

# National Cellulitis Improvement Programme (NCIP) in HDUHB 2023-2034 Report

April 2024

FINAL V1.0

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## Purpose

- To update the progress realised by the Value-Based National Cellulitis Improvement Programme in HDUHB;
- To provide assurance of ongoing plans for 24-25 to realise further benefits.

## Situation

Lymphoedema Clinical Network Wales, (LW) commenced the National Cellulitis Improvement Programme (NCIP) in 2020 for secondary care supported by Welsh Government. Since inception, the patient and financial benefits of the programme were extremely positive indicating reduced readmissions and improved patient-reported outcome measures that the programme was scaled and expedited to include primary care. HDUHB, along with five other Health Boards accelerated the programme and agreed to fund a permanent Band 7 clinician to join the small cellulitis team to focus on the HDUHB population.

This additional post has enabled

- A two-month rolling programme of all people being admitted into hospitals in HDUHB with a cellulitis diagnosis being contacted – Previously was every 12 months (**Phase One**);
- Targeting the GP Clusters with cellulitis specific education and accelerating Consultant Connect referrals (**Phase Two**);
- Extending the programme into Primary Care/GP Surgeries targeting patients who have received two prescriptions for Flucloxacillin in collaboration with the Antimicrobial Pharmacists (**Phase Three**);
- Increasing benefits working with antimicrobial pharmacists reviewing those patients on long-term prophylactics and there is a new offer of those patients being prescribed unnecessary compression garments via the GP on repeat (**Phase Four**);
- (**Phase Five**) Increasing benefits working with Heart Failure Services raising awareness of cellulitis and lymphoedema improving education for a skilled workforce and improving longer term benefits with collaboration.

The NCIP team work efficiently in supporting the HDUHB population virtually and being able to see them in their local area face to face in GP Surgeries, Wound Clinics, and Lymphoedema Services and on the Tenovus Mobile Unit sited in local supermarkets.

Demonstrating the impact of care and collaboration through a Value-Based healthcare ethos and true collaboration between Secondary and Primary Care NCIP have become an award winning programme.

This report will provide an update of the NCIP focussing on the HDUHB population and the positive results encountered up until March 31<sup>st</sup> 2024. It will focus on the annual benefits and results to date too.

## Background

Cellulitis is a skin infection that causes pain, malaise, poor quality of life and impaired activities of daily living, with a life-threatening risk of sepsis if mismanaged. It represents a significant burden to the NHS causing around 7,500 Emergency Department contacts and 37,200 bed days in Wales in 2020-21 reducing to 5,600 and 29,000 in 2021-22. This data is for cellulitis alone and does not include lymphangitis, infections of the skin and ulcers that are all related and increase bed days to over double.

In HDUHB for cellulitis;

In 2019-2020, there were 771 Emergency Department contacts with 693 hospital admissions resulting in a mean length of stay of 6 days equating to 4,266 bed days.

In 2020-2021, there were 297 Emergency Department contacts with 304 hospital admissions resulting in a mean length of stay of 9 days equating to 2,535 bed days.

In 2021-2022, there were 384 Emergency Department contacts, 396 admissions, mean length of 9 days and 3,538 bed days.

In 2022-2023, there were 586 Emergency Department contacts with 433 hospital admissions resulting in a mean length of stay of 11 days (Median was 3) equating to 4,728 bed days.

We must consider the impact of the pandemic on this data and will be interested to see the difference in 2023-2024. The mean length of stay at 11 days is one of the highest in Wales although the median is 3 days thus could be longer term stays with people with sepsis and as Frailty is the highest in HDUHB- these could be much more complex patients. Positively, the numbers of cellulitis have not risen to where they were in 2019-20. However, we do need to consider more education for secondary care including emergency departments and minor injuries.

Interrogating the SAIL database highlighted over 200,000 GP events logged for cellulitis and costs on average circa £8 million.

Research suggests that once you have one episode of cellulitis the recurrence rate of another infection ranges from 10-50%. This is dependent on existing risk factors such as obesity, lymphoedema, skin conditions, immobility, wounds and diabetes that if treated could reduce the rate of recurrence from 40-85%. Sadly, care provided during an acute episode of cellulitis is very reactive and not focussed on cellulitis recurrence prevention. Importantly, misdiagnosis occurs in 30% of cellulitis cases resulting in no value with unnecessary antibiotic treatment and time in hospital.

