

Structured Wound Assessment during Home Visits as a Component of Postoperative Follow-Up

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Abstract

Postoperative follow-up has shifted toward the home, where the surgical wound becomes the central focus of a visit conducted without a surgeon present. This practice-informed narrative review examines how structured wound assessment during home visits functions when the visiting specialist has authority to observe and document but not to intervene. Published work on wound assessment instruments, remote surgical wound monitoring, structured clinical handover, and scope of practice in home health was synthesized with first-hand observations from home visits in New York State and from earlier direct surgical ward work in the Czech Republic. The assessment-intervention gap is introduced as the distance between what a visiting specialist can establish at the bedside and what that specialist may do about it. Where the gap is wide, the clinical product of the visit consists of the transmitted assessment and the timeliness of the escalation decision. Most visual and measurable elements of standard wound instruments remain feasible at home, whereas probing, revision, and prescribing require personnel with intervention authority. A structured wound report, built on the Situation, Background, Assessment, Recommendation framework, is proposed for handover, and illustrative triggers for the three possible visit outcomes are aligned with published surveillance criteria. Comparison of two professional roles in two jurisdictions shows how the same assessment sequence changes its clinical meaning once the intervention authority is removed. Caregiver gatekeeping and unstable connectivity emerge as non-clinical determinants of the timeliness of escalation, and both are among the conditions for safe postoperative follow-up at home.

Keywords: Clinical Handover, Escalation of Care, Home Health Care, Home Visits, Postoperative Care, Scope of Practice, Surgical Wound, Telemedicine, Wound Assessment, Wound Documentation.

INTRODUCTION

Shorter hospital stays have shifted a growing share of postoperative observation to the patient's home, and a substantial proportion of surgical site infections now present after discharge, beyond the reach of ward rounds (Dalcól et al., 2024). Digital documentation of wounds has become part of routine work in home health, and a single provider in the United States documented tens of thousands of wound patients per year through such records (Mohammed et al., 2026). The surgical wound becomes the central object of a home visit conducted without a surgeon in the room, and the person who performs that visit is often a specialist whose scope of practice ends at observation and documentation.

Assessment at home differs from assessment on the ward in one structural respect. The examiner of the wound and the decision-maker are separated by distance, time, and professional authority. The decision rests on data that reach the physician through a record system, a photograph, or a telephone call, and remote assessment of surgical wounds carries a known cost in sensitivity when compared with in-person review (NIHR Global Health Research Unit on Global

Surgery & GlobalSurg Collaborative, 2023). A visit can end in one of three ways: continued follow-up at home with recommendations, referral for in-hospital wound monitoring, or an emergency services call. Which of the three follows depends on what the visiting specialist saw, measured, and transmitted, and on how soon the transmitted material reached the person entitled to decide.

This review introduces the term assessment-intervention gap for the distance between what a visiting specialist can establish at the bedside and what that specialist may do about the findings. On a surgical ward, the gap approaches zero because the examining physician also changes the dressing, removes sutures, or opens the incision, and an error of assessment is corrected at the next glance. In home-based care with a visiting specialist who neither prescribes nor treats, the gap reaches its maximum, and the clinical product of the visit shifts toward the quality of the transmitted data and the timeliness of escalation. The term serves as the lens for the whole review. Literature on wound assessment instruments, remote monitoring of surgical wounds, and structured handover exists in separate streams, and no dedicated account of their linkage in the context of a visiting

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specialist without intervention authority was found in the literature searched.

The practice observations come from first-hand home visits performed for a home-based care service in New York State between 2023 and 2025 and from direct work as a physician in surgical departments of hospitals in the Czech Republic between 2021 and 2022. The review pursues three aims. The first is to determine which elements of standard wound assessment remain feasible during a specialist's home visit without intervention authority. The second is to describe how the result of that assessment turns into a handover and an escalation decision. The third is to show, through one professional path spanning two jurisdictions, how the scope of authority changes the clinical meaning of the same assessment sequence.

