollisterStier could help fill.

*Figure 2. Bioscience and Health Care Job Postings: Top Companies and Titles*

| Top Companies | Unique Postings |
|---|---|
| Jubilant Hollister-Stier | 309 |
| Walgreens Boots Alliance | 279 |
| CVS Health | 85 |
| Labcorp | 72 |
| Johnson & Johnson | 32 |

| Top Job Titles | Unique Postings |
|---|---|
| Pharmacy Technicians | 65 |
| Pharmacy Interns | 62 |
| Certified Pharmacy Technicians | 43 |
| Phlebotomists | 40 |
| Customer Service Associates | 30 |

*Source: Lightcast Q1 2026 Data Set.*

**ECONOMIC IMPACT SUMMARY: The Region's Bioscience & Health Care Cluster at a Glance**

- 20,501 direct cluster jobs—slightly above the national average for a region this size
- $113,671 average earnings per cluster job—approximately 53% above the broader regional average of $75,500
- 41.5% ten-year job growth—but driven almost entirely by hospitals; non-hospital sector declined 5.4%
- 17% projected growth (2025–2030)—approximately 3,500 additional jobs

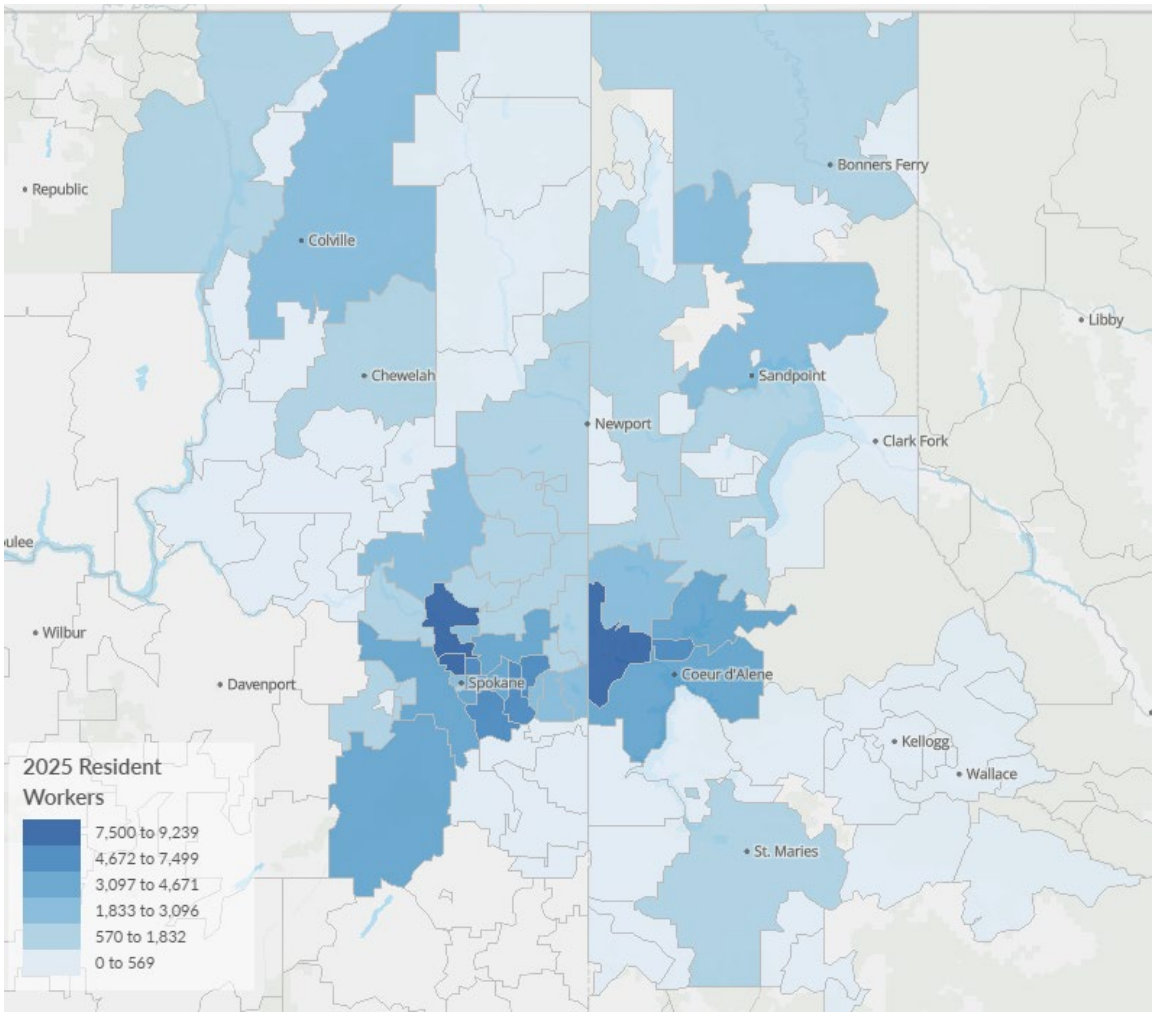
*Source: Lightcast Q1 2026 Data Set*

## 2.7 Workforce and Skills Gaps Analysis

The Spokane–Coeur d'Alene region supports a meaningful bioscience and health care workforce, with approximately 39,765 resident workers in occupations that represent at least 1% of industry group employment (those most directly tied to the cluster's core functions). This focused count provides a more precise baseline than the broader occupational universe, reflecting the talent pool that bioscience and health care employers are actively competing for. Combined with average compensation of $131,562, roughly $59,000 above the private sector average, the region is a genuinely competitive labor market for employers in this space.

The workforce is concentrated in its two urban cores, with Spokane and Coeur d'Alene anchoring the highest densities of resident workers. The surrounding rural counties contribute to the regional total, but at significantly lower concentrations. The net commuter pattern reinforces this picture: the urban cores are net exporters of workers, with more residents than local jobs in many tracts, while surrounding areas draw those commuters in, reflecting a regional labor market that functions as an integrated whole rather than a collection of isolated local economies.

*Table 6. Where the Region's Bioscience & Health Care Workforce Lives*

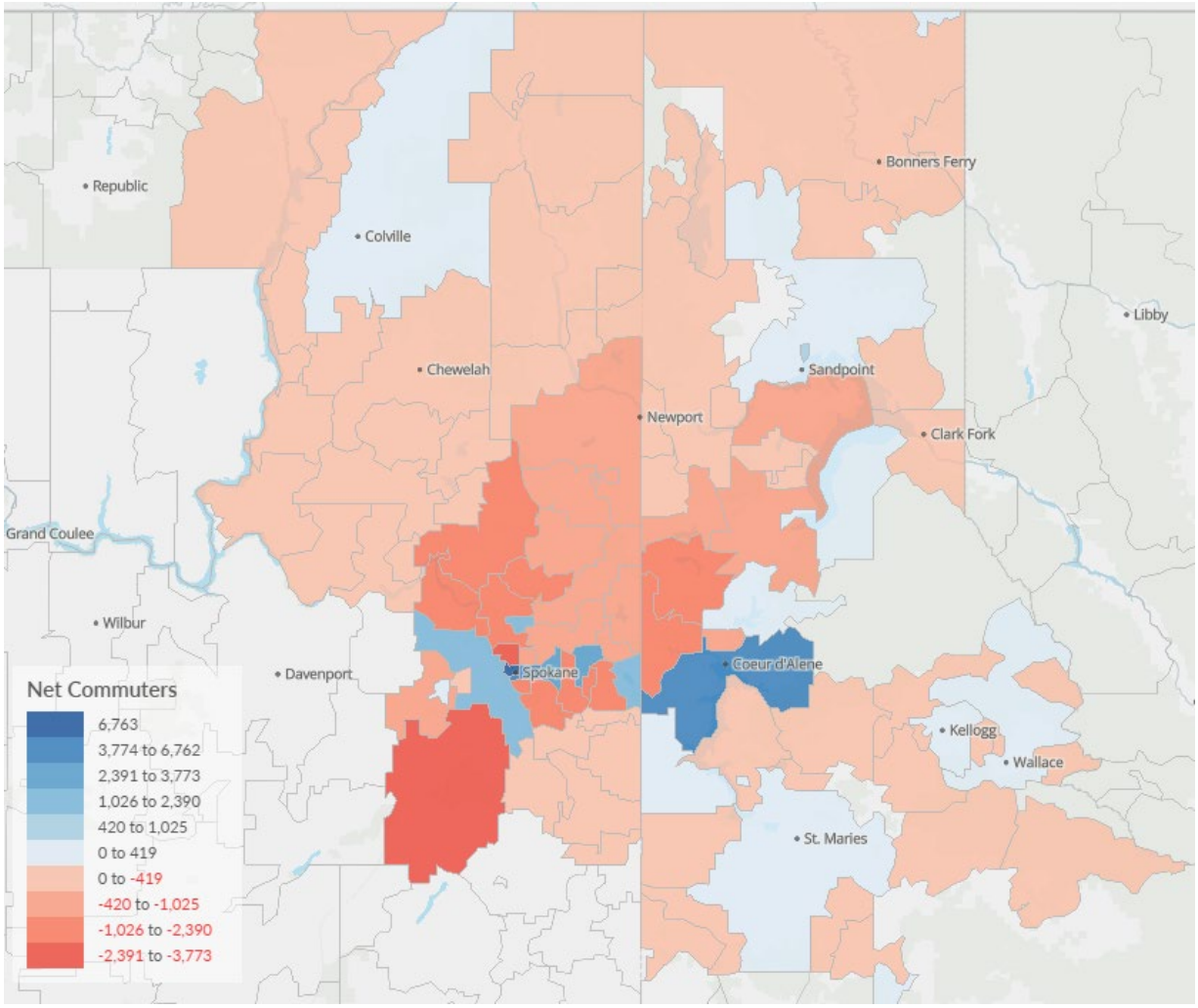



*Source: Lightcast Q1 2026 Data Set.*

The map below shows the gap between the number of resident workers and available jobs. Red areas indicate more residents relative to available jobs, while blue areas indicate a surplus of jobs relative to available workers.

This net effect provides an approximation of workforce alignment and potential employment gaps.

*Table 7. Are There Enough Local Workers to Fill Local Jobs?*




* Red areas indicate a surplus of workers relative to available jobs, while blue areas indicate a surplus of jobs relative to available workers.

*Source: Lightcast Q1 2026 Data Set.*

Across the three segments of the cluster (core bioscience and health care occupations, bioscience manufacturing, and lab and imaging) a consistent theme emerges: the region has a capable workforce base, but its training pipelines are uneven. For several high-volume clinical roles, regional completions cover only a fraction of average annual openings, creating a structural reliance on workers trained elsewhere. At the same time, certain occupations show completion figures that meet or exceed local demand, suggesting the region's educational institutions are well-calibrated in those areas. The opportunity ahead lies in closing the pipeline gaps where they matter most, while leveraging the region's existing workforce depth and compensation advantages to attract and retain talent across all three segments of the cluster.

*Table 8. Bioscience and Health Care Workforce Demand, Supply, and Pipeline Capacity*

| Description | 2025 Jobs | 2025 Resident Workers | 2025 Net Commuters | Avg Annual Openings | Regional Completions | Completions-to-Openings Ratio |
|---|---|---|---|---|---|---|
| Registered Nurses | 8,848 | 8,989 | (142) | 623 | 436 | 0.7 |
| Nursing Assistants | 3,995 | 4,046 | (51) | 632 | 2 | 0.0 |
| Clinical Laboratory Technologists and Technicians | 1,077 | 1,087 | (9) | 84 | 351 | 4.2 |
| Pharmacy Technicians | 1,176 | 1,200 | (23) | 131 | 17 | 0.1 |
| Pharmacists | 964 | 978 | (14) | 54 | 0 | 0.0 |
| Radiologic Technologists and Technicians | 724 | 723 | 2 | 57 | 23 | 0.4 |
| Medical Assistants | 2,757 | 2,786 | (29) | 366 | 166 | 0.5 |
| Medical Secretaries and Administrative Assistants | 1,445 | 1,496 | (50) | 168 | 109 | 0.6 |
| Medical and Health Services Managers | 1,182 | 1,224 | (42) | 107 | 1,009 | 9.5 |
| Surgical Technologists | 379 | 381 | (3) | 32 | 25 | 0.8 |
| Customer Service Representatives | 5,523 | 5,654 | (131) | 906 | 2,470 | 2.7 |
| Chemical Equipment Operators and Tenders | 296 | 276 | 20 | 47 | 0 | 0.0 |
| Diagnostic Medical Sonographers | 355 | 353 | 2 | 29 | 44 | 1.5 |
| Phlebotomists | 328 | 333 | (5) | 49 | 0 | 0.0 |
| Respiratory Therapists | 290 | 295 | (5) | 29 | 0 | 0.0 |

*Source: Lightcast Q1 2026 Data Set.*

*Table 9. Manufacturing Occupations in Bioscience, Workforce Demand, Supply, and Pipeline Capacity*

| Description | Jobs 2025 | 2025 Resident Workers | 2025 Net Commuters | Avg Annual Openings | Regional Completions | Completions-to-Openings Ratio |
|---|---|---|---|---|---|---|
| Chemical Equipment Operators and Tenders | 296 | 276 | 20 | 47 | 0 | 0.0 |
| Dental Laboratory Technicians | 118 | 118 | (0) | 25 | 0 | 0.0 |
| Packaging and Filling Machine Operators and Tenders | 475 | 561 | (86) | 72 | 0 | 0.0 |
| First-Line Supervisors of Production and Operating Workers | 1,919 | 1,919 | (1) | 223 | 14 | 0.1 |
| Inspectors, Testers, Sorters, Samplers, and Weighers | 1,191 | 1,231 | (40) | 165 | 6 | 0.0 |
| Miscellaneous Assemblers and Fabricators | 2,480 | 2,439 | 42 | 357 | 0 | 0.0 |
| General and Operations Managers | 8,221 | 8,284 | (63) | 877 | 3,138 | 3.6 |
| Biological Technicians | 225 | 247 | (22) | 35 | 282 | 8.1 |
| Industrial Engineers | 350 | 388 | (38) | 32 | 8 | 0.2 |
| Chemists | 111 | 111 | 0 | 14 | 46 | 3.4 |

| Description | Jobs 2025 | 2025 Resident Workers | 2025 Net Commuters | Avg Annual Openings | Regional Completions | Completions-to-Openings Ratio |
|---|---|---|---|---|---|---|
| Laborers and Freight, Stock, and Material Movers, Hand | 6,162 | 6,085 | 78 | 921 | 0 | 0.0 |
| Industrial Machinery Mechanics | 1,025 | 1,048 | (23) | 109 | 44 | 0.4 |
| Shipping, Receiving, and Inventory Clerks | 1,832 | 1,847 | (15) | 214 | 19 | 0.1 |
| Customer Service Representatives | 5,523 | 5,654 | (131) | 906 | 2,470 | 2.7 |
| Chemical Technicians | 130 | 124 | 7 | 26 | 45 | 1.7 |
| Industrial Production Managers | 343 | 366 | (23) | 34 | 477 | 14.0 |
| Maintenance and Repair Workers, General | 4,151 | 4,175 | (24) | 449 | 165 | 0.4 |
| Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products | 3,500 | 3,477 | 24 | 369 | 2,421 | 6.6 |
| Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders | 179 | 182 | (4) | 29 | 0 | 0.0 |
| Compliance Officers | 903 | 911 | (7) | 96 | 309 | 3.2 |
| Mixing and Blending Machine Setters, Operators, and Tenders | 148 | 158 | (9) | 24 | 0 | 0.0 |
| Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products | 357 | 428 | (72) | 45 | 551 | 12.2 |
| Office Clerks, General | 7,575 | 7,533 | 42 | 1,102 | 99 | 0.1 |
| Project Management Specialists | 2,221 | 2,335 | (114) | 259 | 2,965 | 11.4 |
| Medical Scientists, Except Epidemiologists | 230 | 284 | (54) | 20 | 465 | 23.3 |

