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Improving long-term postoperative pain monitoring and follow-up for women undergoing incontinence mesh surgery: a quality improvement initiative

Sissel Hegdahl Oversand ,[1] Tomislav Dimoski,[1] Rune Svenningsen[1,2]

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[1]Gynecology, Oslo University Hospital, Oslo, Norway
[2]Department of Clinical Medicine, University of Oslo, Oslo, Norway

Correspondence to
Dr Sissel Hegdahl Oversand; sisseloversand@gmail.com

ABSTRACT

Background Stress urinary incontinence (SUI) affects many women, often resulting from childbirth-related injuries. Synthetic mesh SUI implants, popular since the 1990s, are effective but have raised concerns due to complications like long-term pain. In Norway, insufficient follow-up and inconsistent pain registration hinder accurate prevalence estimates. This study aimed to enhance pain registration and standardise follow-ups after sling surgery.

Local problem Routine 3-year postoperative controls, recommended by the Norwegian Female Incontinence Registry (NFIR) have been deprioritised by public hospitals for financial reasons. Less than 50% of patients undergoing sling surgeries in 2017 received follow-ups, with only half including pain data. This risks underestimating pain prevalence and impedes quality improvements.

Methods A quality improvement project (2022–2023), initiated by NFIR, included seven hospitals selected for surgical volume, location and follow-up performance. Interventions: (1) Structured 3-year telephone follow-ups with pain registration for SUI mesh surgeries between 1 April 2019 and 31 March 2020. (2) Mandatory clinical examinations for patients reporting persistent pain. (3) Improved NFIR pain monitoring to track onset and persistence. (4) Standardised patient information on postoperative pain.

The NFIR pain variable was refined, with main data analyses at baseline, mid-project and finalisation.

Results Follow-up rates exceeded 80%, with pain data documented for all. Persistent pain was self-reported by 4.3%. After clinical evaluations, 1.9% could be attributed to the mesh implant. Three patients (0.7%) required treatment, one needed partial mesh removal. Interdepartmental follow-up variability decreased, and NFIR pain monitoring was revised for precision.

Conclusions Telephone-based follow-ups improved pain documentation and reduced departmental variability. Although pain prevalence was low, systematic follow-ups and refined monitoring remain crucial. Future efforts should explore electronic follow-ups and maintain interdepartmental collaboration, providing a model for similar healthcare challenges.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Stress urinary incontinence is a common condition among women, often treated with synthetic mesh implants (slings). Despite their effectiveness, long-term pain is a recognised complication, though the prevalence of this pain remains unclear in Norway due to inconsistent long-term follow-up and poor pain data documentation.

WHAT THIS STUDY ADDS

⇒ This study demonstrates that structured telephone follow-ups after 3 years significantly improved pain data registration, with over 80% of patients receiving follow-up. It also revealed that the existing pain monitoring in the Norwegian Female Incontinence Registry was inadequate, leading to revised protocols, including mandatory clinical examinations for those reporting persistent pain.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The findings emphasise the importance of systematic, consistent follow-ups for women undergoing sling surgery with synthetic meshes and the need for improved documentation of long-term pain. The study suggests that clinical examination should be mandatory for patients with self-reported persistent pain, offering a model for other healthcare systems to improve patient outcomes through better follow-up care and data accuracy.

INTRODUCTION

Urinary leakage during coughing, sneezing and physical activity (stress urinary incontinence) is a common problem among women, most often caused by childbirth-related injuries resulting in weakened connective tissue support of the urethra.[1] Synthetic mesh implants (slings) placed as a support under the urethra were introduced in the late 1990s and soon gained popularity due to treatment effect and the simplicity of the procedure.[2] Beyond the 2000s; however, it became evident that some women could suffer serious complications from vaginally placed synthetic

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mesh implants such as long-term persistent pain.[3] With the warning against the use of vaginally placed synthetic larger meshes for the treatment of pelvic organ prolapse issued by the FDA in 2011, vaginal mesh implants received much focus in international media and thousands of women took legal action against the manufacturers. This caused some countries to stop the vaginal use of all synthetic mesh implants, even though the smaller sling implants for incontinence surgery were known to cause less complications than the larger meshes for pelvic organ prolapse surgery.[4] Since the pain may occur years after the index surgery, there are few good and comparable studies. While some report a 31% risk of long-term pain, others find this risk to be below 1%.[5]