MATERIALS AND METHODS

This work is a practice-informed narrative review. Its structure covers justification of the topic, statement of aims, description of the literature search, referencing of key statements, transparent reasoning, and presentation of material in tables and figures. PubMed, Scopus, and Google Scholar were searched for English-language publications from 2021 to 2026 across four blocks of terms: postoperative wound assessment together with surgical site infection and post-discharge surveillance, home health care together with wound photography and telehealth wound care, clinical handover together with structured communication tools, and scope of practice together with delegation in home care. Priority went to systematic reviews, multicenter cohort studies, and validation studies of assessment instruments. Public regulatory sources on personnel authority in New York State and the Czech Republic supplemented the search.

Direct observation covered home visits in New York State from 2023 to 2025 across a service area that extended from Brooklyn, Queens, Manhattan, the Bronx, Staten Island, and

Long Island to Buffalo and Syracuse, with a load of two to four patients per day, including postoperative patients. Surgical ward work in the Czech Republic from 2021 to 2022 provided the second observational context. Organizations are described without names as a home-based care service in New York State and as hospitals in the Czech Republic.

The review is not a study and draws no conclusions about effectiveness, treatment outcomes, or causal relationships. This load describes the scale of practice and does not constitute a sample, so no statistical generalization is based on it. The cases mentioned are single observations that illustrate a type of escalation trigger and carry no information about frequency. No personal patient data were used; descriptions are generalized beyond recognition, employer documents are neither reproduced nor paraphrased, and no ethical approval was required for a review of published literature and generalized practice observations.

DISCUSSION

Feasibility of Standard Wound Assessment at Home

Validated wound instruments share a common set of elements. A systematic review of fourteen tools for chronic wounds across twenty-seven studies found that dimensions, tissue type in the wound bed, edge characteristics, exudate amount and type, and periwound skin appear across most instruments, with the Bates-Jensen Wound Assessment Tool, abbreviated BWAT, and the Pressure Ulcer Scale for Healing, abbreviated PUSH, among the best studied (Smet et al., 2021). Surveillance definitions for surgical site infection, abbreviated SSI, add purulent drainage, localized pain or tenderness, erythema, heat, fever, a positive culture, and deliberate opening of the incision by a surgeon (Dalcól et al., 2024). Table 1 arranges these elements by who can capture them during a home visit, with personnel holding intervention authority designated as the intervening clinician.

Table 1. Elements of standard wound assessment and their feasibility during a home visit by a visiting specialist without intervention authority

Assessment element	Source	Captured by
Wound length and width	BWAT, PUSH	Visiting specialist
Wound bed tissue type	BWAT, PUSH	Visiting specialist
Wound edges	BWAT	Visiting specialist
Exudate amount and type	BWAT, PUSH	Visiting specialist
Periwound erythema, edema, heat	BWAT, SSI criteria	Visiting specialist
Pain, tenderness, odor	BWAT, SSI criteria	Visiting specialist
Purulent drainage	SSI criteria	Visiting specialist
Fever, vital signs, glycemia	SSI criteria, practice	Visiting specialist
Wound culture	SSI criteria	Specialist collects, laboratory reads
Depth, undermining, tunnelling	BWAT	Intervening clinician
Deliberate opening of the incision	SSI criteria	Intervening clinician
Imaging of deep or organ-space involvement	SSI criteria	Hospital
Dressing change, suture removal, debridement	Intervention	Intervening clinician
Antimicrobial prescription	Intervention	Intervening clinician

The arrangement yields a clear pattern. Visual and measurable elements, which form the bulk of every instrument, remain within reach of a visiting specialist equipped with a tape, a camera, and a thermometer. Probing of depth and undermining, opening of the incision, imaging, and every therapeutic act require an intervening clinician or a hospital. The elements beyond the specialist's reach are those that convert a finding into an action, which is the operational form of the assessment-intervention gap. Two caveats apply to the table. Extrapolation from instruments validated on chronic wounds to acute surgical wounds carries uncertainty, since the reviewed tools were developed for pressure injuries and leg ulcers whose course differs from that of a closed incision. The column assignments also reflect the scope of the visiting specialist role as observed in New York State, and regulatory scope varies across jurisdictions and among employers within a single jurisdiction.