*Source: Lightcast Q1 2026 Data Set.*

*Table 10. Lab & Imaging Occupations in Bioscience, Workforce Demand, Supply, and Pipeline Capacity*

| Description | Jobs 2025 | 2025 Resident Workers | 2025 Net Commuters | Avg Annual Openings | Regional Completions | Completions-to-Openings Ratio |
|---|---|---|---|---|---|---|
| Clinical Laboratory Technologists and Technicians | 1,077 | 1,087 | (9) | 84 | 351 | 4.2 |
| Phlebotomists | 328 | 333 | (5) | 49 | 0 | 0.0 |
| Radiologic Technologists and Technicians | 724 | 723 | 2 | 57 | 23 | 0.4 |
| Couriers and Messengers | 533 | 529 | 4 | 77 | 0 | 0.0 |

| Description | Jobs 2025 | 2025 Resident Workers | 2025 Net Commuters | Avg Annual Openings | Regional Completions | Completions-to-Openings Ratio |
|---|---|---|---|---|---|---|
| Diagnostic Medical Sonographers | 355 | 353 | 2 | 29 | 44 | 1.5 |
| Radiologists | 228 | 241 | (14) | 23 | 0 | 0.0 |
| Billing and Posting Clerks | 1,880 | 1,782 | 98 | 215 | 38 | 0.2 |
| Magnetic Resonance Imaging Technologists | 132 | 133 | (1) | 13 | 0 | 0.0 |
| Customer Service Representatives | 5,523 | 5,654 | (131) | 906 | 2,470 | 2.7 |
| Medical Scientists, Except Epidemiologists | 230 | 284 | (54) | 20 | 465 | 23.3 |
| Medical Secretaries and Administrative Assistants | 1,445 | 1,496 | (50) | 168 | 109 | 0.6 |
| Receptionists and Information Clerks | 3,555 | 3,502 | 53 | 510 | 110 | 0.2 |
| Medical and Health Services Managers | 1,182 | 1,224 | (42) | 107 | 1,009 | 9.5 |
| Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel | 1,840 | 1,841 | (1) | 222 | 551 | 2.5 |
| First-Line Supervisors of Office and Administrative Support Workers | 3,786 | 3,799 | (13) | 394 | 2,472 | 6.3 |
| Healthcare Support Workers, All Other | 306 | 308 | (1) | 52 | 0 | 0.0 |
| Physicians, Pathologists | 41 | 41 | (1) | 8 | 0 | 0.0 |
| General and Operations Managers | 8,221 | 8,284 | (63) | 877 | 3,138 | 3.6 |
| Medical Assistants | 2,757 | 2,786 | (29) | 366 | 166 | 0.5 |
| Office Clerks, General | 7,575 | 7,533 | 42 | 1,102 | 99 | 0.1 |
| Registered Nurses | 8,848 | 8,989 | (142) | 623 | 436 | 0.7 |
| Biological Technicians | 225 | 247 | (22) | 35 | 282 | 8.1 |

*Source: Lightcast Q1 2026 Data Set.*

Regionally, the Spokane–CdA area benefits from a multi-institutional educational ecosystem that includes:

- **Washington State University Spokane**: Home to the Elson S. Floyd College of Medicine, health sciences programs, and the WSU Process Pilot Plant for biomanufacturing research.
- **Gonzaga University:** Biology, chemistry, and engineering programs supporting biotech workforce development.
- **University of Idaho:** Agricultural biotechnology, environmental sciences, bioinformatics, and a Food Technology Center.
- **Eastern Washington University:** Health sciences, bioinformatics, and STEM programs.
- **Whitworth University:** School of Health Studies with biology and pre-professional programs.
- **Lewis-Clark State College:** School of Health Studies, Nursing (RN to BSN), and Radiographic Science.
- **Spokane Community College:** Health professions, CTE programs, and allied health training
- **North Idaho College:** Biology and health sciences, allied health training, CTE programs, workforce training credentials (short-term training).

Findings from stakeholder interviews and engagement sessions identified several recurring workforce challenges and opportunities influencing the growth of the regional biosciences ecosystem.

*Table 11. Key Regional Workforce Challenges, Spokane-CdA region*

| Regional Workforce Challenge | Description | Current / Emerging Responses |
|---|---|---|
| **Talent Retention** | Historically limited bioscience and biotechnology career opportunities have contributed to graduates leaving the region for larger, more established markets. | Industry-education partnerships and workforce initiatives are working to expand regional career pathways and strengthen local employment opportunities. |
| **Specialized Skills Gaps** | Employers report workforce shortages in specialized occupations, including biomanufacturing technicians, clinical research coordinators, and bioinformatics specialists. | Programs such as the Evergreen Bioscience Internship Development Program, Career Connect Washington, and apprenticeship-based training initiatives are helping align workforce preparation with industry demand. |

| Regional Workforce Challenge | Description | Current / Emerging Responses |
|---|---|---|
| **Research Capacity & Advanced Talent** | The region produces comparatively lower levels of doctoral-level research output than major research university markets, potentially limiting innovation capacity and commercialization pipelines. | Collaborative efforts involving education, workforce, and industry partners aim to strengthen research connections, talent development, and advanced workforce capacity. |
| **Workforce Coordination & Pipeline Development** | Building a coordinated bioscience talent pipeline requires stronger alignment between employers, education providers, and workforce systems. | Organizations including the Spokane Workforce Council, Career Connect Washington, and Idaho Talent Pipeline Management Initiative are advancing partnerships, apprenticeships, and employer-driven workforce strategies. |

Source: Stakeholder engagements

Strategic frame

**The region has the workforce. The challenge is building the pipeline that keeps it here.**

The Spokane–Coeur d'Alene region is not starting from zero. It has universities, hospitals, training programs, and a growing base of bioscience employers. The problem is that these pieces are not yet connected in a way that creates a clear career path — from classroom to internship to job to career — that gives graduates a reason to stay. When that path is unclear, talented people leave. And once they leave, they rarely come back.

The good news is that the region already has organizations working on this. The strategic priority is straightforward: stop exporting talent. Build the internship programs, the specialized training pipelines, and the employer partnerships that make it possible for a bioscience graduate from Washington State University or the University of Idaho to build a full career without ever having to leave the region

# 3 Market Analysis & Macroeconomic Factors

## 3.1 Market Landscape

The bioscience and health industry market is large, growing, and undergoing structural transformation. At the global level, the market is driven by aging populations, rising prevalence of chronic and complex diseases, accelerating innovation in gene therapy and precision medicine, and the integration of artificial intelligence across the drug discovery and development pipeline. North America, and the United States in particular, maintains a commanding position, accounting for 38–41% of global bioscience revenues.

Within the United States, the market is concentrated in a small number of major metropolitan clusters (addressed in detail in the Competitive Landscape section), but emerging markets are gaining traction as costs, talent competition, and infrastructure constraints increase in primary hubs. Secondary and emerging markets are increasingly cited as cost-effective alternatives for bioscience real estate, talent, and operations, a trend directly relevant to Spokane–CdA's positioning.

For the Spokane–CdA region, the most relevant market segments are:

- **Contract Manufacturing and Biomanufacturing:** A $480 billion+ wave of domestic biomanufacturing investment is underway nationally, creating opportunities for regions with development-ready industrial land, logistics infrastructure, and workforce pipelines.
- **Medical Device and Diagnostic Manufacturing:** A mature, stable segment with regional presence and strong alignment with local manufacturing capabilities and hospital-system demand.
- **Agricultural Biotechnology:** Directly aligned with the region's agricultural base in wheat, hops, legumes, and forestry. Precision agriculture, crop protection, and food processing biotechnology represent accessible near-term market opportunities.
- **Clinical Research Services:** The region's hospital ecosystem, Providence Sacred Heart, MultiCare, Northwest Specialty Hospital, and Kootenai Health (a Mayo Clinic Care Network member), provides a foundation for clinical trial site development, particularly for rural and diverse patient populations.
- **Health Technology and Bioinformatics:** Spokane's growing technology sector and university partnerships create potential for digital health, genomic data services, and AI-supported healthcare applications.

## 3.2 Market Conditions

National demand for bioscience products and services is robust and growing. However, the current policy environment is compressing supply in ways that may create openings for new entrants and secondary markets:

- Drug shortages are at record levels. The U.S. entered 2025 with 323 active drug shortages, 70% involving generic drugs. Tariff-induced margin compression on generic manufacturers is expected to worsen this trend, increasing demand for domestic production capacity.
- Biomanufacturing capacity is being actively reshored. Companies including Pfizer, Johnson & Johnson, Lilly, Novartis, AbbVie, Merck, and AstraZeneca have announced more than $480 billion in combined U.S. manufacturing and R&D investments. This investment wave will take years to translate into built capacity, creating a window for regions to compete.
- Clinical trial infrastructure is in demand. FDA regulatory delays are pushing some sponsors toward alternative domestic and international trial sites. Regions with hospital infrastructure, diverse patient populations, and streamlined site activation are attracting interest.
- Lab and R&D real estate is tightening in primary clusters. Global life sciences vacancy has risen to 23.3% overall, but vacancy in primary clusters remains constrained. Secondary and emerging markets are benefiting from overflow demand.

## 3.3 Macroeconomic Factors

Several macroeconomic factors shape the environment in which the Spokane–CdA bioscience cluster will develop:

### Federal Policy Disruption

The Trump Administration's proposed NIH budget cuts, pharmaceutical tariffs, and FDA staffing reductions represent the most significant structural policy disruption to the U.S. bioscience industry in modern history. These are not temporary uncertainties but potential structural shifts that reshape risk profiles, capital markets, and geographic competitive dynamics. For Spokane–CdA, the net effect includes both headwinds (reduced federal research funding flowing to regional institutions) and opportunities (reshoring, geographic diversification of supply chains and R&D).

### Venture Capital and Capital Market Conditions

U.S. biotech venture capital reached a 20-year low as a percentage of total startup investment in 2025. VC investment of approximately $18 billion in the first half of 2025 was down 16% year-over-year. Early-stage companies face the most severe funding constraints, while late-stage and AI-driven firms attract a disproportionate share of available capital. For early-stage bioscience ventures in Spokane–CdA, this environment underscores the importance of grant-based funding (grants, SBIR/STTR), concessional capital, and public-private partnership models.

### Flexible Capital as a Strategic Tool

Flexible capital (including grants, loans, and investments offered on more flexible terms than traditional commercial financing) can play an important role in supporting emerging bioscience

markets. Provided by government agencies, philanthropic organizations, and development finance institutions, these funding sources help fill financing gaps, reduce investment risk, attract private capital, and support the growth of developing markets. For bioscience projects that may not yet be financially viable under conventional lending or investment models, this type of funding can be essential. In the Spokane–CdA region, key sources of catalytic capital include Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) programs, EDA grants, state economic development incentives, and foundation funding.

### Geopolitical and Supply Chain Risk

The BIOSECURE Act (signed December 2025) bars federal agencies and companies contracting with them from using equipment or services from designated Chinese biotechnology companies of concern, including BGI and WuXi groups. Combined with tariffs on Chinese-sourced APIs (which supply approximately 70% of U.S. generic drug ingredients), this is forcing a rapid reorganization of global bioscience supply chains. Regions with domestic manufacturing capacity, clean regulatory records, and development-ready infrastructure are positioned to benefit from this reshoring.

## 3.4 Opportunities and Risks Assessment

The market analysis identifies the following primary opportunities and risks for the Spokane–CdA bioscience cluster:

*Table 12. Summary of Opportunities and Risks Assessment*

| OPPORTUNITIES | RISKS |
|---|---|
| CMO/CDMO reshoring demand from supply chain disruption | Limited venture capital access for early-stage companies |
| Agri-biotech alignment with regional agricultural base | Federal funding cuts reducing NIH grants to regional institutions |
| Secondary market advantage in cost and real estate | Talent retention competition from Seattle and other major hubs |
| Clinical trial site development leveraging hospital ecosystem | Infrastructure gaps (wet lab space, pilot manufacturing) |
| AI-biotech proximity to UW Institute for Protein Design | Small company ecosystem limits anchor-tenant recruiting |
| BIOSECURE Act creating domestic sourcing opportunities | Regulatory uncertainty affecting planning timelines |
| Idaho CTR-D program building clinical research capacity | Drug pricing pressure reducing commercial investment returns |
| S3R3 development-ready industrial land at West Plains Airport Area (WA) and emerging industrial development sites in northern Idaho (Post Falls, Rathdrum, etc.) | Competition from better-resourced emerging markets |

Strategic frame

**The window is open — but it won't stay open.**

The Spokane–Coeur d'Alène region is better positioned than most people realize. A historic reshoring wave, record drug shortages, new federal restrictions on Chinese biotech suppliers, and rising costs in major bioscience hubs are all pushing companies to look for alternatives. This region offers what they need — available land, strong hospitals, lower costs, and a growing workforce. But private investment alone will not get the job done. Grants, SBIR/STTR, EDA funding, and public-private partnerships must be part of the strategy, and the region needs to move before competing markets do.

The goal is not to compete with Boston or San Francisco. It is to become the obvious choice for a specific set of companies: those that need domestic manufacturing options, clinical trial sites outside the major hubs, and access to one of the most productive agricultural regions in the country.

**Domestic manufacturing**

Available land, lower costs, and a capable workforce make the region a strong alternative for companies reshoring production away from overseas suppliers.