Confidently, NCIP proactively supports patients in understanding and managing their risk factors such as lymphoedema, wounds and skin conditions thereby reducing the rate of cellulitis recurrence and decreasing the burden on unscheduled care.

## Aims of NCIP

- Improve patients understanding of the risk factors which attribute to a cellulitis episode;
- Increase awareness in identifying and management of cellulitis for healthcare professionals (HCPs);
- Decrease the incidence of repeated cellulitis episodes through education, assessment and prompt treatment;
- Reduce the systemic pressure on Emergency Departments (ED), admissions & inpatient services through effective treatment of cellulitis;
- Reduce pressures on Primary Care for cellulitis events;
- Capture cellulitis patient-reported outcome measures to improve the pathway using CELLUPROM<sup>®</sup> and EQ5D5L and patient reported experience measures CELLUPREM<sup>®</sup>.

## Objectives of NCIP

The Programme is evidence-based and has strong indicators of being clinically effective. Its objectives and associated benefits are entrenched in Value-Based Healthcare.

### Objective 1 - Clinically Effective Care

- Provide evidenced-based information on cellulitis for HCPs and to patients;
- Reduce inappropriate antibiotic prescribing;
- More effective use of prophylactic antibiotics and/ or rescue packs;
- Decrease cellulitis attendance to Emergency Departments;
- Decrease cellulitis admissions into secondary care;
- Decrease length of stays for people with cellulitis;
- Decrease cellulitis appointments within Primary Care;
- Increase health benefits to patients (PROMs, function, pain, movement);
- Improve psychological benefit (decrease fear, anxiety);
- Increased value and cost benefit to patients (work, reduced travel, fewer appointments);
- Deliver high-impact research to scale up clinically effective care.

### Objective 2 - Quality & Safety for Patients

- All information material provided to HCPs and patients is high quality and evidence-based;
- Proactive and preventative approach decreasing waste, harm and variation in antibiotic prescribing;
- Quality education will be delivered through accredited Agored Cymru units;
- Garments prescribed will follow the All Wales compression garments formulary where all products have been evaluated ensuring safety;
- Utilisation of quality methodology including patients reported outcome measures and patients reported experience measures. (CELLUPROM<sup>®</sup>/ CELLUPREM<sup>®</sup>);

### **Objective 3 - Standardisation of Information and Health Outcomes**

- Validation of a cellulitis patient-reported outcome measure (CELLUPROM<sup>®</sup>) to improve the pathway;
- National application of the All Wales Anti-Microbial Guidelines, ensuring all patients follow the pathway;
- New Standard Operating Procedures for Rescue Antibiotics and Prophylactic Antibiotics.

### **Objective 4 - Sustainability NHS Services across Wales**

- Decrease cellulitis re-admissions to secondary care;
- Reduced costs for Health Boards due to a reduction in cellulitis admissions;
- Ensure patients are empowered through practical information to help them self-manage reducing the risk of further episodes of cellulitis.

### **Objective 5 - Accessibility for Cellulitis Patients in Wales**

- All Health Boards will have access to local face to face cellulitis clinics and/or Home Visits if necessary;
- All patients will be able to access cellulitis education films and leaflets in English and Welsh;
- All HCPs will be invited to complete an E-Learning module on cellulitis.

### **Objective 6 - Affordability for Health Boards**

- The initial programme recurrently funded by WG (three WTE) and Health Boards were encouraged to expedite activity by supporting funding to expand the local service;
- The benefits outweigh the costs occurring via the programme.

### **Objective 7 – Achievability**

- NCIP is delivering more than expected with additional benefits being raised in a phased approach;
- The LWCN is renowned for delivering high quality care in a Value-Based approach and supports innovation through a dedicated team thus infrastructure is already in place.

### **Objective 8 - Strategic Fit for Health Boards**

- NCIP fits with the WG Value-Based Healthcare ethos in providing evidence-based care to achieve desired outcomes for the patients and the NHS;
- Supports the respective IMTP of Health Boards;
- Supports population health challenges in Wales;
- Supports the Well-Being of Future Generations Act.

## **Assessment**

The following information provides the evaluation of the NCIP focussing only on the HDUHB results. 3,278 patients have been invited to participate in the cellulitis programme to date. Each of these patients have been admitted with a cellulitis code

in the following hospitals over the last three years or have been received treatment from the GPs (Table 1).