The Visit as a Data-Collection Process

First-hand home visits followed a stable sequence, as shown in Figure 1, together with the handover and the three visit outcomes. History and complaints came first, then medication reconciliation, then measurement of the wound with a tape, photo, and video documentation, a swab when exudate was present, physical examination with electrocardiography and blood sampling when indicated, and at the end, entry of all findings into the record system before transmission to the supervising physician. The sequence places the wound inside the general condition of the patient, because complaints and medication frame what a given wound's appearance means before the wound itself is measured.

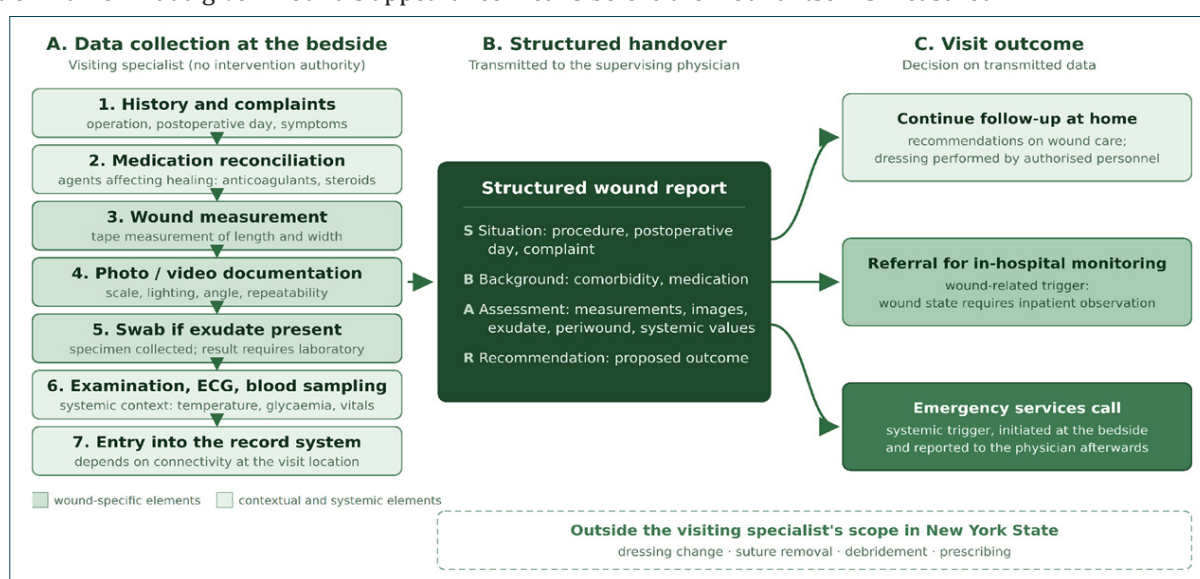


Fig. 1. Home visit as a data-collection process: bedside assessment by the visiting specialist, structured handover to the supervising physician, and the three visit outcomes. The dashed area marks actions outside the visiting specialist's scope in New York State.

Two elements of this sequence deserve expansion. The first is photography. A method developed for remote assessment of SSI through patient-taken images specified distance, framing, a reference for scale, lighting, and repeat images from the same angle, and such images supported reliable remote judgment when the protocol was followed (Macefield et al., 2023). Routine digital wound monitoring after surgery reproduced the finding at scale, with images and symptom questionnaires supporting earlier detection of infection than conventional follow-up (McLean et al., 2023). Photography during a home visit functions as a measurement and demands the same discipline as a tape measure: a fixed distance, a visible scale, consistent lighting, and the same angle at every visit, so that two images taken a week apart can be compared without guesswork.