**Clinical trial sites**

A strong hospital system and underserved patient populations make this region an attractive option for sponsors looking beyond the crowded primary markets.

**Agri-biotech**

Proximity to one of the most productive agricultural regions in the country creates a natural advantage in crop science, food processing biotech, and precision agriculture.

# 4 Supply and Value Chain Analyses

## 4.1 Supply Chain Context: National Disruption and Regional Opportunity

The U.S. bioscience supply chain is undergoing its most significant restructuring in decades. The convergence of pharmaceutical tariffs, the BIOSECURE Act, COVID-19-era supply chain lessons, and national biomanufacturing policy has created urgency around domestic sourcing, geographic diversification, and reshoring of API production and contract manufacturing.

The structural vulnerabilities are well-documented: **approximately 90% of U.S. biotech firms depend on imported components for at least half their FDA-approved products; approximately 70% of APIs used in U.S. generic drugs originate from China or Chinese intermediates; and 80% of biotech companies require at least 12 months to identify alternative suppliers, with 44% needing more than two years. These long restructuring timelines mean that the window for regions to position as domestic alternatives is open now.**

## 4.2 Supply Chain Gap & Opportunity Analysis for Region

### What the Cluster Buys and Where It Comes From

The Lightcast input-output model provides a detailed picture of what the bioscience and health cluster purchases and how much of that demand is met locally versus imported. This supply chain lens is essential for understanding both the cluster's current economic footprint and its vulnerability to

external disruptions, including the pharmaceutical tariffs and supply chain restructuring described later.

*Table 13. Top Bioscience & Health Cluster Supply Inputs: In-Region vs. Imported Purchases. Selected inputs shown.*

| Supply Input | Total Purchases | In-Region | Imported | Strategic Note |
|---|---|---|---|---|
| **Real Estate (Lessors—Residential & Nonresidential)** | **$392M** | ~99% | ~1% | #1 supplier; reflects facility-intensity of sector |
| Drugs & Druggists' Sundries Wholesalers | $77.4M | 6.0% | **94.0%** | Nearly all imported; supply chain vulnerability |
| In-Vitro Diagnostic Substance Mfg | $42.7M | 0% | **100%** | Entirely imported; no local production |
| Pharmaceutical Preparation Mfg | $15.0M | 9.0% | **91.0%** | 91% imported; reshoring target |
| Surgical & Medical Instrument Mfg | $30.7M | 3.5% | **96.5%** | Nearly all imported; device mfg opportunity |
| **Biological Product Mfg (except Diagnostic)** | $26.7M | **99.3%** | 0.7% | Only in-region supply input; anchor strength |
| Surgical Appliance & Supplies Mfg | $8.3M | 11.5% | **88.5%** | Mostly imported; limited local capacity |

*Source: Lightcast Q1 2026 Data Set; Emsi MR-SAM Supply Chain Model*

The supply chain data reveal a cluster with a single point of in-region manufacturing strength Biological Product Manufacturing) surrounded by substantial import dependency in nearly every other purchased input. Real estate is the cluster's largest supplier at $392 million, reflecting the capital and facility intensity of healthcare operations. Of the five principal product-based supply inputs, only biological products are purchased primarily in-region. Drug wholesalers ($77M, 94% imported), diagnostic substances (100% imported), pharmaceutical preparations (91% imported), and surgical instruments (97% imported) are almost entirely sourced outside the region.

This import dependency is both a vulnerability and an opportunity. With pharmaceutical tariffs of 100%, the BIOSECURE Act restricting Chinese biotech suppliers, and companies actively restructuring away from foreign contract manufacturers, it represents a near-term market opportunity. The region's existing biological product manufacturing capacity proves that the model works. Replicating and expanding it in pharmaceutical preparation and medical device manufacturing is the most direct path to strengthening the cluster's economic foundation.

These gaps do not have to be permanent. In fact, several of them align directly with the reshoring pressures, federal policy shifts, and supply chain disruptions described earlier in this report, creating a near-term window to build what the region currently lacks. The most promising areas are:

### Contract Manufacturing Organizations (CMOs)

CMOs currently operating in the Spokane–CdA area have an immediate opportunity to capture new business as larger biopharmaceutical companies restructure their supply chains away from Chinese and other foreign contract manufacturers. The region's existing manufacturing infrastructure, logistics advantages (Spokane International Airport, FedEx/UPS distribution, rail), affordable industrial real estate, and the development-ready West Plains Airport Area (managed by S3R3) position it favorably for small- to mid-scale pharmaceutical packaging, pack-and-fill operations, and biologics contract manufacturing. The Idaho side of the region also presents emerging industrial development opportunities, including sites in Kootenai County (particularly right across the border in Post Falls and Rathdrum) with access to competitive land costs, Idaho's business-friendly regulatory environment, and proximity to the region's existing manufacturing base.

### Agricultural Input Supply Chain

The region sits within one of the most productive agricultural zones in the Pacific Northwest (wheat, hops, legumes, barley, and timber). Agricultural biotechnology applications in crop protection, precision farming inputs, and bioprocessed food ingredients represent natural supply chain extensions that align with existing regional agricultural processing capacity. Companies like Jubilant Hollister and ALK-Abello (regional pharmaceutical manufacturers) represent the type of anchor that can catalyze supply chain development.

### Laboratory Supplies, Reagents, and Bioanalytical Services

The region's research institutions and hospital systems represent a concentrated base of demand for laboratory supplies, reagents, and bioanalytical services. Regional companies providing these services (analogous to Alturas Analytics in Moscow, Idaho, which provides bioanalytical services) have the potential to develop and scale to serve a broader Pacific Northwest market.

### Healthcare Supply Chain and Distribution

Spokane functions as a major logistics hub serving eastern Washington, northern Idaho, Montana, eastern Oregon, and eastern British Columbia and Alberta. This hub position creates natural advantages for healthcare product distribution and medical supply chain operations serving a multi-state, international market.

**KEY FINDING: From Import Dependency to Regional Opportunity**

What has historically been an import dependency is becoming a market opportunity. As companies shift away from foreign suppliers amid tariffs, BIOSECURE restrictions, and supply chain restructuring, the region is well-positioned to build on its existing biological manufacturing base and expand into pharmaceutical preparation and medical device production, reinforcing both economic resilience and cluster competitiveness.

- $5.1 billion in total demand: 65% in-region, 35% imported (regional capture rate is -21%, meaning there is a significant supply gap / business attraction target)
- Biological Product Manufacturing: the cluster's anchor, growing 91% and generating $914.7M in sales with a 3.40x multiplier
- 92% of pharmaceutical preparation demand is currently imported—the region's largest quantifiable reshoring opportunity

## 4.3 Value Chain Analysis

### What is a Value chain

A value chain is the sequence of activities a company or industry performs to deliver a product or service, from raw materials all the way to the end customer. Each step in the chain adds value. In the biosciences, that sequence might look like this:

Basic Research → Drug Discovery → Clinical Trials → Manufacturing → Distribution → Patient Care

This framework is useful in economic development because it helps identify where a region fits within a larger industry and where it has gaps, opportunities, or competitive advantages. Rather than simply asking whether a region has a particular industry, a value chain lens asks which parts of that industry the region performs well, which parts it imports, and where it has the greatest potential to grow.

A value chain is related to, but different from, a supply chain. A supply chain focuses on the flow of goods and materials. A value chain is broader, capturing every activity that contributes to a product's final value, including research, design, manufacturing, distribution, and service. Understanding both is essential to building a bioscience cluster that is resilient, competitive, and positioned for long-term growth.

### The Region's Value Chain

The bioscience value chain spans basic research through commercialization and post-market support. The Spokane–CdA region currently participates most actively at the basic research and clinical care ends of the chain, with limited presence in the translation, clinical development, and manufacturing segments. Strategic investment should focus on strengthening the translational and manufacturing portions of the chain, connecting the region's research assets to commercial output.

*Table 14. Spokane-CdA Bioscience Value Chain*

| Value Chain Stage | Regional Current State | Strategic Opportunity |
|---|---|---|
| Basic Research | Moderate – WSU, U of I, EWU, hospital research programs | Strengthen through CTR-D partnerships and NIH IDeA programs |
| Translational Research | Limited – few formal tech transfer mechanisms | EBIC, WARF-model partnership, university commercialization offices |
| Clinical Development | Limited – clinical trial capacity at major hospitals | Develop GCP-certified trial sites; leverage rural patient populations |
| Regulatory & Quality | Nascent – Katrina Rogers regulatory consulting presence | Build regulatory consulting ecosystem; partner with larger firms |
| Manufacturing (CMO/CDMO) | Present – Jubilant Hollister, ALK-Abello (proprietary mfr), pack-and-fill | Expand via reshoring; West Plains/S3R3 industrial development (WA) and emerging industrial sites in Post Falls, Rathdrum, and throughout northern Idaho (ID) |
| Distribution & Logistics | Strong – Spokane Airport, FedEx/UPS, rail | Market actively as regional distribution hub for bio products |
| Commercial & Market Access | Limited | Develop through commercialization support and investor networks |

The import dependency data from Section 4.2 makes the cost of these gaps concrete. The region is currently purchasing more than $165 million annually in pharmaceutical preparations, diagnostic substances, and surgical instruments from outside the region. Products that, in a stronger value chain, could be sourced locally or produced here for export.

Distribution and logistics is the most underutilized asset in the chain: Spokane's hub position serving eastern Washington, northern Idaho, Montana, and western Canada is a genuine competitive advantage that has not been actively marketed to bioscience companies. Manufacturing is the highest-leverage growth target, with Jubilant HollisterStier and ALK-Abello already proving the model works at scale.

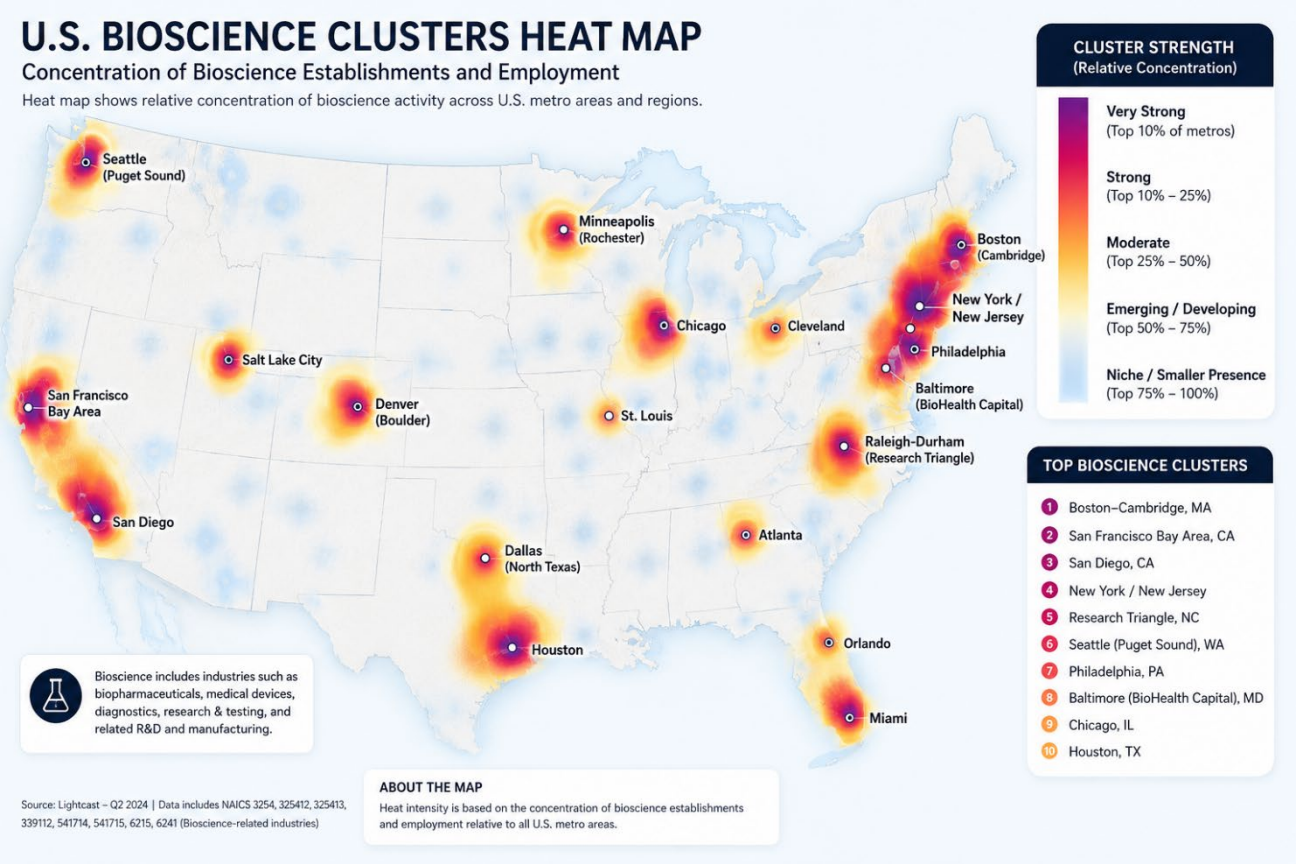
Connecting these strengths (logistics, manufacturing capacity, hospital infrastructure, and a growing research base) is the clearest path from where the region is today to where it needs to be. The strategic priorities are the same ones that run throughout this report: protect the base, accelerate the growers, and capture the reshore opportunity before competing regions do.

# 5 Competitive Landscape

## 5.1 Major U.S. Bioscience Clusters

Figure 3 highlights the distribution of leading bioscience clusters across the United States and provides context for understanding the development trajectory of emerging regions. Mature clusters such as **Boston–Cambridge, the Bay Area, San Diego, and Research Triangle Park** have evolved over decades through sustained investment in research institutions, workforce development, healthcare systems, and innovation infrastructure, offering valuable lessons for developing bioscience ecosystems such as Spokane–CdA.