**Table 1: Split of patients in HDUHB**

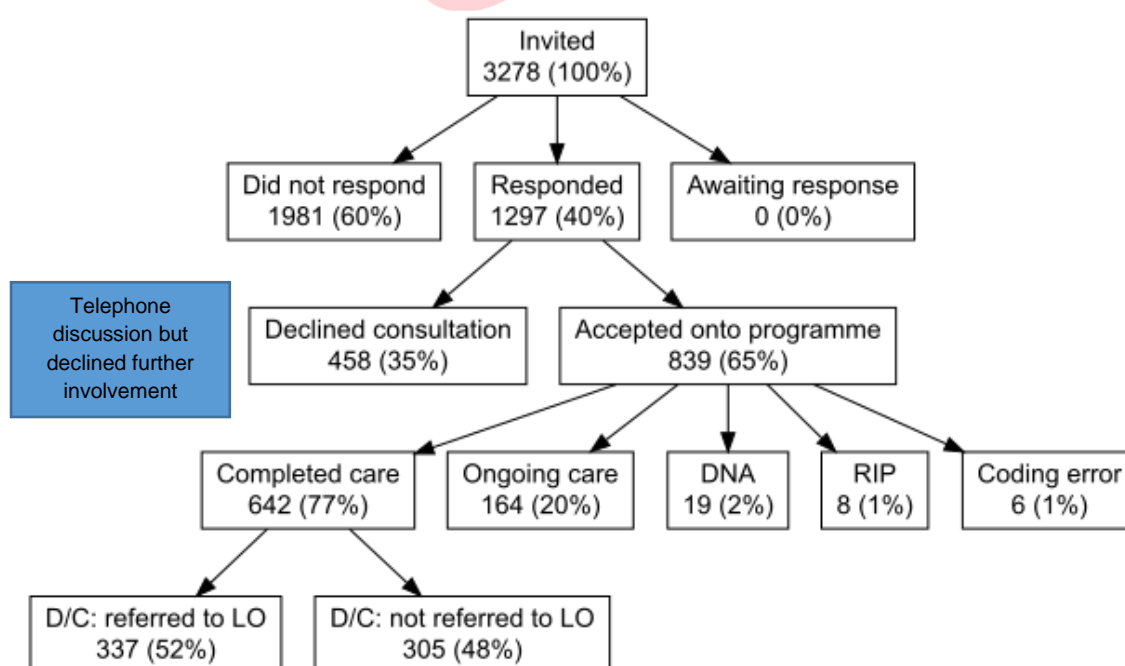
PPH	Glangwilli	Withybush	Bronglais	GP
682	956	986	378	276

The benefit of the additional band 7 cellulitis post is now all patients admitted into a HDUHB Hospital are contacted within two to three months of their admission (previously this was 12 months). This reduction in time is important, as that is when a readmission is most likely.

Every one of the 3,278 patients receive a *Reducing the Risk of Cellulitis Leaflet* and a letter asking them to contact the service for a clinical appointment.

Of those 3,278 people 40% (1,297) responded (Figure 1). As we receive a data update of patients being admitted with cellulitis every 2/3-months, those patients who do not respond and have another episode may then decide to participate. We are also reviewing the process and have started ringing patients instead issuing a second letter to increase the non-responder rate- this has increased uptake however we are now looking at targeting those patients who are repeat admitters who are usually those with numerous comorbidities. One issue with the data response is some patients may be counted as a non-responder when they are already in the programme for example, they could have been referred twice- one from secondary care as an admitter and one from primary care but only accepted once. We are working with our data analyst to resolve this, subsequently, the response rate is a minimum of the 40% reported.