The prevalence of long-term pain after incontinence surgery with synthetic mesh implants (slings) has been perceived as low in Norway, and we have for the time being continued to use these methods, as there are few alternative surgical options with the same efficacy and low surgical morbidity. Around 1500 women are operated annually in Norway using this method.[6]

Norwegian figures for pain after sling surgery are based on data provided by the national compulsory Norwegian Female Incontinence Registry (NFIR), which since 2016 has had a coverage rate of almost 100% as all public hospitals performing this type of surgery continuously report to the registry. As of 2023 also all private hospitals report to NFIR, but less than 5% of the female incontinence surgeries in Norway are performed in the private sector.[7] The hospitals have largely followed NFIRs advice to check on their patients after 6–12 months (93%–97%), but the recommended 3-year follow-ups have been largely deprioritised, assumedly due to a lack of resources. The registry variable for pain only contained data on postoperative pain duration, categorised into 'less than 3 months', 'more than 3 months', 'more than 16 months' and more than 3 years. The VAS pain score variable, previously recorded in NFIR, had been removed long before the project started due to significant issues with recall bias. Since this type of pain does not always debut immediately after the index surgery, the pain variable was therefore hard to interpret since it lacked date for pain debut and data on pain persistence. The registration of pain data in general and especially after 3 years has been missing for many hospitals. According to the NFIR database, available data in Norway on the 3-year follow-up for women operated in 2017 were only 46.9% of which only half of these containing pain data. Some hospitals with established well-functioning routines for conducting 3-year follow-ups have clearly not focused on pain when collecting patient-reported 3-year data.

Incontinence surgery aims to enhance women's quality of life, making it crucial to avoid introducing new issues, such as persistent pain, which could have an even greater negative impact. Healthcare professionals must provide accurate and comprehensive information, enabling women to weigh the risks of long-term pain against the challenges posed by daily urinary incontinence.[8] The lack of high-quality Norwegian long-term follow-up data on persistent pain raises concerns that some women may not associate their pain with mesh implants. This could result in misleadingly low risk figures, giving women a false sense of security when considering incontinence surgery. In order to rectify the situation finding logistically lasting solutions for conducting a 3-year follow-up with adequate pain registration, we decided to carry out a quality improvement project inspired by Langley's model for improvement.[9 10] The overarching project objective was to achieve the best possible mapping of long-term persistent postoperative pain following urinary leakage surgery with synthetic mesh (sling) implants. We aimed at testing measures to increase implementation of long-term (3 years) follow-ups to improve completeness of long-term postoperative pain registration after mesh (sling) surgery for urinary incontinence. We also aimed to test and potentially improve the validity of the registry's pain indicator to ensure that the indicator reflects the real prevalence of persistent long-term pain. The project was initiated by the NFIR's management team and approved by NFIR's advisory board. To ensure feasibility, we invited representatives involved in conducting follow-up exams and pain diagnostics from various professional groups at hospitals that differed in size, geographical location and registered performance level. As an additional benefit of bringing together health professionals from all Norwegian health regions, we hoped to find improvements in diagnostics and treatment pathways that might be nationally implemented also at hospitals not participating in the project.

METHODS

The project was initiated by the NFIR management team as a response to increased international awareness on long-term persistent pain after mesh incontinence surgery and poor quality of registered pain data in the NFIR.[7] Hospitals have access locally to data on their own patients registered in NFIR. However, the national NFIR database is deidentified and does not include personal identification numbers as the code list is preserved at the reporting hospital. Ethical integrity in this quality improvement project is ensured by presenting all materials and data in a manner that cannot be linked back to individual patients. Additionally, specific hospitals are not identified to protect confidentiality and to prevent the recognition of departments that may perform below average. This paper is structured according to SQUIRE 2.0 guidelines.[11]

The project was divided into three main phases: (1) preparation, (2) project implementation and (3) dissemination. Funding was secured through the Norwegian Service Environment for Medical Health Registries, which is the national regulatory body for all the national medical quality registries.