*Figure 3. U.S. Bioscience Clusters*




*Source: Lightcast Q1 2026 Data Set*

The U.S. bioscience landscape is dominated by a small number of major metropolitan clusters where resources, talent, capital, and institutional anchors have concentrated over decades. These clusters are ranked by a combination of NIH funding, venture capital investment, patents, lab space, and employment:

*Table 15. Top U.S. Bioscience Clusters*

| Rank / Region | NIH Funding | VC Funding | Key Strengths |
|---|---|---|---|
| #1 Boston/Cambridge, MA | $2.457B (4,735 awards) | $6.2–$6.8B | Harvard, MIT; Moderna, Biogen; #1 in lab space (26.8M sq ft) |
| #2 San Francisco Bay Area, CA | $1.416B (2,951 awards) | ~$10B | Biotech-AI integration; Genentech, Gilead; leads in patents (11,163) |
| #3 New York/New Jersey | $2.067B (4,200 awards) | $1.076B | Largest employment (130,393); Teva, Regeneron, Pfizer |
| #4 BioHealth Capital (MD/VA/DC) | $1.456B (3,103 awards) | $944M–$1.1B | NIH/FDA anchor; Johns Hopkins; 4,943 biotech patents |
| #5 San Diego, CA | $823M (1,554 awards) | $1.1B | UCSD, Scripps; genomics; Illumina; 52% job growth 2001–2016 |
| #6 Greater Philadelphia, PA | $886M (1,928 awards) | $772M | Gene therapy; Spark Therapeutics; 56,452 jobs |
| #7 Research Triangle, NC | $1.027B (1,831 awards) | $480M | RTP model; Duke, UNC, NC State; 63,000+ statewide jobs |
| #9 Seattle, WA | $843M (1,328 awards) | $372M | UW IPD (Nobel); Fred Hutch; AI-biotech; 36,102 jobs |

*Source: GEN Top 10 U.S. Biopharma Clusters (2018); Cushman & Wakefield Life Sciences 2024; JLL Life Sciences 2024*

A defining trend in the U.S. bioscience landscape has been the concentration of resources (NIH funding, venture capital, and lab space) into a small number of established mega-clusters. This consolidation has made it difficult for emerging markets to compete directly, but it has also created overflow demand, rising costs, and talent saturation in primary hubs that are now pushing activity toward secondary and emerging markets.

## 5.2 Global Bioscience Hubs

Globally, Boston/Cambridge and the San Francisco Bay Area lead by a substantial margin, followed by Basel-Zurich-Geneva (Switzerland), London-Cambridge-Oxford (UK), and rapidly ascending hubs in Shanghai, Singapore, and Seoul. Global R&D investment is growing fastest in China (+18% annually), Singapore (+15%), and Europe (+12%), compared to the United States at approximately

+6%. This international competition for bioscience leadership is a key motivation for maintaining and expanding U.S. domestic investment in research and manufacturing infrastructure.

## 5.3 Aspirational Emerging Bioscience Markets

For strategic positioning purposes, the Spokane–CdA region is best compared with mid-sized emerging bioscience markets that have successfully developed niche strengths. The most instructive comparisons are:

### Rochester, Minnesota

Rochester's bioscience success is anchored by the Mayo Clinic's deeply integrated medical research ecosystem. The city has built a highly specialized, patient-centered biotech cluster around Mayo's clinical expertise. For Spokane–CdA, the lesson is the power of a single, world-class anchor institution and the opportunity to develop a similar, if smaller-scale, hub around the region's hospital systems and WSU College of Medicine.

### Boulder, Colorado

Boulder has built a thriving biotech ecosystem through a combination of University of Colorado research capacity, proximity to Denver's venture capital market, high quality of life attracting talent, and well-developed co-working and lab infrastructure. Boulder retains talent through startup culture and livability, a model highly applicable to Spokane–CdA, which shares quality-of-life advantages and proximity to a larger market (Seattle).

### Madison, Wisconsin

Madison's success is built on the Wisconsin Alumni Research Foundation (WARF) model of technology transfer and commercialization from the University of Wisconsin-Madison. Strong state-supported programs, private investment networks, and deliberate IP commercialization have created a robust startup ecosystem. The Spokane–CdA region would benefit from developing a similar commercialization pipeline connecting WSU, Gonzaga, and University of Idaho research to market.

### Research Triangle Park, North Carolina

Research Triangle Park (RTP) is the gold standard for a university-industry corridor cluster and offers the most instructive lessons for regional coalition building. RTP succeeded through deliberate coordination among Duke University, UNC-Chapel Hill, and NC State; a dedicated innovation park with purpose-built infrastructure; strong state government investment; and decades of patient capacity building.

In early 2026, analysis of North Carolina's Research Triangle confirmed $10.8 billion in life sciences manufacturing investments in 2024 alone, from Novo Nordisk, Johnson & Johnson, and Fujifilm, with additional major commitments from Biogen, Genentech, and AbbVie announced in 2025 and 2026. The pace of capital flowing into an already well-resourced secondary market underscores how quickly the competitive landscape for emerging regions is shifting. While Spokane–CdA is decades behind RTP's trajectory, the early-stage cluster building strategies, particularly the 'Inland Northwest Biotech Corridor' concept, are directly applicable.

### Spokane–CdA Competitive Advantage

The Spokane–CdA region's competitive advantages within the bioscience landscape are real but require deliberate cultivation:

- **Cost Advantage:** Significantly lower real estate, labor, and operating costs than Seattle, Portland, or any top-10 bioscience cluster. This is a genuine draw for cost-conscious startups, biomanufacturers, and companies seeking secondary R&D or manufacturing sites.
- **Quality of Life:** Outdoor recreation, affordable housing, family-oriented communities, and cultural amenities make the region competitive for talent recruitment and retention against larger, more expensive markets.
- **Cross-Border Integration:** The Spokane, Washington/CdA, Idaho dual-market creates a broader labor shed, tax structure flexibility, and access to incentives from two states.
- **Idaho Competitive Advantage:** Idaho's no-inventory tax, competitive corporate income tax rate, lower land and utility costs, and streamlined permitting make it an attractive location for manufacturers who need room to scale. Washington contributes research infrastructure, healthcare depth, and institutional partnerships. Together they offer more than either state could offer alone.
- **Proximity to Seattle:** The region benefits from proximity to one of the world's top AI-biotech ecosystems without paying Seattle's costs. This enables satellite office strategies, shared talent pipelines, and research collaborations.
- **Agricultural Biotechnology Alignment:** No other major bioscience cluster has the same alignment with agricultural production and processing. The region's agri-biotech opportunity is genuinely differentiated.
- **Development-Ready Industrial Land:** S3R3's West Plains Airport Area offers permitted, infrastructure-ready industrial land adjacent to a major airport. This dramatically reduces development risk and timeline for regulated bioscience industries. The Idaho side of the two-state market offers complementary industrial development opportunities, including large industrial sites in Post Falls, Rathdrum, and across northern Idaho that combine Idaho's competitive business climate, lower land costs, and available acreage for larger-footprint bioscience manufacturing and logistics operations.
- **Multi-Modal Logistics:** Spokane International Airport, major rail infrastructure, and trucking capacity provide logistics advantages for bioscience supply chain and distribution operations serving the broader Inland West.

# 6 Technological Trends

The U.S. bioscience and biotechnology sector stands at a transformative inflection point, characterized by the convergence of artificial intelligence, advanced gene editing, precision manufacturing, and digital health technologies. Ten critical technology trends are reshaping the industry and have direct implications for how the Spokane–CdA region positions its cluster development strategy.

## Artificial Intelligence and Machine Learning

AI is the single most disruptive technology in bioscience today. Three-quarters of surveyed life science companies have implemented some form of AI within the past two years. Applications span the entire bioscience value chain: drug target identification, molecular design, clinical trial optimization, real-world evidence analysis, manufacturing process control, and personalized medicine.

Washington State is positioned at the national forefront of AI-biotech integration. The University of Washington's Institute for Protein Design, directed by 2024 Nobel Prize in Chemistry laureate Dr. David Baker, uses AI to design novel proteins with unprecedented precision, generating spinout companies that have collectively raised hundreds of millions in venture capital. Fred Hutchinson Cancer Center's $40 million AI alliance with Microsoft and NVIDIA (2025) further anchors Washington's leadership.

The Spokane–CdA region has a directly relevant asset in this space. Dr. John Shovic, Director of the Center for Intelligent Industrial Robotics (CIIR) at the University of Idaho's Coeur d'Alene campus, leads applied research in AI, machine learning, and industrial automation working with companies to improve manufacturing productivity, analyze defects, and minimize plant shutdowns. The Center operates laboratories on the Coeur d'Alene campus and partners with industry on automation, machine vision, and AI-driven manufacturing applications. For the bioscience cluster, where process consistency, defect detection, and production efficiency are non-negotiable, this work is directly applicable. The CIIR is also producing credentialed graduates through Idaho's first industrial robotics certificate programs, building a local talent pipeline for the advanced manufacturing roles the cluster needs most. Prospective bioscience manufacturers evaluating the region should be made aware of this asset as part of any site selection conversation

For Spokane–CdA, the opportunity lies not in replicating the UW IPD model but in accessing its outputs. The region's universities can develop specialized bioinformatics and AI-health data science programs that serve regional healthcare systems, agricultural biotechnology applications, and companies relocating or establishing satellite operations in the region.

## CRISPR and Advanced Gene Editing

CRISPR-based therapeutics have moved decisively from laboratory to clinic. As of August 2025, the FDA had approved 46 cellular and gene therapy products. The commercial ecosystem around CRISPR is substantial: 359 active companies have raised $84.5 billion in total disclosed funding, and the global market is projected to reach $8.5 billion by 2027 (34% CAGR). Next-generation editing tools—base editing (Beam Therapeutics) and prime editing (Prime Medicine)—are generating their first human efficacy data.

While Spokane–CdA does not currently host gene editing companies, the emerging regulatory pathway for personalized CRISPR therapies, including the FDA's new 'plausible mechanism' approval pathway, creates opportunities for clinical trial sites with specialized cell therapy manufacturing capabilities. WSU's biomedical research programs and the proposed Evergreen Bioscience Innovation Cluster wet lab facilities are early steps toward building this capability.

## Biomanufacturing and Advanced Manufacturing Technologies

Biomanufacturing has emerged as a national security and economic priority. The $480 billion+ wave of domestic biopharmaceutical manufacturing investment represents the largest sustained manufacturing investment in the sector's history. Advanced manufacturing technologies (single-use bioreactors, continuous bioprocessing, real-time process analytics, and AI-driven quality control) are reducing the capital intensity and minimum efficient scale of biomanufacturing facilities, making mid-scale operations in secondary markets increasingly viable.

The industrial bioeconomy (biomanufacturing excluding food, beverages, and pharmaceuticals) supported nearly 644,000 domestic jobs and contributed $210 billion to U.S. GDP in 2023. Each direct biomanufacturing job generates approximately 11 additional indirect and induced jobs, a multiplier that far exceeds most other manufacturing sectors. This makes biomanufacturing one of the highest-impact economic development targets available to a region like Spokane–CdA.

## Precision Medicine and Personalized Healthcare

Precision medicine (tailoring treatments to individual patients based on genetic profiles, biomarkers, and clinical data) is a major growth driver for both pharmaceutical development and healthcare delivery. The integration of genomic sequencing, proteomics, and AI-driven data analysis is enabling increasingly personalized treatment approaches. For Spokane–CdA, this trend creates opportunities in clinical data infrastructure, biomarker testing services, and rural health innovation, which are areas where the region's hospital systems and university programs are positioned to contribute.

## Digital Health and Health Information Technology

The integration of digital technologies into healthcare delivery (electronic health records, telemedicine, remote patient monitoring, AI-assisted diagnostics, and predictive analytics) represents a rapidly growing segment with lower barriers to entry than traditional bioscience manufacturing. Spokane's growing technology sector and the region's role as a healthcare hub for a large, geographically dispersed population (including significant rural and frontier communities) create natural demand for digital health innovation.

## Talent Requirements for Emerging Technologies

The technology trends reshaping bioscience require a workforce with interdisciplinary skills spanning biological sciences, data science, engineering, and regulatory expertise. Critical talent needs include biomanufacturing technicians, bioinformaticians, clinical research coordinators, quality assurance and regulatory affairs specialists, data scientists with life sciences domain knowledge, and AI/ML engineers with bioscience applications experience. The Spokane–CdA region's educational institutions are beginning to develop programs in these areas, but alignment between curriculum and industry needs requires active partnership and ongoing investment.

# 7 Risk Assessment & Regulatory Environment

The U.S. bioscience industry confronts an unprecedented convergence of policy disruptions that fundamentally alter risk assessment frameworks and regulatory predictability. These disruptions are not isolated events but interconnected structural shifts with compounding effects:

## NIH Funding Disruption

The proposed FY 2026 NIH budget represents a 40% reduction from current levels, cutting $20.5 billion in biomedical research funding and reducing research grant success rates from 18.5% to 7.3%. The proposed 15% cap on facilities and administrative (indirect) cost reimbursements, though temporarily blocked by federal injunction, would strip an estimated $5.24 billion annually from research institutions. The University of Washington School of Medicine alone faces potential annual losses of $90 million. Fred Hutchinson Cancer Center has already lost more than $508 million in unspent grant funding through grant terminations.

Economic modeling estimates that the indirect cost policy alone would reduce economic activity by more than $16 billion and eliminate approximately 70,000 jobs nationally. Each dollar of publicly funded basic research has historically stimulated an additional $8.38 in private sector R&D investment over eight years, making these cuts not just a research loss but a long-term innovation pipeline disruption.

## Pharmaceutical Tariffs

The Trump Administration implemented a multi-tiered tariff structure throughout 2025, culminating in a 100% tariff on branded pharmaceutical imports effective October 1, 2025, and 25% tariffs on APIs from China and 20% from India. Combined, these tariffs are inflating API costs by 12–20% and are projected to add up to $51 billion in annual industry costs at a 25% tariff level. Approximately 90% of U.S. biotech firms depend on foreign suppliers for at least half their products, and 80% require at least 12 months to identify alternative sources.

## FDA Capacity Degradation

Approximately 3,500 FDA staff departures have measurably degraded regulatory performance: De Novo device classifications have dropped 50%, new drug review approval rates have fallen to half of normal, PDUFA deadline compliance has declined from 95% to 75%, and average review timelines have extended by six months. The loss of experienced, senior reviewers creates knowledge gaps that take years to rebuild. For early-stage biotechs, extended regulatory timelines can be existential and can burn limited cash reserves while awaiting agency action.

## 7.1 Regulatory Framework Analysis

The regulatory environment for bioscience is undergoing simultaneous deregulatory and capacity-reduction changes that create paradoxical uncertainty:

- **Deregulatory Initiatives:** FDA Commissioner Makary has announced several policy shifts including a move from two to one pivotal trial as the default for many drugs, phasing out mandatory animal testing for monoclonal antibodies in favor of AI models and organoids, easier use of real-world evidence, and streamlined pathways for cell and gene therapies. These changes can lower development costs and timelines for companies prepared to take advantage of them.
- **Capacity Loss:** Simultaneously, the staffing reductions described above have made it harder for companies to receive timely guidance, schedule meetings, and predict approval timelines. The contradiction between deregulatory intent and operational capacity creates planning uncertainty.
- **User Fee Program Risk:** Prescription Drug User Fee Act and other user fee programs fund approximately 45% of FDA's budget. If congressional appropriations fall below statutory trigger thresholds (made more likely by current budget dynamics), FDA would be legally required to refund collected user fees, potentially halting most review activities.
- **BIOSECURE Act:** The December 2025 BIOSECURE Act bars federal agencies and their contractors from using services from designated Chinese biotechnology firms (BGI, WuXi groups), forcing significant supply chain and contract restructuring.