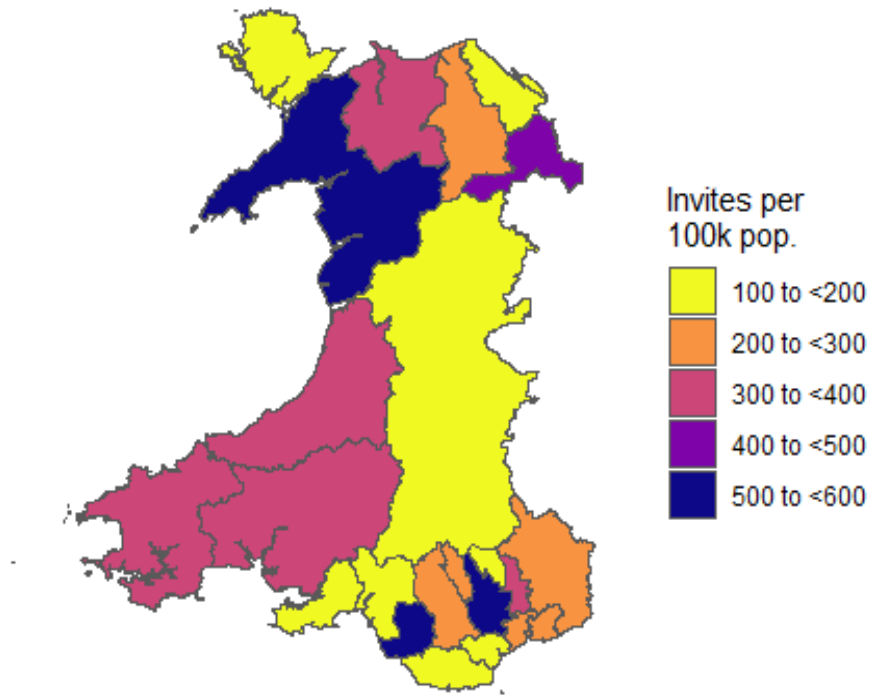
**Figure 1: Cellulitis Improvement Programme Overview HDUHB**



In the last year 2023-24 we have contacted 1,391 patients. In 2020-21 it was 269, 2021-22 was 1,105, in 2022-23 was 496. This rise was due to the employment of the additional funded post working more with primary care. Figure 2 shows the invites across Wales.

**Figure 2: Invites per 100,000 in Wales**

Invites per 100,000 population



The following evaluation is based on the 642 HDUHB patients who have completed the NCIP so far, which has been expedited by the additional funded post. 164 patients are still under the programme and a further 140 patients have been invited as admitted into a CTMUHB hospital in December/ January 2024. The data draw is now automatic with DHCW and as it's within two months of admission is proving to increase the respondent rate.

## Patient Demographics

- 46% (295) are female and 54% (347) are male. This ratio is common in cellulitis diagnosis with more men experiencing cellulitis than women. The reasons for this may be social, personal care and footwear.
- The average age is 68 with a range of 18 to 103 and 72% of the cohort are 61 years or over (Table 2).

**Table 2: Age Range in HDUHB**

Age	%	Age	%	Age	%
0 to 20	0%	41 to 50	7%	71 to 80	28%
21 to 30	2%	51 to 60	14%	81 to 90	21%
31 to 40	4%	61 to 70	19%	91 – 100+	5%

As can be seen in Table 3 the majority of the cellulitis is on the lower limb 76%.

