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#### Commentary | Article | March 21, 2025

# Bladder cancer: Challenges, innovations and opportunities for primary care physicians

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Because early detection is key, here is what clinicians should know about advanced strategies and emerging treatments to optimize patient outcor bladder cancer management.

Bladder cancer represents a significant global health concern, ranking ninth in incidence and 13th in cancer-related mortality. Primary care physicians are pivotal in early detection in patients, yet challenges persist in recognizing initial symptoms, facilitating timely referrals and mitigating disparities in care. Despite advancements in diagnostics and treatment, optimizing outcomes requires a comprehensive understanding of risk factors, clinical presentation and initial evaluation strategies.



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## Understanding bladder cancer

Bladder cancer is a heterogeneous disease, predominantly presenting as urothelial carcinoma (UC), which accounts for the majority of cases. UC can be categorized into the following:

6 to definite the summer 6 responsive to treatment but has high recurrence rates.

 Muscle-invasive bladder cancer (MIBC): A more aggressive form that invades the bladder wall muscle and poses a significant risk of metastasis.

Men are disproportionately affected, with bladder cancer ranking as the sixth most common malignancy in men globally. Risk factors include smoking, age, gender and exposure to

Survival outcomes are closely linked to the stage at diagnosis:

- · Carcinoma in situ: Five-year survival rate of 97%.
- Localized disease: Five-year survival rate of 71%.
- · Metastatic disease: Five-year survival rate drops to 8%.

For physicians and other clinicians, this demonstrates the critical need for early detection and aggressive management in advanced cases.



# Global burden of bladder cancer

The incidence and prevalence of bladder cancer can vary widely across regions, with significant disparities in health care access and outcomes:

- Europe: The region reports nearly 224,000 cases annually, accounting for 37% of the global burden. Countries like Italy, Germany and the U.K. have high incidence rates, attributed to aging populations and robust screening
- Asia: With 215,755 cases annually, Asia reports 35% of global cases. China leads the region, followed by Japan and India. Limited health care infrastructure in some areas creates challenges in timely diagnosis, and treatment care infrastructure in some areas creates challenges in timely diagnosis and treatment.
- . North America: Reporting 95,546 cases annually, North America benefits from advanced diagnostic tools and therapeutic options. The United States alone accounts for <u>80,400 cases</u>, with an age-standardized incidence rate of 10.5 per 100,000.
- Africa and Latin America: Lower incidence rates but higher mortality reflect significant disparities in access to care
- · Oceania: Though incidence is low, the burden is increasing due to an aging population and rising health care

Looking ahead, global bladder cancer cases are projected to surpass 1.2 million annually by 2050, emphasizing the need for tailored prevention, early intervention and therapeutic strategies.

## Advances in bladder cancer therapeutics

Recent advancements in bladder cancer research are revolutionizing treatment, particularly for advanced and metastatic disease. Here are the key developments that clinicians should consider:

- Immunotherapy: Checkpoint inhibitors, including pembrolizumab and avelumab, have become integral in the management of advanced bladder cancer. These agents enhance T-cell responses against tumor cells and have demonstrated durable responses in both first- and second-line settings. Emerging research into CAR-T cell therapy holds promise for patients with resistant disease.
- Targeted therapies: Molecular profiling has helped identify actionable mutations in bladder cancer, leading to targeted treatment options. Erdafitinib, an FGFR inhibitor, exemplifies precision medicine by addressing specific genetic alterations. These therapies provide personalized treatment alternatives for patients with high-grade tumors who have limited options, according to a 2019 study.

 $Combination\ the rapies: Combining\ immunotherapy\ with\ chemotherapy\ or\ radio the rapy\ has\ shown\ promising\ synergy,$ particularly in MIBC. Trials integrating immune checkpoint inhibitors with cisplatin-based regimens are yielding encouraging results in extending progression-free survival, according to a 2020 study.

Gene therapy: Gene-editing technologies are being investigated as potential strategies to correct genetic mutations in

plauder carrier cens. Currently in early diffical trials, these approaches may provide durable responses for patients will advanced disease and few treatment options, according to the National Cancer Institute.

#### Clinical trials and research trends

Since 2019, the global clinical trial landscape for bladder cancer has expanded significantly, with over 1,500 trials initiated worldwide. These trials are exploring innovative therapies, optimizing existing regimens and addressing unmet clinical needs

Here are some key trial insights:

- Regional contributions: North America leads with 36% of global trials, followed by Asia-Pacific (31%) and Europe (25%). China and the United States are major contributors, reflecting their robust investment in research infrastructure
- Recruitment challenges: Europe achieves higher recruitment efficiency, with a median enrollment rate of 1.32 subjects per site per month, compared with 0.29 in the U.S. This highlights the importance of multicountry trials and collaborative networks.

For clinicians, participation in clinical trials offers opportunities to provide patients with access to cutting-edge treatments while contributing to advancements in care.

#### Challenges in bladder cancer management

While the rapeut ic advancements offer hope, significant challenges remain in managing bladder cancer effectively:

- Health care disparities: Access to diagnostic tools and advanced treatments remains limited in low-resource settings, contributing to poorer outcomes.
- Cost of care: The expense of novel therapies, including checkpoint inhibitors and advanced imaging technologies, poses a barrier for many patients.
- Side effects and toxicity: Many bladder cancer treatments, including cisplatin-based regimens, are associated with significant side effects, necessitating careful management.

#### Opportunities for clinicians

Despite these challenges, opportunities exist for physicians and other clinicians to improve outcomes for patients with bladder cancer:

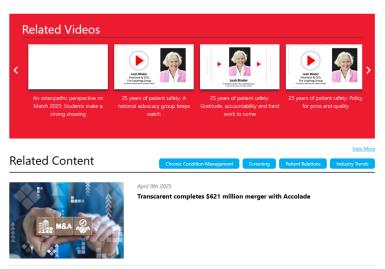
- Personalized treatment approaches: Advances in genomics and molecular profiling allow clinicians to tailor therapies to individual patients, improving efficacy and reducing unnecessary toxicity.
- Expanding clinical research: The Asia-Pacific region and emerging markets present untapped potential for research
  and recruitment, offering diverse patient populations and genetic profiles.
- Collaborative care models: Strengthening partnerships between academic institutions, health care systems and pharmaceutical companies can accelerate the adoption of new therapies.

## The road ahead

Bladder cancer continues to evolve as a field of research and clinical practice. Immunotherapy, targeted therapies and innovative trial designs are reshaping the landscape, providing clinicians with new tools to combat this complex disease. However, addressing disparities in care and ensuring equitable access to these advancements remain critical.

As clinicians, staying informed about emerging therapies and participating in research can directly impact patient outcomes. By embracing innovation and collaboration, we can collectively work toward a future where bladder cancer is more effectively managed and, ultimately, prevented.

Sarah Anderson is a seasoned oncology strategist with more than 20 years of experience in oncology drug development across all indications and phases. Currently serving as the therapeutic strategy lead – oncology at Novotech, she leverages her extensive expertise to develop and deliver successful oncology strategies. Her career includes leadership roles at prominent organizations such as Worldwide Clinical Trials, Covance (now LabCorp), and Synteract (now Syneos), where she demonstrated a deep understanding of clinical delivery and operational excellence.



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