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Contents

Recruitment and retention of anesthesiologists in New Brunswick: a qualitative study of key factors and burnout implications

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AUTHORS

Shan Bal;[1] Michael J. Wong;[2] Michael P. Leiter[3]

[1]Dalhousie Medicine New Brunswick, Saint John, New Brunswick, Canada; [2]Department of Anesthesiology, Pain Management & Perioperative Medicine, Dalhousie University, Saint John, NB, Canada; [3]Department of Psychology, Acadia University, Wolfville, NS, Canada

INTRODUCTION

There is an ongoing shortfall of anesthesiology providers across Canada, particularly in more rural areas of the country, such as the province of New Brunswick (NB).[1] This has direct implications for surgical access, wait times, and service sustainability.[2] Despite growing concerns about anesthesia workforce shortages and their potential implications for burnout, there is much to be elucidated about factors influencing recruitment, retention, wellness, and professional satisfaction among anesthesiologists. We interviewed practicing anesthesiologists in NB to explore these factors via qualitative thematic analysis.

METHODS

We conducted semi-structured interviews with 12 anesthesiologists practising in NB, representing 16% of the provincial anesthesia workforce across Anglophone and Francophone centres (11 of 52 Horizon and 1 of 23 Vitalité physicians, respectively). Eligible participants were licensed, English-speaking, full-time anesthesiologists. Recruitment was performed via email invitation and snowball sampling. Interviews were conducted via Zoom for Healthcare, audio recorded, auto-transcribed, cleaned, de-identified, and managed in Atlas.ti. An inductive thematic analysis approach was used.[3] Member checking was used to support interpretive validity. Reflexivity was maintained via journaling. Participants were also assessed with the 9-item Maslach Burnout Inventory–General Survey (MBI-GS9), a validated measure of emotional exhaustion, cynicism, and professional efficacy.[4]

RESULTS

Participants described three main factors that supported recruitment and retention in NB: 1) family ties and suitability for raising children, with lower cost of living and short commutes;

2) collegial departments viewed as fair and quick to help; and 3) a broad scope of practice with complex cases, teaching, and leadership opportunities without subspecialization. Flexible scheduling and fee-for-service remuneration helped maintain work-life balance. Barriers were described mainly at the system level, including limited national awareness of NB practice opportunities, resource constraints for medical education, research, and allied health, and frustration with hospital administration. Participants were cautiously optimistic for a local anesthesia residency program, viewing early and repeated resident exposure to practice in NB as critical for recruitment and long-term workforce stability. Maslach Burnout Inventory scores suggested low-moderate emotional exhaustion and cynicism with preserved professional efficacy (mean EX 1.63, CY 2.33, PEF 4.76 on a 0–6 scale).[4]

DISCUSSION

Anesthesiologists in NB described a mix of lifestyle, collegial, and practice-related factors favouring recruitment and retention, alongside concerns about administrative decision-making, allied health staffing, and limited academic and continuing medical education that may reduce the appeal of working in NB. MBI scores suggested that, while participants reported frustration with system-level issues, they felt effective, capable, and satisfied in their clinical work. Limitations include a small sample, under-representation of Francophone and smaller community sites, and ongoing data collection. This work may inform future workforce planning and research on anesthesiologist recruitment, retention, and well-being in NB and provinces facing similar workforce challenges.

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Using large language models to support perioperative administrative workflows

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75

AUTHORS

Termos B, Bassam;[1] Mbadjeu Hondjeu AR, Arnaud Romeo;[1,2,3] Zhao ZY, Zi Ying;[1,2] Newton L, Luka;[1] Ajenkar A, Anass;[1] Shorr R, Risa;[4,5] Ladha K, Karim;[6] Wijeysundera DN, Duminda;[6] McIsaac DI, Daniel I.[1,2,3,7]

[1]Department of Anesthesiology and Pain Medicine, University of Ottawa; The Ottawa Hospital, Ottawa, Canada; [2]University of Ottawa, Ottawa, Canada; [3]Ottawa Hospital Research Institute, Ottawa, Canada; [4]Learning Services, Health Professions Education, The Ottawa Hospital, Ottawa, Canada; [5]The Ottawa Hospital, Ottawa, Canada; [6]Department of Anesthesiology and Pain Management, University of Toronto, Toronto, Canada; [7]Institute for Clinical Evaluative Sciences (ICES), Ottawa, Canada

INTRODUCTION

Large language models, or LLMs, can read unstructured clinical text and produce clear outputs that support common administrative tasks [1]. In perioperative care, this work includes documentation, discharge summaries, scheduling, and billing and procedural coding, and it takes up a large share of clinician time. Documentation alone has been estimated to account for about 40 percent of healthcare worker activity [2]. LLMs are now being tested to reduce this burden, for example by generating procedural codes from operative notes [3] and helping draft or structure perioperative documentation [4]. However, studies vary widely in how they evaluate performance and report risks, and safety concerns remain a barrier to adoption. We therefore aimed to map how LLMs are being used for perioperative administrative support and summarise how outcomes and risks are assessed across the current literature.