To establish a representative improvement team, eight hospitals were invited based on their surgical volume,

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geographic location and past performance in patient follow-up and pain registration. However, one hospital declined participation. The remaining seven hospitals represented all four Norwegian health regions—Northern, South-Eastern, Central and Western Norway, ensuring a diverse mix of large university hospitals with substantial academic activity, regional hospitals and local community hospitals. The annual surgical volumes in these hospitals ranged from fewer than 30 to over 90 procedures. Follow-up practices also varied considerably: while some hospitals conducted a 3-year follow-up for nearly all patients, others reported very low rates of 3-year follow-up.

At all seven departments, alignment of the project within the organisation was ensured by the medical director at each department signing an agreement to ensure that sufficient time and resources would be allocated to the project. Each department established local working groups comprising two to three healthcare professionals familiar with the department's follow-up routines for women undergoing mesh (sling) surgeries. These groups typically included urotherapists (nurses), health secretaries or assistant nurses. Additionally, it was mandatory for each hospital to have at least one gynaecological surgeon represented in the group. The NFIR user representative was included in the project group to ensure that the patient perspective was effectively represented. An information meeting was held to inform the participants about the project and gather input on the project's main goals and processes. Before the start-up seminar, the NFIR management team conducted a survey to compare the existing routines across departments for planning and implementing postoperative follow-ups, pain registration and patient information regarding long-term pain risk. The timeline depicting the teamwork of the Improvement team is presented in figure 1.

The project teamwork was kicked off with a full-day start-up seminar. An introductory lecture on quality improvement methodology was given to provide all participants with a fundamental understanding of the processes and how to perform small scale ('rapid cycle') testing according to Deming's Plan-Do-Study-Act cycle.[9 10] During the start-up seminar, the identified quality deficiencies and goals from the project description were discussed, prioritised, adjusted and refined.

The main quality gap that the project group decided to focus on was incomplete and potentially imprecise national pain documentation due to inadequate long-term (3 year) follow-up, lack of consistency in follow-up practices and potentially poor validity of the pain recording. Moreover, the project group wanted to improve patient awareness of pain risk.

The main specific goal of the project was defined as:

- For the cohort of women operated with sling surgery at the participating hospitals between 1 April 2019 and 31 March 2020, pain duration, impact on quality of life and need for treatment would be recorded after 3 years for at least 80% of the women. This implied that if pain was recorded for all patients at follow-up, the 3-year follow-up rate had to be minimum 80%.

The secondary objectives were defined as:

- All participating departments should survey long-term pain by consistently asking about pain at all follow-ups.
- All participating departments should through consensus establish standard routines on how to best inform women contemplating incontinence surgery with mesh (sling) of the risk for long-term persistent pain.

During the start-up seminar, project participants focused on identifying bottlenecks that hinder the implementation of 3-year controls and pain registration. They also initiated the development of a pain questionnaire mapping out the negative impact on quality of life, refining it over the following 2 weeks via electronic communication until a final version was agreed on. This pain questionnaire