## 7.2 Risk Assessment: Spokane–CdA Regional Implications

The national policy disruptions create a differentiated risk landscape for the Spokane–CdA region:

### Risks

- **Federal research funding** reductions disproportionately affect institutions in emerging research markets like Idaho, which depend on Institutional Development Award (IDeA) program support to build baseline research capacity. Idaho's $31.6 million NIH funding base is particularly vulnerable.
- **Reduced NIH funding** reduces the non-dilutive capital available to university spinouts and early-stage research companies in the region, increasing reliance on scarce private capital.
- **Regulatory unpredictability** extends development timelines and increases cash burn for any early-stage bioscience companies that emerge from the regional ecosystem.
- **Tariff-driven cost increases** affect regional bioscience companies that source inputs internationally, including research reagents, laboratory equipment, and API precursors.

### Opportunities

- The **reshoring** imperative creates demand for domestic contract manufacturing capacity which is directly addressed in the region's existing manufacturing infrastructure and development-ready industrial land.
- **Supply chain geographic diversification** creates openings for regional CMOs to capture business from companies exiting Chinese and other foreign manufacturing relationships.
- The **BIOSECURE Act** creates compliance urgency that may accelerate decisions to establish domestic manufacturing alternatives. Regions with development-ready sites and clean regulatory records are positioned to move quickly.
- **FDA deregulatory initiatives**, if successful, could reduce development costs and timelines for regional biotech startups, partially offsetting capacity-related delays.

## 7.3 Economic and Geopolitical Risk Summary

Beyond policy disruption, the broader economic and geopolitical risk landscape for bioscience includes intellectual property concentration risks, bioweapons and biosecurity concerns driving increased regulatory scrutiny of certain research activities, the risk of geopolitical conflict disrupting global supply chains, and emerging market competition from China, Europe, and Singapore. For the Framing the region as a secure, domestic alternative for bioscience manufacturing and services is a risk management strategy.

*Table 16. Risk Assessment & Regulatory Summary*

| Issue | Risk | Opportunity |
|---|---|---|
| **NIH Funding** | 40% budget cut proposed; grant success rates drop from 18.5% to 7.3%; Idaho's $31.6M base especially vulnerable | IDeA programs provide a protected funding pathway for emerging research states |
| **Pharmaceutical Tariffs** | API costs up 12–20%; up to $51B in annual industry costs; 90% of biotech firms dependent on foreign suppliers | Reshoring creates demand for domestic manufacturing and directly addresses regional CMO capacity |
| **FDA Capacity** | 3,500 staff departures; review timelines extended 6 months; PDUFA compliance down from 95% to 75% | Deregulatory reforms (such as, single pivotal trials, real-world evidence, streamlined cell/gene therapy pathways) reduce development costs for prepared companies |
| **BIOSECURE Act** | Supply chain restructuring costs and compliance burden for companies using Chinese biotech suppliers | Compliance urgency accelerates domestic sourcing decisions; regions with clean regulatory records and development-ready sites move to the front of the line |
| **Venture Capital** | 20-year low as % of startup investment; early-stage companies face most severe constraints | Non-dilutive capital (SBIR/STTR, EDA, IDeA) becomes more valuable and competitively differentiated |
| **Geopolitical Risk** | IP concentration risk; global supply chain disruption exposure | Domestic sourcing positioning frames Spokane–CdA as a secure, stable alternative for bioscience manufacturing and services |

Foreign direct investment represents an underutilized opportunity within this risk landscape. Foreign-based companies, particularly from Japan, South Korea, and Southeast Asia, that are seeking a U.S. presence may find the Spokane-CdA region an attractive entry point. Close enough to benefit from the Seattle biotech hub, yet far enough to offer lower costs and a less congested operating environment, the region is well-positioned to support international companies establishing a U.S. subsidiary. The West Plains Airport Area, managed by S3R3 Solutions, operates within a designated Foreign Trade Zone, offering foreign investors meaningful customs and tariff advantages that are not available in most competing secondary markets.

The Idaho side of the region gives companies additional choices—more available land, competitive costs, and a business climate that makes permitting and development straightforward. Kootenai County, in particular, has room for the kind of larger-footprint manufacturing that is harder to find on the Washington side.

For companies navigating the political and operational complexity of setting up in a top-tier hub, Spokane-CdA offers a supportive, high-visibility emerging market where early movers are welcomed, infrastructure is in place, and the regulatory and logistical environment actively supports international business.

# 8 SOAR Assessment

The SOAR Assessment (Strengths, Opportunities, Aspirations, and Results) was developed through structured stakeholder interviews, working sessions, and review of existing stakeholder-generated documents, supplemented by secondary research. Participants represented a cross-section of the regional bioscience and health ecosystem, including pharmaceutical companies and contract manufacturers, biotech startups and early-stage ventures, medical device and pack-and-fill manufacturers, four-year universities and community colleges, healthcare systems and hospital leadership, workforce development organizations, and innovation ecosystem support organizations. Organizations represented include ALK-Abello, Jubilant HollisterStier, Providence Healthcare, Photon Biosciences, Spokane Colleges, Greater Spokane Incorporated, the Evergreen Bioscience Innovation Cluster, Vitalant, Northwest Specialty Hospital, S3R3 Solutions, and the Eastern Washington Area Health Education Center, among others.

## 8.1 Strengths

### Educational and Research Infrastructure

- WSU Spokane's Elson S. Floyd College of Medicine brings physician training, health sciences research, and clinical faculty to the heart of the region.
- Multi-university collaboration across WSU, Gonzaga, University of Idaho, EWU, and Whitworth creates breadth of scientific talent and research capacity uncommon in a market this size.
- The Spokane University District (U-District) physically co-locates multiple institutions in downtown Spokane, enabling interdisciplinary collaboration and industry partnership.
- WSU's Process Pilot Plant and the University of Idaho's Food Technology Center provide specialized biomanufacturing and agricultural bioprocessing infrastructure that directly supports the region's agri-biotech opportunity.

### Healthcare Ecosystem

- Spokane is the largest healthcare hub between Seattle and Minneapolis, anchored by Providence Sacred Heart Medical Center, MultiCare Health System, and Northwest Specialty Hospital.
- Kootenai Health in Coeur d'Alene serves as the northern Idaho anchor. Kootenai Health's membership in the Mayo Clinic Care Network brings national clinical protocols, research collaboration opportunities, and credibility to the region's clinical research positioning. Rapid population growth across Kootenai County and surrounding northern Idaho communities is increasing demand for healthcare services and expanding the patient population available for clinical research.
- Vitalant, a regional blood center with biotech research capabilities, and EWAHEC (Eastern Washington Area Health Education Center) contribute additional research capacity and workforce development.

- Stakeholders consistently described this hospital ecosystem as a foundation for clinical research, medical device demand, and diagnostic services, not just a healthcare delivery system.

## Innovation Infrastructure

- The Evergreen Bioscience Innovation Cluster (EBIC) was repeatedly cited by stakeholders as the region's most targeted bioscience support organization, providing wet lab space, mentoring, and access to non-traditional capital.
- The University of Idaho Research Park in Post Falls represents an emerging Idaho-side innovation infrastructure asset that could provide near-term capacity for bioscience startups and research spinouts looking for affordable lab access on the Idaho side of the border.
- Ignite Northwest and LaunchPad INW extend startup support more broadly across the regional innovation ecosystem.
- S3R3 Solutions manages the West Plains Airport Area as a development-ready industrial district adjacent to Spokane International Airport. Stakeholders specifically noted that larger bioscience clusters in major cities suffer from a lack of available commercial land, and that S3R3 directly solves this problem for the region.
- Complementary industrial development opportunities on the Idaho side of the border, including sites in Kootenai County, further expand the region's available industrial land inventory and offer the added advantage of Idaho's business-friendly regulatory and tax environment.
- Greater Spokane Incorporated, the CdA Area Economic Development Corporation, and the Northwest I90 Manufacturing Alliance provide coordinated economic development and industry partnership support across both states.

## Logistics and Location

- Spokane International Airport serves more than 4 million passengers annually with direct service or single-connection access to most major U.S. cities. FedEx and UPS distribution facilities adjacent to the airport.
- Spokane functions as a major multi-modal freight hub (air, rail, and truck) providing one-day freight access to Seattle and Portland and serving a multi-state region.
- The Spokane–CdA 30-minute geographic integration creates an effective two-state market with access to workforce, incentives, and institutions across Idaho and Washington.
- Stakeholders consistently cited logistics infrastructure as a competitive advantage for supply chain and distribution operations.

## Cross-Border Collaboration Model

- Unlike most emerging bioscience markets, the Spokane–CdA region has adopted a trading zones approach modeled on European cross-border regional collaboration, multiplying its effective resources across economic development organizations, workforce programs, educational institutions, and industry groups in both states.
- Several stakeholders explicitly invoked this model as the right framework for the region, contrasting it with the U.S. tendency to compete along city or state lines.
- Stakeholders viewed this collaboration model as a genuine competitive advantage, not just an organizational preference.

## 8.2 Opportunities

### Near-Term Market Opportunities

- **CMO and CDMO reshoring:** Jubilant HollisterStier and other regional contract manufacturers are positioned to capture business from companies restructuring away from Chinese manufacturers. Stakeholders identified this as requiring immediate outreach and marketing, not long-term infrastructure development.
- **Agri-Biotechnology:** The region's agricultural base (wheat, hops, legumes, timber, and food processing) creates a differentiated opportunity that no major bioscience cluster can replicate. ALK-Abelló's Post Falls facility, which grows and processes biological source materials for allergy immunotherapy products on nearly 1,000 acres of regional farmland, is proof that this model already works here at commercial scale.
- The region's agricultural base creates a natural opening to supply **aerospace** manufacturers with bio-based materials, which are lighter and more environmentally friendly alternatives to conventional synthetic materials used in aircraft and aerospace components.
- **Idaho CTR-D Program:** The new $10.7 million NIH grant and as a Mayo Clinic Care Network member, Kootenai Health and regional institutions bring additional clinical credibility and access to Mayo's research and protocol resources and to develop clinical research infrastructure connected to the national network of clinical trial sites.
- **Growing secondary market** interest from companies priced out of primary clusters creates a window for the region to position itself as a cost-effective, development-ready alternative.
- **Proximity to Seattle**'s AI-Biotech ecosystem represents a meaningful technology transfer and talent pipeline opportunity that remains underutilized, including the UW Institute for Protein Design, Fred Hutchinson's Microsoft and NVIDIA partnerships, and Adaptive Biotechnologies.
- **Rural Health Innovation:** The region's role as a healthcare hub for a large rural population creates a differentiated clinical research and health technology opportunity, particularly for rural health innovation programs and telehealth infrastructure.
- **Foreign direct investment:** Companies from Japan, South Korea, and Southeast Asia seeking a U.S. presence could find the Spokane-CdA region an attractive entry point. The proximity to Seattle's biotech ecosystem, but far enough to offer lower costs, available land, and a supportive emerging market environment. The West Plains Airport Area's Foreign Trade Zone designation adds a meaningful advantage for international companies, offering customs and tariff benefits not available in most competing secondary market.
- **DoD** Distributed Bioindustrial Manufacturing Program (MEMBR): The Department of Defense's MEMBR program, running through fiscal year 2028, offers awards up to $100 million over five years for domestic biomanufacturing capacity. The program's focus areas include food, fuel, fabrication, fitness, and firepower, which align directly with the region's agricultural base, existing manufacturing infrastructure, and CMO capabilities. Regional companies and institutions are eligible to compete through the Defense Industrial Base Consortium (DIBC), making this one of the most accessible near-term federal funding opportunities available to the cluster.

### Gaps That Must Be Addressed

- **Workforce** supply was the most consistently cited constraint across all bioscience sub-sectors, with regional graduates facing active competition from Seattle and national hubs.
- **Access to early-stage capital** is limited compared to the Seattle ecosystem. The region lacks an established life sciences-focused investor network.
- **Wet lab and pilot manufacturing infrastructure** is insufficient to support a growing startup ecosystem. EBIC's new headquarters is an important step, but additional shared lab capacity is needed.
- **Commercialization** pipelines from university research to market are underdeveloped compared to models like WARF in Wisconsin or UW's CoMotion program.
- A broader **regional regulatory consulting ecosystem** is needed to support biotech startups navigating FDA pathways. The foundation exists but needs to be built out.
- **Earlier engagement** of high school and community college students through CTE programs in bioscience-adjacent fields is needed, as students are increasingly opting out of traditional four-year paths.

## 8.3 Aspirations

- Become a recognized Inland Northwest center of excellence for biomanufacturing and contract manufacturing, attracting companies reshoring from China and other foreign markets.
- Establish the Spokane–CdA region as the nation's leading agri-biotech hub, leveraging WSU and University of Idaho agricultural programs alongside the region's production base.
- Develop a formalized Inland Northwest Biotech Corridor with dedicated wet lab, pilot manufacturing, and co-working infrastructure that provides a complete environment for bioscience startups to form, develop, and scale
- Build a clinical trial network connecting Kootenai Health (Mayo Clinic Care Network), Providence Sacred Heart, MultiCare, Northwest Specialty Hospital, and the Healthy Idaho CTR-D program into a recognized regional clinical research platform
- Achieve economic development parity with comparable emerging bioscience markets (Boulder, Rochester, Madison) within a 10- to 15-year horizon.
- Create a self-sustaining talent pipeline in which regional universities produce graduates who can build competitive bioscience careers locally, reversing the current pattern of talent export to Seattle and other major markets.

### Structural Initiatives Identified by Stakeholders

- Establish a formal Bioscience Advisory Council to provide ongoing industry guidance to economic development organizations and educational institutions.
- Develop a regional bioscience brand identity )the Inland Northwest Biotech Corridor or similar) to improve visibility and attract companies, talent, and investment.
- Build a dedicated life sciences investor network modeled on the Spokane Angel Alliance with a bioscience focus.