The second element is the systemic context of the wound. Glycemia, anticoagulant and corticosteroid use, and fever alter the expected course of healing and change the meaning of a given wound appearance. Medication reconciliation and point-of-care glucose measurement are part of wound assessment in a broad sense, and their results are transmitted to the physician along with the wound data. First-hand visits confirmed that the two streams cannot be separated at the bedside, because a wound that looks acceptable on a patient with uncontrolled glucose carries a different prognosis than the same wound on a patient with stable metabolic control. The last step of the sequence, entry into the record system, depends on connectivity at the visit location, and this dependence returns in the discussion of non-clinical determinants below.

Escalation as the Clinical Product of the Visit

When intervention falls outside the visitor's authority, the visit ends with a decision about where care will continue. Continued follow-up at home with recommendations covers the expected course of healing. Referral for in-hospital wound monitoring covers a wound whose state demands observation unavailable at home. An emergency services call covers a measured value

or a clinical picture that demands immediate care. The first two outcomes are determined by the supervising physician based on transmitted data, whereas the third is initiated at the bedside and reported to the physician afterward, because a handover delay would defeat its purpose.

First-hand visits produced two types of triggers for the second and third outcomes. The systemic trigger appeared when a measured value at the bedside, in one case, a severe elevation of blood glucose, required an immediate emergency call before any wound-related question could be addressed. The wound-related trigger appeared when a neglected wound of advanced severity required transfer to a hospital because its course demanded inpatient monitoring. Table 2 sets illustrative findings for each outcome against published surveillance criteria and first-hand observation.

Table 2. Illustrative triggers for the three outcomes of a home visit

Visit outcome	Wound-related findings	Systemic findings	Decision holder
Continued follow-up at home	Course expected for the postoperative day, scant serous exudate, no spreading erythema, stable measurements between visits	Vital signs and glycemia within the patient's usual range, medication reconciled	Physician on transmitted data
Referral for in-hospital monitoring	Purulent or increasing exudate, spreading erythema or induration, dehiscence, necrotic tissue, enlargement between visits, suspected deep involvement	Low-grade fever, findings that require examination or investigation unavailable at home	Physician on transmitted data
Emergency services call	Active bleeding, signs of rapid progression of infection	Marked deviation of a measured value such as severe hyperglycemia, hemodynamic instability, altered consciousness, acute changes on electrocardiography	Visiting specialist at the bedside

Time modifies every entry in the table. Serous exudate and mild erythema on the third postoperative day belong to normal healing, whereas the same findings on the fourteenth day, or findings that increase between two visits, point to a complication. A visit, therefore, has to know what it is looking for on a given day, and a visiting specialist who knows the postoperative day and the previous measurements has the information needed to recognize a trajectory. Remote assessment shows lower sensitivity for infection than in-person review, and the international cohort behind this estimate cautioned against relying on remote assessment alone when the wound course raises concern (NIHR Global Health Research Unit on Global Surgery & GlobalSurg Collaborative, 2023). The finding cuts both ways for home-based follow-up. It confirms that a transmitted report cannot carry everything an examining surgeon would notice, and it also shows why the completeness and comparability of what is transmitted decide whether the physician recognizes a trajectory in time. That recognition, transmitted in time, is the clinical product of the visit.

From Assessment to Handover

If the data are the product, the handover is the act of production. Structured communication tools of the Situation, Background, Assessment, Recommendation type, abbreviated SBAR, and their variant with an identification step have been studied across nursing handovers, and a systematic review linked their use to fewer omissions, better completeness of transmitted information, and higher confidence of the receiving clinician (Rasiya & Raheem, 2026). The evidence base comes from shift handovers within institutions, where sender and receiver share a ward, a record, and a vocabulary, and the transfer of handover from a home visit to a remote physician remains an assumption that this review makes explicit. Table 3 adapts the four components to a wound report from a home visit.