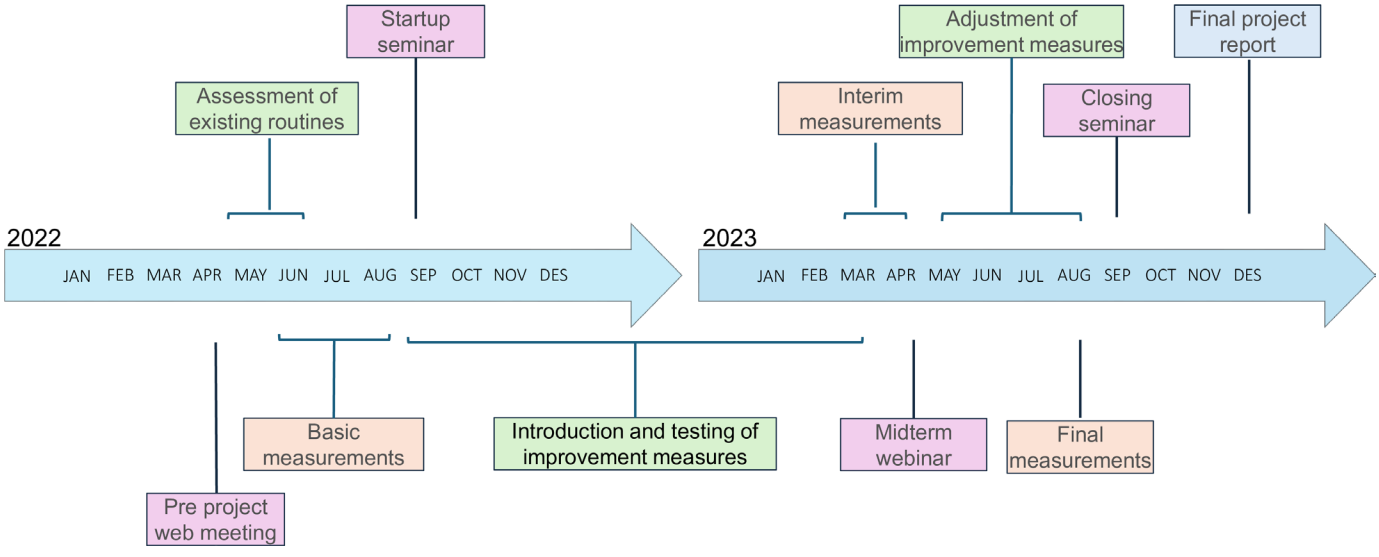

Figure 1 Main parts of the project teamwork.

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consisted of both validated questions borrowed from established pain questionnaires and non-validated adjustments of such questions coined by the project group. The primary aim was not to develop a finalised questionnaire, but rather to test whether the use of a questionnaire in itself could serve as a useful diagnostic tool, thereby providing a foundation for further work in this area. The project team included some of the most experienced clinicians in the country, ensuring a high level of expertise in the development and evaluation of the tool.

After assessing and prioritising potential interventions, the following consensus was reached:

- Three-year follow-ups for patients having had incontinence mesh (sling) surgeries between 1 April 2019 and 31 March 2020 would be conducted via telephone. Departments would plan the follow-ups in the manner most feasible locally.
- The latest version of the validated NFIR questionnaire for patient-reported outcomes would be used for the telephone consultations, to ensure consistent pain registration.
- For patients who reported pain lasting more than 3 months and who still experienced pain, additional questions from the project pain questionnaire would be asked.
- Patients who self-reported persistent pain would be invited for a clinical examination.

The indicators measured in the project were:

- Percentages of 3-year follow-ups conducted at each hospital and for the total project group.
- Prevalence of long-term self-reported persistent pain at each hospital and for the total project group.
- Prevalence of sling-related pain after assessment and clinical examination by a gynaecological surgeon.

These indicators were measured at baseline, mid-project and at project finalisation. The project management kept an overview of the project data being continuously reported from the departments throughout the project period, and several interim measurements of completed 3-year follow-ups with pain registrations were performed and reported back to participating hospitals.

A mid-project half-day webinar was conducted to discuss challenges, success factors and the path forward. Representatives from each department presented their preliminary results and received feedback and suggestions from the other project participants on how to address ongoing challenges, optimising and improving the work. A draft for patient information on the risk for postoperative persistent pain was made to be further refined by one of the participants and circulated to all participants by mail. The wording for this patient information was discussed and finalised during the final seminar in September 2023. Between the midterm webinar and the project's teamwork conclusion, the departments implemented the planned and adjusted interventions. These adjusted interventions included local adaptations to the processes for conducting follow-ups and managing patients with pain, such as establishing routines for patient callbacks, planning follow-up appointments and conducting clinical assessments of patients having self-reported pain they related to the sling mesh implant. These modifications were tailored to fit the specific needs and conditions of each department, ensuring more effective implementation of the project's objectives.

During the final seminar, participants prioritised and collaboratively developed the project recommendations, detailed in the Results section.

A final report based on the project recommendations was prepared by the project manager and circulated to all participants for review and feedback before its completion. Following this, the project transitioned into the dissemination phase.