- Launch an active CMO and CDMO marketing campaign targeting companies restructuring supply chains away from China, highlighting S3R3, existing manufacturers, and regional logistics advantages.
- Develop a broader regional regulatory consulting ecosystem, building on the region's existing regulatory expertise, to support early-stage biotech companies navigating FDA pathways.
- Establish a dedicated regional bioscience director position—a single point of contact and source of accountability for all bioscience cluster development activity in the Spokane-CdA region. The governance model for this position warrants further stakeholder discussion, with two leading options: housing the director within Greater Spokane Incorporated, reporting directly to the CEO, with CdA EDC, EBIC, WSU, and the University of Idaho as formal partners; or anchoring the position within EBIC, which already has a dedicated bioscience mission and would provide a more specialized institutional home. Either model should be structured to move the cluster from organic, incremental growth to coordinated, exponential development, with the director responsible for prospect outreach, incumbent firm relationships, state and federal funding pipelines, and regional brand management. The Health Sciences and Services Authority of Spokane County (HSSA) is strategically important in either model, as it can continue filling early translational funding gaps that private investors typically will not cover in emerging markets.

## 8.4 Results (Targets and Metrics)

- 10 new bioscience company establishments in the region within 5 years, with a focus on CMO/CDMO, agri-biotech, and medical device manufacturing.
- 500 new direct bioscience jobs within 5 years, leveraging the employment multiplier to generate an estimated 5,500 additional indirect and induced jobs.
- $50 million in new bioscience capital investment (private and public) within 5 years.
- A dedicated bioscience incubator and wet lab facility with a minimum of 10,000 square feet of shared lab space within 3 years.
- Formal partnership agreements between at least 3 regional universities and 5 bioscience industry partners within 2 years.
- Participation of at least 2 regional hospital systems in at least 5 clinical trials per year within 3 years.
- Development and launch of at least 2 new bioscience-aligned workforce training programs at community colleges within 3 years.

The full stakeholder participant list and detailed engagement notes can be found in the Appendix.

KEY HIGHLIGHTS

**The region has a credible foundation - and a clear path forward.**

**Strengths**
- Multi-university research ecosystem across WSU, U of I, Gonzaga, EWU, LCSC, and Whitworth
- Largest healthcare hub between Seattle and Minneapolis
- Available industrial land with Foreign Trade Zone designation
- Cross-border trading zones model multiplies regional assets across two states
- Anchor primary and contract manufacturers

**Opportunities**
- CMO/CDMO reshoring — immediate outreach opportunity, not long-term infrastructure
- DoD MEMBR program — awards up to $100M for biomanufacturing, open now through FY2028
- Foreign direct investment from Japan, South Korea, and Southeast Asia
- Idaho CTR-D Program connecting Kootenai Health to national clinical trial network
- Agri-biotech — a differentiated opportunity no major bioscience cluster can replicate

**Aspirations**
- Recognized Inland Northwest center of excellence for biomanufacturing and CMO services
- Nation's leading agri-biotech hub
- Formalized Inland Northwest Biotech Corridor with wet lab and pilot manufacturing infrastructure
- Dedicated bioscience director — one front door for investors, prospects, and partners
- Economic parity with Boulder, Rochester, and Madison within 10–15 years

**Results (5-year targets)**
- 10 new bioscience company establishments
- 500 new direct bioscience jobs — generating ~5,500 indirect and induced jobs
- $50 million in new bioscience capital investment
- 10,000+ sq ft dedicated bioscience incubator and wet lab within 3 years
- 2+ new bioscience workforce training programs at community colleges

# 9 Actionable Implementation Framework

## 9.1 Summary of Findings

The Spokane–Coeur d'Alene region possesses a genuine and distinctive opportunity to develop a competitive bioscience and health industry cluster. It is not positioned to compete directly with Boston, San Francisco, or Seattle for large-scale biopharma headquarters or major research institute investment. It is, however, positioned to become the leading bioscience hub of the Inland Northwest, and a nationally recognized center of excellence in targeted niches, if it pursues a deliberate, well-resourced, and sustained cluster development strategy.

The evidence base supporting this assessment includes a large, rapidly growing global bioscience market with strong demand for domestic manufacturing and diversified supply chains; a national policy environment that, despite significant headwinds for the overall industry, creates specific openings for domestic secondary markets; a Washington State life sciences ecosystem of genuine national significance that the region is adjacent to and increasingly connected with; an Idaho bioscience sector that is budding but gaining critical infrastructure investment; and a regional foundation of universities, hospitals, innovation organizations, and logistics infrastructure that is more developed than its modest national profile suggests.

The region's most realistic and highest-impact bioscience opportunities are in biomanufacturing and CMO/CDMO services; agricultural biotechnology; medical device and diagnostic manufacturing; rural health innovation and clinical research; health technology and bioinformatics; and environmental

biotechnology. These niches are accessible, differentiated, and aligned with the region's existing assets.

## 9.2 Strategic Priorities

The implementation framework is organized around four strategic priorities, informed by stakeholder engagement, market analysis, and the SOAR assessment. Stakeholders consistently emphasized the importance of formalizing the innovation ecosystem, concentrating resources on areas of genuine regional advantage, addressing the workforce pipeline, and activating the capital and partnership connections needed to move from potential to performance:

**Strategic Priority 1: Build and Formalize the Innovation Infrastructure**

*The region's innovation ecosystem is growing but fragmented. Formalizing it, through a dedicated bioscience incubator and wet lab, a formal Bioscience Advisory Council, a branded regional identity, and a broader regulatory consulting ecosystem, will accelerate its effectiveness and visibility. Stakeholders specifically identified the need to build on the region's existing regulatory consulting presence to create a support structure that helps early-stage biotech companies navigate FDA pathways without having to go outside the region for guidance.*

*A critical structural gap the region must address is the absence of a single point of contact for all things bioscience. Until there is one person or entity with clear accountability for coordinating prospects, managing relationships with incumbent firms, and driving the regional brand, growth will remain organic rather than exponential. The distinction matters: organic growth happens on its own timeline, while coordinated growth with a dedicated leader can compress a decade of development into a few focused years. Establishing this role, and deciding where it lives, is one of the most important early decisions the region will make.*

**Strategic Priority 2: Develop Niche Competitive Strengths**

*Concentrate cluster development investment in the areas of genuine regional advantage: biomanufacturing and CMO reshoring, agri-biotechnology, medical device manufacturing, and rural health innovation. Avoid diffusing resources across too many fronts. Stakeholders were direct on this point. The region does not need to be everything; it needs to be the obvious choice for a specific set of companies.*

**Strategic Priority 3: Grow the Talent Pipeline**

*Address the workforce supply gap through K–12 STEM investment, community college CTE programs, university curriculum alignment with industry needs, and active talent recruitment and retention strategies. Stakeholders emphasized a K-through-career framing, noting that students are increasingly opting out of traditional four-year paths and that CTE programs in bioscience-adjacent fields represent an underutilized asset at both the high school and community college level.*

**Strategic Priority 4: Activate Capital and Partnerships**

*Develop public and foundation funding strategies through SBIR/STTR, EDA, and state programs. Build a regional life sciences investor network modeled on the Spokane Angel Alliance with a dedicated bioscience focus. Activate cross-regional partnerships with Seattle, the University of Washington, and other Pacific Northwest institutions to access technology transfer, talent pipelines, and co-investment opportunities.*

## 9.3 Actionable Implementation Plan

| Action Item | Lead Organization(s) | Timeline |
|---|---|---|
| Establish formal Bioscience Advisory Council with industry, university, and hospital representation | CdA EDC, GSI, EBIC | 0–6 months |
| Establish Bioscience Capital and Jobs Initiative governance structure; formalize MOU among GSI, CdA EDC, EBIC, WSU, U of I, hospital systems, and HSSA | GSI, CdA EDC, EBIC | 0–6 months |
| Launch Inland Northwest Biotech Corridor brand and marketing campaign targeting CMO/CDMO reshoring companies | GSI, CdA EDC, S3R3 | 0–12 months |
| Engage TechHelp Idaho as a resource for small and emerging bioscience manufacturers navigating GMP compliance, quality systems, and regulatory readiness | EBIC, CdA EDC | 0-12 months |
| Develop investor-grade regional bioscience pitchbook and verified asset inventory for reshoring, FDI, and domestic capital recruitment | GSI, CdA EDC, S3R3, EBIC | 0–12 months |
| Develop CMO/CDMO prospect list and outreach campaign targeting companies exiting Chinese manufacturing relationships | S3R3, GSI, CdA EDC | 0–12 months |
| Pursue DoD MEMBR/ Defense Industrial Base Consortium funding for biomanufacturing capacity | S3R3, GSI, EBIC, Industry | 0-12 months |
| Actively market West Plains Airport Area Foreign Trade Zone designation and Idaho industrial development sites to foreign direct investment prospects, particularly bioscience companies from Japan, South Korea, and Southeast Asia seeking a U.S. manufacturing presence | S3R3, GSI, CdA EDC | 0-12 months |
| Develop regional life sciences investor network modeled on Spokane Angel Alliance with bioscience focus | Spokane Angel Alliance, GSI, EBIC | 6–18 months |
| Pursue EDA Build Back Better/Regional Challenge grant for bioscience infrastructure | CdA EDC, GSI | 6–18 months |
| Submit joint SBIR/STTR applications targeting biomanufacturing and agri-biotech innovation | WSU, U of I, EBIC | Ongoing |

| Action Item | Lead Organization(s) | Timeline |
|---|---|---|
| Develop regional regulatory consulting ecosystem; engage existing regulatory practitioners as anchor | EBIC, GSI, industry | 6-18 months |
| Expand EBIC wet lab capacity to minimum 10,000 sq ft of shared lab space; identify funding sources | EBIC, WSU, EDC | 12–36 months |
| Activate Kootenai Health/CTR-D clinical trial site development; recruit pharma/biotech trial sponsors | Kootenai Health, CdA EDC | 12–24 months |
| Launch bioscience-focused CTE programs at Spokane Community College and North Idaho College | Spokane Colleges, NIC, industry | 12–36 months |
| Develop university commercialization pipeline (tech transfer, IP licensing, spinout support) | WSU, Gonzaga, U of I | 24–48 months |
| Establish formal MOU between WSU, Gonzaga, University of Idaho, and 5+ industry partners for bioscience workforce and research collaboration | Universities, EBIC, GSI | 12–24 months |
| Develop agri-biotech cluster strategy with University of Idaho and regional agricultural processors | U of I, CdA EDC, Ag sector | 12–36 months |
| Host inaugural Inland Northwest Bioscience Summit to establish regional visibility and stakeholder momentum | CdA EDC, GSI, EBIC | 12–18 months |
| Develop biomaterials-to-aerospace supply chain opportunity analysis and targeted business development | Northwest I90 Alliance, S3R3 | 18–36 months |

## 9.4 Positioning the Region: Key Messages

As the region develops its brand identity, the following key messages should anchor communications with prospective companies, investors, and talent:

- "The Inland Northwest's bioscience ecosystem offers the research and healthcare assets of a major market at the cost structure of a secondary market, with the quality of life that neither can match."
- “Northern Idaho offers a compelling combination of lower operating costs, available industrial land, favorable tax and regulatory conditions, and access to a growing skilled workforce. Combined with Spokane's research, healthcare, and educational assets, the two-state region offers a differentiated value proposition compared to larger and more expensive bioscience markets.”
- “Idaho is one of the fastest-growing states in the country. That growth translates into an expanding workforce, increasing housing supply, and a community that is actively building for the future. These are the conditions that give bioscience companies confidence in a long-term location decision.”
- "When you need domestic manufacturing capacity now, the West Plains Airport Area offers permitted, infrastructure-ready industrial land adjacent to a major airport and one point of contact and a fraction of the timeline of a primary market."

- “Kootenai County industrial sites offer additional options for larger-footprint manufacturing with Idaho’s competitive business climate.”
- "Our agricultural biotechnology opportunity is genuinely unique. No major bioscience cluster sits in the middle of one of North America's most productive agricultural regions. We do."
- "We are 30 minutes from Coeur d'Alene and 4.5 hours from Seattle. Close enough to access the Pacific Northwest's world-class biotech ecosystem, far enough to afford it."

## 9.5 Capital Strategy and Organizational Framework

This section summarizes two complementary strategies developed as part of this assessment.

### Building the Regional Capital Stack

The Spokane-CdA region's long-term bioscience success depends on assembling a layered capital strategy rather than relying on any single funding source. The most effective approach organizes capital into four vehicles working in sequence:

- A donor- and public-backed proof-of-concept pool to fund early translational work and customer validation (filling the gap that private investors typically will not cover in emerging markets). The Health Sciences and Services Authority of Spokane County (HSSA) is strategically important here, as it is already positioned to support early-stage translational funding.
- A regional angel seed fund, potentially developed in partnership with the Spokane Angel Alliance and Ignite Northwest, to help syndicate local early-stage rounds and make it easier for outside investors to participate alongside local capital.
- A growth-oriented strategic capital program to recruit partnerships with CDMOs, medtech manufacturers, agribusiness firms, and health systems that want a regional operating footprint.
- A facilities and infrastructure finance track to support wet labs, pilot production, and scale-up space through public-private partnerships and mission-oriented lenders.

The capital strategy should be designed around the region's actual strengths (biomanufacturing, diagnostics, devices, agri-biotech, and rural health innovation) rather than trying to attract speculative discovery-stage venture capital that flows to established coastal hubs. Many of the best local opportunities fit investors who value capital-efficient growth, industrial scale-up, and real-asset-backed expansion. Emerging hubs most often fail in the gap between grant funding and commercially useful scale capital. Before more founder programs are created, build the capital stack early. It is essential to avoiding that trap.

A ten-year campaign built around five core moves is recommended: forming a regional bioscience investment council, launching a unified investment-ready platform, developing the staged capital stack described above, recruiting anchor projects in manufacturing and diagnostics, and measuring performance by investment and job creation outcomes rather than event activity.

## Organizational Model: One Front Door

The region's current innovation ecosystem is strong but fragmented. Investors, prospects, and companies navigating multiple organizations without a clear point of entry experience the region as time-consuming and opaque. The evidence from comparable emerging clusters is consistent: durable growth depends on building one coordinating institution with clear accountability, not a loose coalition of well-intentioned partners.

The recommended model is a cross-border Washington-Idaho Bioscience Capital and Jobs Initiative: a permanent, professionally staffed platform with a mandate to grow local employers, create new firms, recruit domestic and foreign bioscience investment, and convert the region's institutional assets into private-sector payroll and capital formation. This is not a marketing committee. It is an operating entity with a shared scorecard, an investor-facing team, and one front door for anyone considering the region.

A practical governance structure would include a small professional staff led by a dedicated bioscience director, a public-private steering committee, and a private investor advisory group. The director position should carry direct accountability to the lead organization's CEO. Where this director is housed (within Greater Spokane Incorporated, within EBIC, or within a newly created cross-border entity) is a decision that warrants stakeholder deliberation, but the decision itself should not be deferred. Organic growth will continue without it; exponential growth will not.