METHODS

Following best practice scoping review guidelines, a comprehensive search was conducted in Ovid EMBASE, Ovid EBM Reviews, Scopus, ProQuest Dissertations and Theses Global, and Google Scholar to identify primary studies published from 1946 to the present that evaluated large language model (LLM) applications in perioperative care. Two independent reviewers screened studies, with conflicts resolved through a third reviewer. Data extraction was completed in duplicate using a standardized framework capturing study and model characteristics, clinical context, outcomes, and reported limitations. For this conference abstract, we performed a focused descriptive analysis of studies reporting LLM use for perioperative administrative and data documentation functions. Administrative task categories were treated as non exclusive and included documentation generation, billing

and procedural coding, operations forecasting and scheduling support, and structured data extraction workflows. We extracted the administrative task types assessed, primary outcome evaluation approaches including performance metrics, documentation quality and readability measures, and efficiency endpoints such as time savings or cost proxies. We also captured reported limitations including clinical validity concerns, hallucinations, prompt sensitivity, bias, and privacy or security concerns, as well as the degree of human oversight. Findings were summarised using descriptive statistics and frequency analysis.

RESULTS

Across 678 perioperative studies included in our scoping review, we identified 41 studies that specifically evaluated large language models (LLMs) for administrative and data documentation functions, and these formed the basis of this focused descriptive analysis. Within these 41 studies, the most common use cases were billing and procedural coding (10/41, 24.4%), clinical documentation generation (8/41, 19.5%), and operational forecasting, scheduling, and resource allocation (5/41, 12.2%). Outcomes were most frequently assessed using quantitative performance metrics against a reference standard (33/41, 80.5%), with additional evaluation of documentation quality and readability (10/41, 24.4%) and efficiency endpoints such as time savings and workflow proxies (8/41, 19.5%). Limitations were dominated by concerns regarding clinical validity (33/41, 80.5%), hallucinations (17/41, 41.5%), and prompt sensitivity (14/41, 34.1%). Privacy and security reporting was inconsistent, with 20/41 (48.8%) studies explicitly addressing these issues. Human oversight remained variable, with 14/41 (34.1%) requiring full supervision and 4/41 (9.8%) partial supervision, while 20/41 (48.8%) reported no supervision.

DISCUSSION

Administrative perioperative LLM applications cluster around documentation, billing/coding, and operational workflow support, and are primarily evaluated using performance metrics rather than implementation or patient-centred outcomes. While these tools may reduce administrative burden and improve efficiency, recurrent concerns—clinical validity, hallucinations, and prompt sensitivity—limit safe autonomous use in high-stakes health systems. Inconsistent reporting of privacy and security further constrains real-world generalisability and governance readiness. Overall, current evidence supports LLMs as assistive, human-supervised systems rather than independent agents. Future work should prioritise prospective evaluations, standardised reporting aligned with the Quintuple Aim, and clear oversight frameworks for safe integration.

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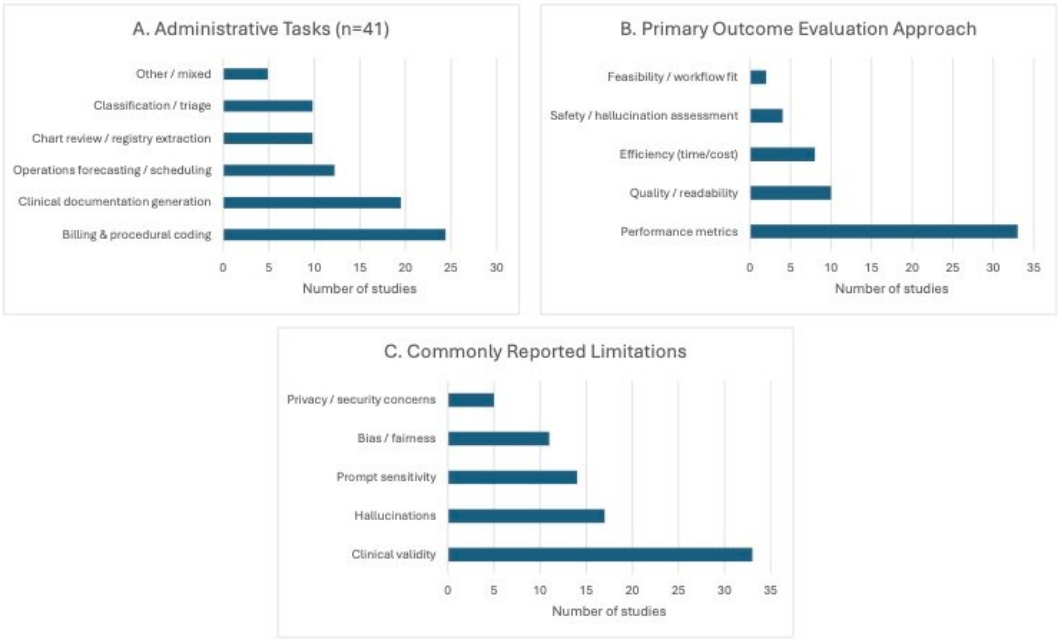

Figure 1