For the dissemination phase, the focus was put on ensuring that all departments reporting to NFIR were made aware of the project's recommendations. This way, departments that were not involved in the project were encouraged to increase their focus on the diagnosis and documentation of persistent pain following incontinence mesh (sling) surgery. Additionally, the project intended to stimulate all departments to establish local routines for presurgery and postsurgery patient information using the wording coined by the project group on risk for persistent pain after incontinence mesh (sling) surgery. As part of this work, the project manager gave a presentation based on the project's final report at the NFIR Forum in November 2023, a national scientific 1-day meeting held annually at Oslo University Hospital for health personnel evaluating and treating women with urinary incontinence. A summary of the project findings and recommendations was also included in the 2023 NFIR annual Scientific Report, sent to all 39 reporting departments in February 2024.

RESULTS

As agreed on by the participants during the start-up seminar, all participating hospitals initiated contact with their relevant patients by phone. The departments had varied experiences with conducting 3-year follow-ups via telephone interviews. Some departments found patient outreach straightforward, with many patients appreciating postsurgery discussions by phone, while others faced challenges, including unresponsive or unwilling participants. Precall text messages explaining the purpose of the phone call improved response rates, and providing specific call appointments helped prepare patients, further boosting responsiveness. However, some project participants reported that specific call appointments could be inefficient for those conducting phone follow-ups. If patients did not answer, the callers were required to wait until the preset time before making the next call, leading to potential time management challenges. Although a flexible, time-allowance approach in this respect would be ideal, the study group landed on recommending specific call appointments to ensure high response rates.

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Table 1 Baseline measurements for women operated with synthetic sling surgery in 2017 at the departments participating in the project

For patients operated with a synthetic mesh sling in 2017				
	Synthetic mesh sling surgeries	3-year postoperative		
		Completed follow-up	Registered pain data	Self-reported pain
	N	%	%	N
Hospital 1	64	92.2 %	93.2 %	1
Hospital 2	110	100.0 %	25.5 %	
Hospital 3	68	97.1 %	0.0 %	
Hospital 4	93	68.8 %	87.5 %	
Hospital 5	43	2.3 %	0.0 %	
Hospital 6	89	60.7 %	98.1 %	
Hospital 7	21	76.2 %	0.0 %	
Total	488	75.8 %	51.9 %	1

The participants' general experience was that many patients had a lot on their minds, making it challenging to accomplish the actual follow-up goals. Over time, this improved as the participants developed their own structured introduction and learnt how to maintain a firm control and flow of the conversation to keep it on track and avoid digressions.

At the start of the project, the average completion rate for 3-year follow-ups within the project group was 76%, with a significant variation (2.3%–100%). Pain data were documented in just over half of the completed 3-year follow-ups, also with a wide range within the project group (0%–98%). From available data, it was not possible to determine whether the absence of pain registration could be interpreted as the patient being pain free. Only one woman was registered with self-reported pain at project baseline (table 1).

Responding to the pain questionnaire over the phone proved to be challenging for patients. The overall impression was that the questionnaire was too detailed, and patients struggled to organise their responses without being able to see the questions and response options. This limitation made it unsuitable as a screening tool for identifying patients with persistent sling-related pain. The project participants determined that it was sufficient to ask patients whether they were experiencing persistent pain, whether they believed the pain to be mesh (sling)-related, if the pain was severe enough to negatively impact their quality of life, and whether they wished to pursue further examination or treatment. The full project pain questionnaire was therefore used solely as a supplement during the clinical assessment of patients with persistent pain. It functioned effectively in this setting, where patients had the opportunity to complete the questionnaire on their own.

The project aimed to ensure that at least 80% of patients received a 3-year follow-up, including pain registration. While this target was met for the group overall, some individual hospitals fell short despite considerable efforts from all participants. Notably, the variation in follow-up rates between hospitals which ranged from 2.3% to 100% at baseline, narrowed significantly to between 76.9% and 97.2%. In terms of pain data, recording rates improved from a wide range of 0 %–98% to 100% across all participating hospitals (table 2).

As shown in table 2, 18 patients (4.3%) across all departments self-reported long-term persistent pain they perceived to be sling-related during the 3-year telephone follow-up. Clinical evaluations of these women reduced the number of likely or potentially sling-related pain cases to only eight cases (1.9%), none of which involved debilitating pain. Of these, three patients required treatment: one underwent removal of the vaginal portion of the sling, while the other two were successfully managed with conservative measures. The reported negative impact on daily life for all three treated patients was minimal.