The five core institutional partners should be Greater Spokane Incorporated, the CdA Area Economic Development Corporation, the Evergreen Bioscience Innovation Cluster, WSU Spokane, and the University of Idaho, with formal participation from hospital systems, HSSA, LaunchPad INW, and Idaho-side partners, such as TechHelp Idaho (provides subsidized consulting and grant access to help small manufacturers navigate compliance requirements, which is a practical resource for early-stage bioscience companies that need GMP readiness support but cannot yet afford full-time quality staff).

**The Washington-Idaho border should be presented as an operational advantage. Idaho's business climate, land availability, and manufacturing expansion flexibility make it the natural home for the cluster's larger-footprint biomanufacturing and industrial development activity, while Washington's institutional depth anchors the research, clinical, and innovation functions. Marketing this as a designed division of strengths, rather than a geographic accident, will make the region's pitch more compelling to site selectors and investors framed as a single economic platform with multiple location options rather than two jurisdictions competing for the same investors.**

The campaign should be organized into three layers. The first layer creates the coordinating machinery: governance, a shared data room, a verified asset inventory, and a formal memorandum of understanding among core institutions. The second layer packages the region into a small number of investable platforms (Inland Northwest Biomanufacturing, Diagnostics and Devices, AgBio, and Rural Health Innovation) each with a lead institution, target investors, and a three- to five-year capital roadmap. The third layer builds repetition and external proof through an annual investor summit, outbound roadshows to Seattle, the Bay Area, Boston, Minneapolis, and Salt Lake City, and a co-investment mechanism that allows outside investors to syndicate efficiently with local capital.

The most credible message to the market is straightforward: Spokane-CdA offers applied bioscience commercialization with lower cost, faster collaboration, cross-border operating flexibility, and real manufacturing pathways. The least credible message (and the one the region should deliberately avoid) is a generic claim to be the next major biotech hub.

KEY HIGHLIGHTS

## The opportunity is real. The foundation is in place. The window is open.

### ACT NOW

- Launch CMO/CDMO reshoring campaign
- Establish Bioscience Advisory Council
- Pursue DoD MEMBR funding through the Defense Industrial Base Consortium
- Launch Inland Northwest Biotech Corridor brand
- Activate FTZ-anchored FDI recruitment

### TWO STRUCTURAL PRIORITIES

- Build a layered capital stack — proof-of-concept funding through facility-scale project finance.
- Establish one dedicated bioscience director with clear accountability for the region's cluster development.
- Organic growth happens on its own timeline. Coordinated growth does not.

### WHY THIS REGION WINS

- Research universities, hospitals, and an anchor CMO — already in place
- Development-ready industrial land with Foreign Trade Zone designation
- Cross-border model few peer markets can replicate
- National disruptions creating a time-limited window for secondary markets to compete

The question is not whether this region can become a competitive Inland Northwest bioscience hub. It is whether the region will move fast enough to make it happen before the window closes.

# 10 Conclusion

The Spokane–Coeur d'Alene bioscience and health industry cluster assessment finds a region at an inflection point. The foundation is real. The opportunity is genuine. The national disruptions (reshoring, supply chain restructuring, the BIOSECURE Act, record drug shortages, and secondary market demand) are creating an opening that will not remain open indefinitely. The regions that act decisively in the next 24 to 36 months to formalize their innovation infrastructure, activate their niche competitive advantages, and build their capital and partnership networks will capture the bioscience economic development opportunities of the next decade.

The Spokane–CdA region sits at the intersection of three economic strengths that most emerging bioscience markets cannot claim: an established contract manufacturing base anchored by Jubilant HollisterStier that proves the model works at scale, one of the most productive agricultural regions in North America producing wheat, hops, legumes, barley, and timber that creates a natural agri-biotech foundation no coastal cluster can replicate, and the largest healthcare hub between Seattle and Minneapolis anchored by Providence Sacred Heart, MultiCare, and Kootenai Health with a growing clinical research network. These are not aspirations. They are assets already in place

The Spokane–CdA region has everything it needs to be one of those regions. Research universities, a multi-hospital healthcare ecosystem, an established contract manufacturing anchor in Jubilant HollisterStier, a proprietary biopharmaceutical manufacturer in ALK-Abelló (Post Falls, Idaho), development-ready industrial land at the West Plains Airport Area, additional industrial development opportunities on the Idaho side of the border, and a cross-border collaboration model that few peer markets can replicate. Together, these assets give the region a credible and differentiated pitch to companies, investors, and talent looking for an alternative to overbuilt, overpriced primary markets.

Several new opportunities have come into sharper focus through this assessment and deserve immediate attention. The Department of Defense's Distributed Bioindustrial Manufacturing Program (MEMBR) offers awards up to $100 million over five years for domestic biomanufacturing capacity, and the region's existing manufacturing infrastructure, agricultural base, and logistics advantages align directly with the program's focus areas. The window to engage the Defense Industrial Base Consortium and compete for early awards is now. The West Plains Airport Area's Foreign Trade Zone designation creates a meaningful advantage for foreign direct investment recruitment that has not been actively marketed, particularly to mid-sized companies from Japan, South Korea, and Southeast Asia seeking a U.S. manufacturing or commercialization foothold. And the region's emerging capital stack, anchored by HSSA's translational funding capacity, the Spokane Angel Alliance, and growing public funding pipelines, can be organized into a layered investment platform capable of supporting the full spectrum from early-stage proof of concept to facility-scale project finance.

Two structural priorities stand above all others. The first is assembling a serious, staged capital stack, not just pitch events and sporadic grants, but a layered system of proof-of-concept funding, angel syndication, growth capital, and infrastructure finance organized around the region's five strongest investable verticals: biomanufacturing, diagnostics and devices, agri-biotech, rural health innovation, and environmental biotechnology. The second is establishing a single point of contact and source of accountability for all bioscience cluster development activity in the region. Until one person or entity

holds clear responsibility for coordinating prospects, managing relationships with incumbent firms, driving the regional brand, and connecting the dots between universities, hospitals, manufacturers, and investors, growth will remain organic. Organic growth happens on its own timeline. Coordinated growth with a dedicated leader can compress a decade of development into a few focused years. The decision of where to house this director (within GSI, within EBIC, or within a newly created cross-border entity) warrants stakeholder deliberation. What should not be deferred is the decision itself.

This report recommends that the CdA EDC, GSI, EBIC, S3R3, and regional universities move immediately on the highest-leverage near-term actions: the CMO/CDMO reshoring campaign, the Bioscience Advisory Council, the EBIC wet lab expansion, the Inland Northwest Biotech Corridor brand launch, the DoD MEMBR funding pursuit, and the FTZ-anchored foreign direct investment recruitment track. These actions, executed in parallel within the next 12 months, will establish the momentum and credibility needed to attract the companies, capital, and talent that will define the region's bioscience future.

The opportunity is real. The foundation is in place. The window is open. The question is not whether this region can become a competitive Inland Northwest bioscience hub. It is whether the region will move fast enough to make it happen before the window closes.

KEY HIGHLIGHTS

## Three assets. Already in place. Rarely found together.

**Manufacturing base**

An established contract manufacturing base anchored by Jubilant HollisterStier (one of the largest bioscience employers in the region) proves the model works at scale. A diverse network of smaller manufacturers across medical devices, pack-and-fill operations, surgical supplies, and specialty fabrication rounds out the manufacturing ecosystem and demonstrates that bioscience production at multiple scales is already happening here.

- Sterile fill-finish and CMO/CDMO capabilities
- Development-ready industrial land at West Plains Airport Area
- Foreign Trade Zone designation
- Multi-modal freight hub — air, rail, and truck

**Agricultural base**

One of the most productive agricultural regions in the U.S. — an agri-biotech foundation no major bioscience cluster can replicate.

- Wheat, hops, legumes, barley, and timber
- WSU and U of I agricultural research programs
- Food processing and bioprocessing infrastructure
- Natural entry point for agri-biotech and biomaterials

**Health Care base**

The largest healthcare hub between Seattle and Minneapolis — a foundation for clinical research, medical device demand, and diagnostic services.

- Providence Sacred Heart, MultiCare, and Northwest Specialty Hospital
- Kootenai Health and the Healthy Idaho CTR-D Program
- 15,388 hospital jobs
- Growing clinical trial network across both states

# Appendix

## Bioscience & Health Industry Cluster Assessment Taxonomy

| NAICS | Description |
|---|---|
| **325411** | Medicinal and Botanical Manufacturing |
| **325412** | Pharmaceutical Preparation Manufacturing |
| **325413** | In-Vitro Diagnostic Substance Manufacturing |
| **325414** | Biological Product (except Diagnostic) Manufacturing |
| **334510** | Electromedical and Electrotherapeutic Apparatus Manufacturing |
| **334516** | Analytical Laboratory Instrument Manufacturing |
| **339112** | Surgical and Medical Instrument Manufacturing |
| **339113** | Surgical Appliance and Supplies Manufacturing |
| **339114** | Dental Equipment and Supplies Manufacturing |
| **339115** | Ophthalmic Goods Manufacturing |
| **339116** | Dental Laboratories |
| **423450** | Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers |
| **456110** | Pharmacies and Drug Retailers |
| **456191** | Food (Health) Supplement Retailers |
| **456199** | All Other Health and Personal Care Retailers |
| **541690** | Other Scientific and Technical Consulting Services |
| **541713** | Research and Development in Nanotechnology |
| **541714** | Research and Development in Biotechnology (except Nanobiotechnology) |
| **621511** | Medical Laboratories |
| **621512** | Diagnostic Imaging Centers |
| **622110** | General Medical and Surgical Hospitals |

# Regional Biotech Industry- Stakeholder Perspectives

Regional Stakeholders Speak To the Challenges and Opportunities in Building out a Thriving Ecosystem for Healthcare, Pharma, and Medical Device Manufacturing

## Summary

The regional biotech industry demonstrates robust growth across healthcare, pharmaceuticals, and medical device manufacturing. These market verticals are leveraging a thriving "U-District" based in downtown Spokane, where multiple higher education institutions are engaging in advanced research across the biotech spectrum, often in collaboration with the private sector.

While demand continues to outstrip supply in workforce across healthcare and biotech (a situation mirrored across the USA), we are seeing creative partnerships between industry and education to upskill and expand the talent pipeline.

Early-stage and start-up biotech firms are working to integrate innovative diagnostics and treatment solutions, while our pharmaceutical companies are focused on expanding their product pipelines, accelerating clinical trials, and increasing capacity. Medical device manufacturers are leveraging advancements in materials and digital technologies to improve product efficacy and factory output.

Clinical research efforts are steadily increasing but are somewhat muted compared to biotech clusters of similar size. More infrastructure is needed for this sector to reach its full regional potential.

## Stakeholder Backgrounds

To ensure a diverse base of viewpoints, we interviewed regional leadership from multiple sectors. Our participants came from pharma, biotech start-ups, medical manufacturing (including pack-and-fill), healthcare, and both 4-yr and 2-year post-secondary institutions. We sought to understand existing strengths in our area that could be further amplified, as well as identifying areas of opportunity where we need to improve hard/soft infrastructure to create better outcomes. In almost all cases, there was a strong consensus across the sub-sectors on both opportunities and challenges facing our region.

### Participants

| | |
|---|---|
| Alexa Eddy- Community relations, Jubilant Hollister | Cau Le, Director- IS Services, Providence Healthcare |
| Chandima Bandaranayaka, Founder, Photon Biosciences | Chris Henjum, Founder, Hydrafab |
| Erik Puthoff, Workforce training, Spokane Colleges | Erin Vincent, Workforce Development, Greater Spokane |
| Julie Parks, VP Workforce, Spokane Colleges | Katrina Rogers, Consultant, Medical Regulatory Practice |
| Laurianne Mullinax, Director- Medical Lab Sciences, Providence Healthcare | Meg Lindsay, Manager, Workforce Development, Providence Healthcare |

| | |
|---|---|
| Michaele Armstrong, Director, Evergreen Bioscience Innovation Cluster | Michael Martinez, Director, Vitalant |
| Mike Marzetta, President, Altek | Mark Norton, Director, Northwest I90 Manufacturing Alliance |
| Chris Pengra, Director- S3R3 Solutions | Elizabeth Brewer, Research Director, Kootenai Health |

# SOAR OVERVIEW

(Strengths, Opportunities, Aspirations, Results)

## *Strengths*

**Industry Infrastructure**

*Many current biotech clusters in larger cities suffer from lack of available commercial land and/or permitting times for new construction that can extend into months/years.*

*S3R3 Solutions serves as the coordinated development and delivery partner for healthcare, medical device, and life sciences manufacturing and logistics operations in the West Plains Airport Area of Spokane County. As the region's Public Development Authority, S3R3 aligns land, infrastructure, utilities, permitting, and partner coordination into a single, predictable pathway for project execution. This structure significantly reduces development risk and timeline uncertainty for regulated industries that depend on reliable utilities, scalable sites, and controlled production environments.*

*For medical and biotech companies, the West Plains offers a rare combination of development-ready industrial land, multimodal logistics access, and proximity to a multi-state healthcare market anchored by major hospital systems and medical education institutions. S3R3 connects companies directly to these regional assets while maintaining a cost structure well below major West Coast metros. The result is a practical platform for medical device manufacturing, pharmaceutical packaging, diagnostics support, and healthcare supply chain operations that need speed to market today and room to scale tomorrow.*

**Logistics**

*Spokane is a major logistics hub that services Eastern Washington, Idaho, Montana, Eastern Oregon, Easter B.C. and Alberta. It is located adjacent to the Spokane International Airport, serving more than 4 million passengers annually, with direct service or one connection to most major cities in the U.S. Major carriers include Alaska, Allegiant, American, Delta Frontier, Southwest and United. FedEx and UPS have major distribution facilities adjacent to the airport, and it is typically only one day for freight to be transported to major metropolitan areas like Seattle and Portland. In addition to air transport, Spokane is hosts multiple regional and national trucking firms, and is a major rail hub serving not only the U.S. but central Canada.*

**Innovation**

*The Spokane/Coeur d'Alene region is home to a vibrant innovation collective. Non-profit groups such as Ignite and LaunchPadINW actively seek to assist start-up and early stage companies by regular "shark tank" style peer reviews with entrepreneurs, as well as finding early stage funding through private investors, corporate entities, and angel investing groups.*

*In the case of nurturing the regional innovation economy, these start up groups work with non-profit industry groups like the Northwest I90 Manufacturing Alliance, that can help support early stage manufacturing, or groups like DreamFunders that provide long-term counseling and mentoring for first-time entrepreneurs. Public institutions like Whitworth, Gonzaga, University of Idaho,*