Table 3. Proposed SBAR-based structure of a wound report transmitted from a home visit

Component	Content of the report	Example fields
Situation	Patient in relation to the wound and reason for the report	Procedure performed, postoperative day, presenting complaint, scheduled or unscheduled visit
Background	Factors that alter the expected healing course or the weight of a given finding	Diabetes, vascular disease, immunosuppression, anticoagulants, corticosteroids, previous wound events, caregiver availability
Assessment	What was established at the bedside, in reproducible form	Length and width, tissue type, edges, exudate amount and type, periwound skin, pain, standardized photographs with scale, swab taken or not, temperature, heart rate, blood pressure, glycemia
Recommendation	Proposed visit outcome and what is needed from the physician	One of three outcomes, specific request such as a dressing order or an earlier review, barriers met during the visit such as refused access or lost connection

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Situation carries the procedure, the postoperative day, and the complaint, which together tell the physician what course to expect. Background carries comorbidity and medication affecting healing, which tells the physician how much weight a given finding deserves. Assessment carries measurements, images, exudate, periwound state, and systemic values in a form that allows comparison with the previous visit. Recommendation carries the proposed visit outcome along with any barriers encountered during the visit, since a refused door or a lost connection changes what the physician can expect next and may itself justify an earlier review. The structure is proposed for discussion; it has undergone no validation, and its value in home-based care would have to be tested against the agreement between the specialist's report and the physician's subsequent examination.

One Specialist, Two Jurisdictions

The same person carried out wound assessment in two roles. In the Czech Republic, direct surgical ward work as a physician included assessment, documentation, the escalation decision, and the intervention itself, with dressing changes and suture removal performed at the same bedside where the wound was examined. In New York State, first-hand home visits as a visiting specialist included assessment, documentation, and a recommendation, while dressing changes remained the competence of other personnel, and every referral decision belonged to the supervising physician. Figure 2 sets the two roles against the four stages of wound management.

The difference reflects the organization of care and the allocation of authority. In the United States, state laws on delegation determine which tasks non-nurse home health personnel may perform; these laws vary across states, and this variation has measurable effects on staffing and the tasks performed in the home (Candon et al., 2023). A four-state case study showed that restrictive delegation rules push tasks toward licensed nurses and shape what home care staff may do at all (Dudley et al., 2021). The width of the gap, therefore, derives from public regulation and from the way each service allocates tasks within the limits that regulation sets, and the same person moving between systems experiences the change as a change in what a visit is for.