The results given above suggest that the validity of the existing recording of pain in NFIR is poor when it comes to identifying sling-related pain. A comparison of the relevant patients' responses to the pain questionnaire used in this project revealed that it was not possible to identify one or more specific questions that could reliably indicate sling-related pain. During the project period, the pain question in the NFIR questionnaire was improved to include the date when the pain started and whether the patient is currently pain-free. Based on the experiences gained from the project, all patients reporting self-referred pain perceived as sling-related and lasting more than 3 months are now recommended to undergo a clinical examination. A designated section has been added to the NFIR system where the examining physician can document whether the pain appears to be sling-related.

The project participants developed a brief patient information text emphasising the importance of promptly contacting a physician if experiencing pain that might be mesh (sling)-related. This text was shared with all departments performing sling surgeries in Norway via email to be incorporated into each hospital patient information materials, included in the annual NFIR report, and communicated orally at the NFIR Forum. In addition to

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Table 2 Final measurements of 3-year controls, pain registration and pain evaluation for project departments: women operated with synthetic sling between April 1 2019 and March 31 2020

					After clinical evaluation					
						Sling-related pain				
	Sling mesh surgeries	Controlled after 3 years	Patient-reported pain		Unrelated pain	Uncertain	Not requiring treatment	Requiring treatment	Total	
Hospital	N	%	N	%	N	N	N	N	N	%
1	27	77.8	0	0.0					0	0.0
2	53	77.4	3	5.7	2	1			1	1.9
3	71	97.2	1	1.4	1				0	0.0
4	78	94.7	5	6.4	2		1	2	3	3.8
5	68	76.9	5	7.4	4			1	1	1.5
6	58	89.3	1	1.7	1				0	0.0
7	61	83.6	3	4.9		1	2		3	4.9
Total	416	86.6	18	4.3	10	2	3	3	8	1.9

including the information in each hospital's patient information materials, the hospitals were encouraged to use the information as a basis for verbal patient counselling.

Even though it was not part of the project description, the project participants also discussed patient pathways for women with pain after sling surgery requiring sling removal. There was broad consensus that such procedures should be centralised to a limited number of specialists at the tertiary university hospitals. This approach ensures sufficient procedural volume and expertise, as complete sling removal demands advanced surgical skills.

DISCUSSION

In this project, we found that conducting 3-year follow-up assessments via telephone enabled an overall pain registration rate exceeding 80%. The undesired variation between departments was significantly reduced, although not all departments achieved the project goal. The project revealed significant deficiencies in the registry's pain registration and highlighted that the pain-related question in the quality registry lacked sufficient validity to determine whether the patient's long-term persistent pain was caused by the sling or by entirely unrelated factors. Thus, clinical examination of all patients with self-reported pain was incorporated into the registry's recommendations.

We decided to test telephone follow-ups as a strategy to improve the completion rate of patient follow-ups. Ideally, we would also have liked to test electronic solutions, which are widely accepted, particularly among younger patients.[10] However, at the start of the project, no electronic solutions meeting patient safety standards were available. During the project period, patients were not charged for telephone consultations. However, in the future, it may be challenging to encourage hospitals to prioritise this type of follow-up consultations if they do not contribute to departmental revenue. It remains uncertain whether requiring patients to pay a copayment for these consultations will deter their participation. Although literature reviews from 2012 and 2023 indicate that increased costs for patients reduce adherence, we have not found articles with results that can be generalised to our follow-up situation, patient population or healthcare system.[12 13] That said, the relatively low prevalence of persistent pain following sling surgeries observed in this project suggests limited justification for routinely implementing physical or phone follow-ups that would incur costs for the patient.

Although most patients find it straightforward to answer simple questions about pain associated with pelvic surgery, this quality project highlights the challenge of developing a monitoring tool in the form of a specific question that reliably links the reported pain to the procedure.[14] During the interviews, participants tested the project's pain questionnaire, but patients were unable to provide specific answers to the questions over the phone. This demonstrates that patients' pain experiences are complex and multifaceted, and that pain assessment requires an in-person consultation with the patient.[15] In addition to incorporating supplementary information into the pain question, the project group recommended inviting all patients who report persistent pain beyond 3 months post-surgery, which they believe to be sling-related, for a clinical assessment. Not many patients with sling-related pain were found in the project, but more than two times as many had to undergo examinations due to self-reported pain. While this aligns with patients' rights and should be standard practice, developing specific guidelines for planning and conducting such follow-up examinations was beyond the project's scope, and financial consequences were not assessed. How individual departments will interpret and implement these recommendations therefore remains to be seen.