*Washington State university, and Eastern Washington University come alongside the private sectors in this effort as well.*
*This "innovation collective" has been steadily growing over the last decade and is seeing increasing support from regional economic development groups like Greater Spokane Inc, Spokane Valley chambers, Coeur d'Alene Economic Development and others.*
*The multiple education institutions- both in North Idaho and Eastern Washington- provide a fertile and highly respected pool of subject matter experts doing advanced research in biotech, ag tech, and advanced materials.*
*And most recently, the Evergreen Bioscience Innovation Cluster opened up a new headquarters in Spokane, with the specific mission of supporting biotech start-ups with web lab space, mentoring, and non-traditional options for capital.*

**Collaboration**
*Unlike many other major biotech clusters, our regional focus and collaboration are broad by design. We have taken our cue from the European models, that don't look at territory lines (state, city, etc). Instead, they look at the broader region and model collaboration based on "trading zones".*
*In our case, Spokane (Washington state) and Coeur d'Alene (Idaho) are only a half-hour drive from each other. Commerce, workers, and higher ed students flow in both directions, effectively multiplying the available workforce and talent resources beyond one single location. Although Spokane is home to the regional aerospace tech hub, the organization itself is a joint effort between Spokane and Coeur d'Alene. Economic development groups like Greater Spokane and Coeur d'Alene work closely with industry groups in biotech and aerospace to foster strong public/private connections.*
**Workforce**
*K12, Higher Ed, and the private sector have been collaborating in our region on developing a cradle-to-grave talent pipeline. This is driven by the pervasive evidence that students increasingly "opting out" of college and also dis-engaging from manufacturing and STEM careers.*
*Spokane and Coeur D'Alene are increasingly investing in career exploration and talent development, with trade programs in high schools and "industry career nights" to develop the workers of tomorrow. Industry groups like NIMA are partnering with colleges and universities on applications for AI, robotics, internships and capstone projects. Biotech groups like the EBIC are collaborating as well with higher education on research projects and collaborative business incubators to ensure better alignment between business and industry.*
*A prime example of this is Jubilant Hollister developing a training program with Spokane Community colleges for entry-level lab workers, ensuring that they have the core skills (including "soft skills") to successfully enter their workforce. And non-profit apprenticeship groups like AJAC are continually developing new, customized training programs in collaboration with the private sector for jobs which are not currently served through traditional training programs.*

# *Opportunities*

**Workforce**
Although the region has been gaining traction around workforce training pathways, a key "gap" that impacts our area (and the U.S. in general), is a shortage of childcare capacity. Infant and toddler care is currently hovering around $25/hour, and an average rate of $18-20/hr for general daycare, which translates with an average weekly cost of $225 per week. Additionally, they are waiting lists for most facilities currently. For families with more than one child, the economics of a single parent working at an entry-level job simply don't pencil out. Potential solutions can be addressed to some degree locally, but state reform is also needed to make the regulatory and fiscal burden lower for businesses that want to offer an in-house option. These stay-at-home moms/dads are a significant workforce pool that is currently sitting on the sidelines.

The impact of the childcare shortage hits small and medium businesses the hardest, as they do not have the human or financial resources to develop an in-house program. One potential opportunity could be to study a “collective daycare” approach with multiple SMBs participating to share costs.
A common problem that has been expressed when recruiting entry-level workers has been the lack of “soft skills”, i.e., dressing appropriately, showing up on time (and consistently), knowing how to communicate, take/give feedback, etc. Developing and including a curriculum to teach these basic life skills in high school might be one way to ensure that prospective workers have this critical skill set as they enter the workforce.
A Specific need for the biotech sector is a larger pool of consultants and a training facility to help with GMP (good manufacturing practices). Currently, we know that supply is not meeting demand but cannot quantify that gap with the existing data. Undertaking an assessment of this need could be helpful to make sure we are prepared for the future.
One gap that stands out is the lack of clinical research training programs regionally. Developing a degree program for this sector would help strengthen more interest and capability in the area. The current work-around is to upskill certified medical assistants and train them in research protocols, but that strategy is really shirting training to healthcare providers instead of the education infrastructure.

Spokane Community Colleges is creating opportunities for public/private training curricula, especially for entry-level workers, as mentioned earlier in reference to their program that was developed with Jubilant Hollistier. The challenge here is that companies need a certain scale to justify the creation of a custom program; but one workaround could be a convening entity like EBIC to create a consortia of smaller businesses with similar talent needs, and that group could have enough collective demand to set up custom training programs.
Our region has an under-employed demographic with Slavic immigrants and the Hispanic population. Both groups are highly capable, but suffer from language barriers to employment. Working with public groups to provide ESL (English-as-a-second-language) support would open up a new pool of workers that is currently confined to lower-paying jobs.
One category of workers that is increasingly critical to healthcare- and often overlooked- is the IT sector. The pay scale for IT workers in the healthcare space is not generally competitive with the tech industry, resulting in high turnover and significant investment in training costs.

**Agri-Technology**
One of our regions historic economic strengths is agriculture. Increasing, these inputs are becoming a major feedstock into solutions both for drugs and also for other industries like energy. An example of the latter would be the work going on currently in Calgary, AB to genetically modify canola strains for higher energy output in sustainable aviation fuel.
WSU and University of Idaho both have strong programs in this area, even including drone technology which is becoming a huge market in the ag sector. Diversifying into these adjacent markets would increase the potential bottom line for our agriculture sector, provide potential private investment in research and development, and help to mitigate market risk for our farmers by opening up adjacent opportunities to traditional ag markets.

**Biotech Business Incubation and Entrepreneurship**
Although our “innovation economy” is rapidly growing, a key gap is a lack of important infrastructure specific to biotech. Most notably, lack of affordable “web lab” space for entrepreneurs and early-stage companies has been a challenge. Evergreen BioScience is adding this infrastructure as a fee-based service, and in the private sector, Photon Biosciences is also creating a similar structure it’s own lab resources. Other critical resources for entrepreneurs could be refrigeration, centrifuges, etc, that also pose a significant capital outlay for start-up companies, and contribute to a high rate of failure for early-stage companies as they run out of funding.

Increased public/private funding for a shared infrastructure model could help nurture new technology development and contribute to a better conversion ratio as start-up and early-stage companies look to commercialize their product(s).
There is existing infrastructure in place that could support more wet labs, including in Post Falls with the University of Idaho Research Park and the Selkirk web lab space which is currently unoccupied.
A successful model for helping entrepreneurs has been the business roundtable that is regularly convened by Michaele Armstrong at EBIC. The founder of a prospective biotech business is invited to make a "pitch" to industry executives, with an eye to vetting the business worthiness of the project. In many cases, these executives will help to mentor and provide connections that facilitate a more successful path forward for these founders.
Dreamfunders is a new fund starting up in the region which will also include 2-3 years of mentorship to help fill knowledge gaps for entrepreneurs. Multiple studies have shown that mentoring and on-going support of industry experts dramatically changes the success rate for start-up companies into commercialization. Our region should look at ways to formalize some kind of structure/entity to provide this assistance.
Marketing of the region's capabilities in the Biotech Sector is a critical need and area of opportunity. The I90 corridor is well know for healthcare due to the massive geographic area that it serves, but there is almost no awareness of our biotech cluster, medical school, etc in major markets like Puget Sound, San Francisco, Salt Lake City, and other western clusters. Creating a branding strategy, and marketing it outside the inland Northwest, is highly important. This is not a case of "build it and they will come"- it requires intentionality.
The Clinical Translational Research and Development (CTRD) program is being supported locally by several clinical affiliates including Kootenai health, as well as three Idaho universities and the Veterans Administration. The purpose of the program is to **Integrate basic, clinical, and translational research** to improve prevention, diagnosis, and treatment of diseases affecting medically underserved communities.

**Medical Device Manufacturing (CMOs)**

As evidenced by the success of the Northwest I90 Manufacturing Alliance, the I90 corridor is home to a number of CMOs (contract manufacturing organizations) that manufacture parts and components for medical device OEMs, as well as other advanced manufacturing (aerospace, test and Measurement, Ag tech, etc). Local companies like Altek, Mackay Manufacturing, Advanced Input Systems and others have a reputation for world-class quality and service in the manufacturing of parts and assemblies for the medical device market.
Although we have pack-and-fill capabilities locally for the OTC drug market, the one missing component for a complete device supply chain solution in this space is a medical packaging company, which would include in-house, inline sterilization capabilities. That would be the final piece of the puzzle to offer an integrated packaging solution for sterile instruments, etc.

**Technology Equity**

One of the most challenging sectors in healthcare is providing services to rural areas. This includes access to broadband, AI, and other advanced IT technologies. As digital tools including AI become more a part of healthcare and biotech, and services like remote doctor visits become more prevalent for rural communities, high-speed internet access is becoming more critical. Organizations like Broadlinc locally are well positioned to upgrade the remote communications infrastructure.

**Regulatory Compliance and Certification in Pharma and Medical Device Manufacturing**

The Spokane-Coeur d'Alene region has a strong base of advanced manufacturing companies, many of them already active in some level of medical device manufacturing. But entry into higher-value device manufacturing is dependent on meeting quality certifications like ISO13485. And

unfortunately, attaining that credential can be a long and costly process, which is often a barrier to small and medium companies that lack the resources to sustain this process for a long period. Non-profit manufacturing groups like Impact Washington and TechHelp Idaho can often provide consultant resources at a reduced cost and can provide access to grants to help subsidize the process of gaining compliance for medical device manufacturers . And as noted earlier in discussing workforce training, developing a GMP (good manufacturing practice standard) facility/organization that could assist with attaining GMP compliance could potentially lower the barriers for small and start-up businesses. HSSA is an existing agency in the Spokane area that serves as a connector and convener for resources like this, and expanding its scope and budget could help in this area.

**Regional Collaboration**

The greater Spokane/Coeur d'Alene area already has a strong culture of collaboration between education, industry and economic development entities. In the arena of Biotech, the Evergreen BioScience Innovation Cluster could take a leading role to convene related organizations together around a common strategy for building out a Biotech development plan. EBIC and NIMA (Northwest I90 Manufacturing Alliance) are already strong partners- they share a common belief that a regional ecosystem which has both drug/pharma and medical device manufacturing capabilities is more competitive than a tech cluster which is solely focused on only one sector.

But the prevailing opinion on the industry side is that stronger communication and partnering between industry and education would help strengthen the quality of talent for the private sector, as well as insure that higher education institutions can be aware of potential opportunities for revenue on research and development from the private sector, and- in some cases- potentially attract new investment as well. The situation in our region is not dissimilar to the rest of the country, in that too often, public and private companies sit in silos, often missing opportunities for joint rewards. Driving better collaboration between these two worlds could significantly add to the appeal of our region for biotech ventures.

## *Aspirations*

**TOP LEVEL- Designate a Central Convening Entity**: Pull together regional stakeholders to designate a "lead entity" around a biotech industry development strategy. This entity would initially collaborate with designees from other public, private, and education sectors to define an overarching implementation strategy for biotech development in the region, incorporating the elements identified in this report.

Moving forward, they would help to coordinate the specific steps for implementation, monitor KPIs for each initiative, and ensure ongoing communication between all partners.

**Components:**

*-Workforce*

Commission a workforce study to confirm what types of workers are most critical for regional biotech, in both professional (4-yr) and technical (2-yr) roles. Use this study as a basis for industry and education to collaborate in creating training to strengthen the talent pipeline. This pool of candidates should include diverse communities, underemployed and adult-workers seeking to transition into a new career. Also, some emphasis should be placed on career exploration in Biotech for the K12 population. And as noted earlier, there is a significant human resource in the region with the Slavic community that needs support for ESL.

*-Infrastructure*

Leverage the new wet lab resources at EBIC and Photon BioScience to provide affordable infrastructure for technology/product development, and pursue public and private investment to continue to build out those resources as demand increases.

Explore opportunities for access to university research resources for start-up and early stage companies, as one option to lower barriers and costs for innovation.

Accelerate the engagement of innovation and start-up funding groups like LaunchPadINW and Dreamfunders to create a centralized portal for founders of start-up companies, where they have a unified portal to access both funding and other resources. This should also include a directory of web lab spaces in the region.
Establish a regional roundtable with higher ed to explore options for a degreed program in clinical research, to address this key gap in our area.
-Through outreach from S3R3 and others, recruit a medical device packaging company to the region, with possible additional incentives, to complete the existing medical device manufacturing cluster that we have in place.
-Marketing
Promote collaboration between regional EDOs like GSI, Post Falls Chamber, CDAEDC, Panhandle development, etc to create an I90 corridor marketing campaign, specifically targeted to biotech and medical device manufacturing. This could include partnership with EBIC for a single point of contact that could exhibit at targeted trade shows and events.
Consider a second regionalized campaign around recruitment of the healthcare/biotech workforce to the I90 corridor, emphasizing quality of life, lower housing costs (compared to Puget sound), etc.

## *Results- How do we measure success?*

**Key Performance Indicators (KPIs)**

- Growth in workforce enrollment in biotech and healthcare, categorized by major verticals- pharma, healthcare, medical devices, biotech, ag tech
- Revenue increase in each vertical market, differentiated by location (WA side and Idaho side
- Increased enrollment for these sectors in 2-yr, 4-yr colleges and advanced degrees. Should also include enrollment and placement from trade/apprenticeship programs
- Average wages in each workforce role versus median regional wages- unskilled, 2-yr, 4-yr and graduate degree backgrounds
- Number of companies in these sectors successfully recruited to the greater Spokane/Post Falls/Coeur d'Alene area
- Increase in the number of start-ups and early-stage companies in the biotech and ag tech sectors.

2. **Objectives (OKRs)**

- Establish a central convening group (ala EBIC or similar) that will bring all stakeholders together to establish priority markets and strategy, and set targets and timelines for KPIs and objectives.
- Said group will work across education, industry, and state/regional EDOs and other economic development stakeholders to insure alignment among all participants.
- With the convening group and stakeholders, create a "steering committee" to establish a plan with priorities, metrics and timelines for initiation and regular review of performance to objectives.

- Establish and advisory committee of stakeholders from supporting organizations- EDOs/EDAS, education, etc.

3. **Success Criteria**

- Once KPIS and objectives are established, collect data to establish baseline/"current state" data.
- The biotech industry has averaged growth of 9.2% per year from 2014 to 2023, with that growth rate increasing over recent years. At a minimum, the target growth rate for our region should equal or exceed that number. It may be necessary to collaborate with regional EDOs to determine the historic regional growth rate for the Spokane/CDA corridor.

4. **Accountability & Review Points**

- An annual meeting of the convening entity and stakeholders should be held to track performance-to-plan.
- The convening entity should have quarterly meetings with key partners to assure alignment on objectives and methods, and make strategic adjustments as needed.