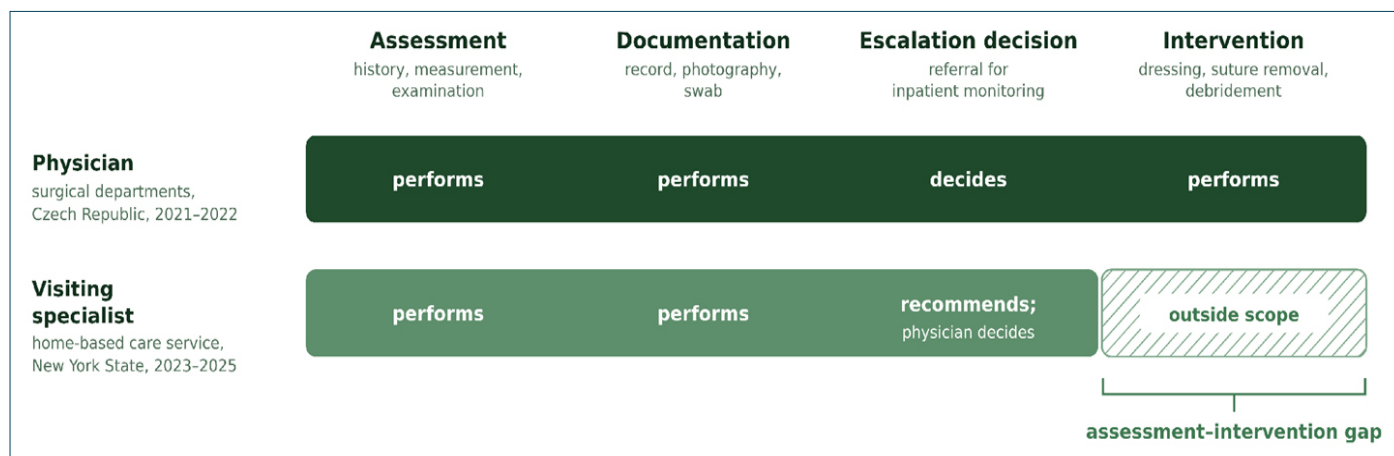


Fig. 2. The assessment-intervention gap across two professional roles: a physician in surgical departments in the Czech Republic from 2021 to 2022 and a visiting specialist in a home-based care service in New York State from 2023 to 2025. The hatched area marks the stage outside the specialist's scope.

The clinical consequence is a change in the meaning of the same act. When assessment precedes one's own intervention, its errors are corrected at the next glance, and an imprecise measurement costs little because the hand that measured will also treat. When assessment is the final product of the visit, its quality acquires independent clinical value because every omission is conveyed to the physician as an absence of information, and nobody at the receiving end can distinguish an absent finding from a negative one unless the report specifies which it is. A wide gap makes the visiting specialist a valuable source of structured data, and the transmitted data serves as a substitute for the physician's presence at the bedside.

Non-Clinical Determinants of Escalation Timeliness

Failures of the scheme observed first-hand were failures of

access. In one case, relatives from disadvantaged households were denied entry to the specialist against the patient's interests, and the visit produced no wound data at all. In the other type, the visit took place in an area without a stable connection, so entry into the record system and transmission of images waited until connectivity returned, and the physician received the data with a delay. A service area that stretches from the boroughs of New York City to Buffalo and Syracuse contains both dense urban zones and areas with thin broadband coverage, and the same visiting specialist may meet both conditions within one week.

County-level data link lower broadband access to a lower density of outpatient care facilities, so areas with the weakest connectivity are also those with the fewest alternatives to home visits (Kohli et al., 2026). Rural residents show the

same willingness to use telehealth as urban residents, so the disparity in use stems from differences in access to technology (Ko et al., 2023). Both barriers lie outside the clinical domain, and both delay escalation, because a wound that nobody saw and a report that nobody received produce the same silence at the physician's end. Organizational answers include a protocol for refused access that records the refusal and schedules a repeat attempt, offline documentation with delayed synchronization, and a rule that an interrupted transmission triggers a telephone call to the physician so that the escalation decision does not wait for the network.

Limitations and Open Questions

This review is not a study and supports no claim about effectiveness, outcomes, or causation. The load of two to four patients per day describes scale, and no frequency estimate follows from it. The cases mentioned are single observations that illustrate a type of trigger. The literature review is narrative and makes no claim to systematic coverage. Observing the two jurisdictions from two different professional roles limits comparability because the roles differ in training, authority, and setting, and the difference in what a visit is for cannot be separated from the difference in who performs it. Names of organizations and their internal documents are withheld. Three questions remain open and verifiable in future work: the agreement between wound assessment performed at home by a visiting specialist and assessment by the physician who receives the report, the time from visit to escalation decision under different transmission conditions, and the share of elements of standard instruments that a home visit captures in routine practice.

CONCLUSION

The assessment–intervention gap is a structural feature of home-based postoperative follow-up, and its width is set by regulation and the organization of care. Where the gap is wide, structured wound assessment and structured handover acquire independent clinical value because the transmitted report is the physician's sole view of the wound between in-person reviews, and the timing of the escalation decision stands in for the immediacy of bedside treatment. Most elements of validated wound instruments remain within reach of a visiting specialist, and their disciplined capture, together with the systemic context of the wound, gives the remote physician a basis for a decision among three outcomes. The comparison of two roles held by one person shows that the same sequence of actions changes its meaning once the authority to intervene is removed, and that this change raises the standard for the assessment itself. Access to the patient and to a connection determine whether the assessment reaches the decision-maker in time, placing two non-clinical conditions among the requirements for safe postoperative follow-up at home.

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