The success factors of this project were, first and foremost, the high motivation and enthusiasm of all participants as well as their shared understanding with the NFIR

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management of the project's importance and the need to identify persistent mesh-related pain as early as possible. This allowed the effort to be on project execution right from the start, without having the participants go through the motivational stages of change.[16] A prompt clarification of project participation and timely contract signing by department heads facilitated an efficient project launch. In spring 2022, a preparatory Teams meeting provided an overview of the project's background, objectives and metrics, while participants exchanged insights on persistent pain care. This session set the stage for a dynamic, collaborative start-up seminar. Sharing agendas ahead of webinars and seminars, along with summaries and follow-up action points, ensured that each participant was consistently informed and prepared for each subsequent phase of the project. NFIR has already an ongoing established contact with the department heads as part of its continuous quality improvement work, and NFIR representatives are present in all departments. This facilitated ongoing communication between the participating departments and the project management, ensuring that project participants received continuous support to stay focused on the project amidst a busy clinical environment, where such work is often deprioritised.

A limitation to this project that should be emphasised is that the study findings are specific to Norwegian healthcare settings, where the use of synthetic mesh (sling) implants and patient follow-up practices are influenced by local guidelines, resources and patient demographics. These factors may limit the generalisability of the results to other countries with different healthcare systems, cultural attitudes or surgical practices.

Despite efforts to standardise follow-up practices, variability in adherence to the protocol among participating hospitals remained, potentially introducing systematic bias. However, we believe that the modifications made to the NFIR's pain monitoring, specifically the addition of fields to capture the date of pain onset, refinement of how pain duration is recorded and the recommendation to clinically assess all patients with self-reported sling-related pain, have significantly improved the accuracy and relevance of the data collected.

In conclusion, this project demonstrates that implementing 3-year follow-ups by telephone is an effective strategy to significantly improve the rates of pain registration data. The initiative reduced variability in follow-up practices and uncovered critical limitations in the existing pain registration within the registry. Recommendations to enhance the registrations now include mandatory clinical examinations for patients with self-reported pain and improved documentation of pain onset and persistence. These findings have substantial implications for clinical practice, emphasising the need for systematic follow-up and better patient information about potential postoperative pain. The project's methods and results also offer a sustainable model for adoption in other contexts. Future efforts should explore electronic follow-up solutions to complement or replace telephone consultations, ensuring accessibility and scalability while addressing potential challenges related to funding and patient adherence. Continued research and collaboration across departments are necessary to refine follow-up protocols and assess long-term impacts.

Contributors SHO (guarantor): manuscript draft and revision, data analysis and interpretation, project management. TD: manuscript revision, data interpretation, project supervision. RS: manuscript revision, data analysis and interpretation, I have used Chat GPT 40 mini for linguistic purposes (such as checking English spelling).

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Competing interests SHO, TD: none. RS: speaker's fees from Astellas.

Patient and public involvement The NFIR Patient/User representative actively participated in the project group, providing valuable insights into the design of patient information, the development of a pain questionnaire, and the enhancement of appointment routines for telephone consultations.

Patient consent for publication Not applicable.

Ethics approval Anonymised registry data were used in the study, and the identity of the patients was only known locally. The patients with self-referred postoperative pain were controlled as part of quality assurance and follow-up after treatment. Quality improvement studies based on registry data are exempt from such approvals in Norway. Upon registration in NFIR, women are asked to sign consent for the publication of their data in connection with future research, with over 90% having signed the consent form.

Provenance and peer review Not commissioned; externally peer-reviewed.

Data availability statement Data are available upon reasonable request. Anonymised data are available upon formal request from the Norwegian Female Urinary Incontinence Registry.

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ORCID iD

Sissel Hegdahl Oversand http://orcid.org/0000-0003-0766-4523

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