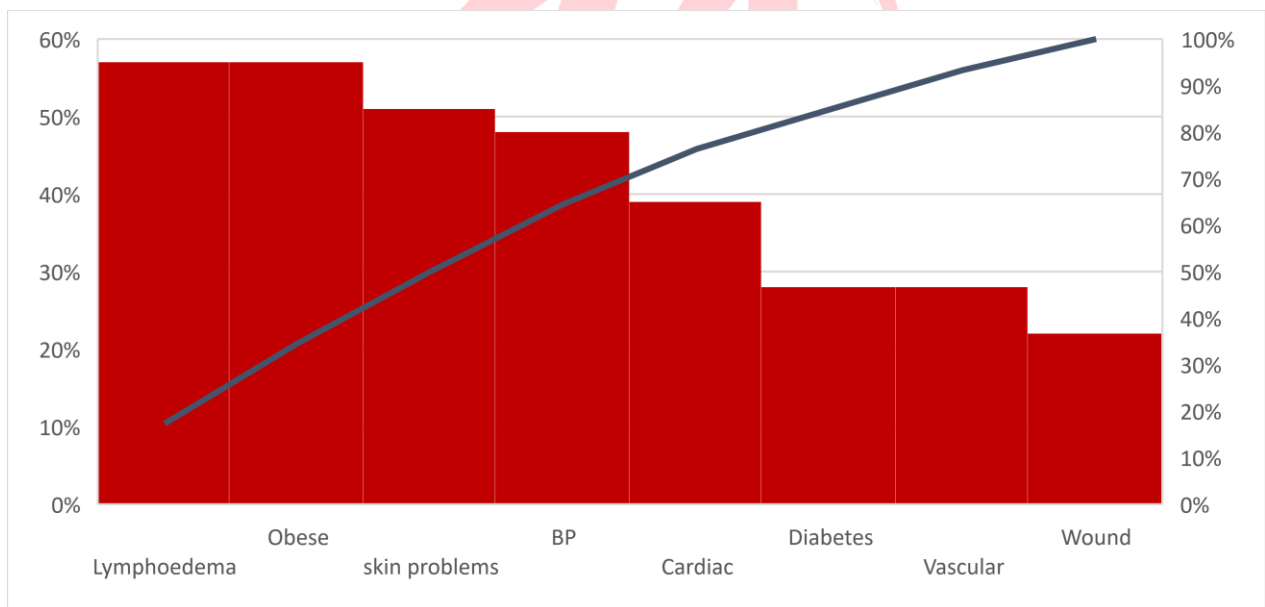
**Table 3: Location of cellulitis**

Location	Upper Limb	Lower Limb	Trunk	Head / Neck
%	12%	76%	7%	5%

### Risk Factors to Cellulitis

Many people who experience repeated cellulitis have risk factors such as wounds, morbid obesity, immobility, diabetes, fungal infections/ skin issues, and lymphoedema. Several of these risk factors can be identified and treated to reduce the risk (Figure 3).

**Figure 3: Cellulitis Risk Factors HDUHB**



- Obesity (BMI 30 or more) was found in 57% (average BMI was 32 with a range of 17 -84)
- Skin problems (51%), Wounds (22%) – Highest wounds in Wales (Table 4)
- Lymphoedema was apparent in 57%. Highlighting the unmet need of these patients, 68% diagnosed with lymphoedema were not known to their local

lymphoedema service so had untreated oedema which carries a 71 times risk factor of cellulitis recurrence. Of those patients diagnosed with lymphoedema, 64% had Moderate, Severe, Complex, or Complex with a wound lymphoedema severity.

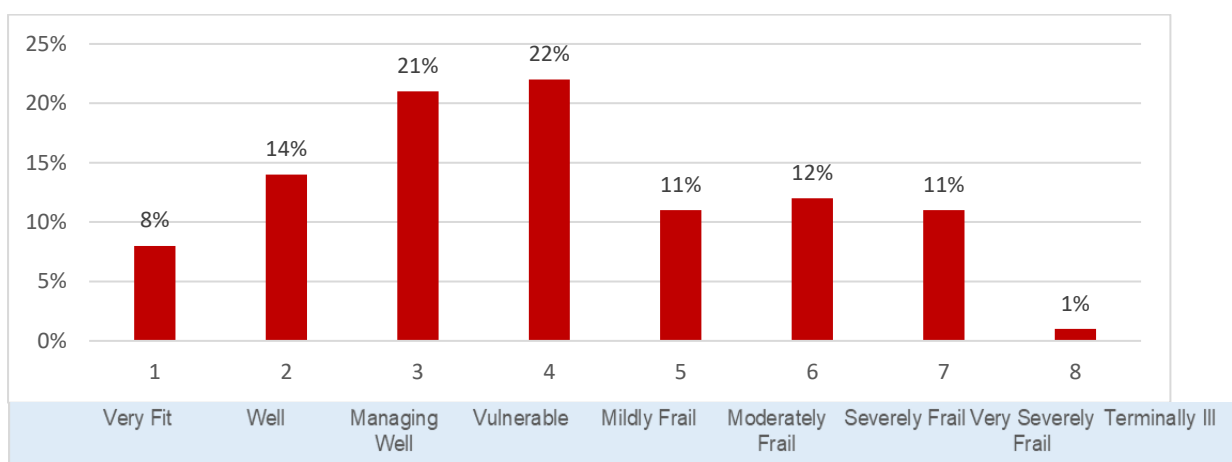
- Interestingly, 48% of the patients had blood pressure problems with 18% on calcium channel blockers that has a side effect of peripheral oedema. A simple change in medication reduces lymphoedema and the risk of cellulitis decreases.

**Table 4: Cellulitis Risk Factors across Wales**

Risk Factor	ABUHB	BCUHB	CVUHB	CTMUHB	HDUHB	PT	SBUHB
Oedema	52%	43%	49%	57%	<b>57%</b>	46%	54%
Obesity	60%	55%	57%	63%	<b>57%</b>	50%	57%
Wounds	17%	17%	15%	16%	<b>22%</b>	14%	16%
Skin issues	59%	47%	46%	52%	<b>51%</b>	47%	57%
Fungal	14%	9%	11%	12%	<b>9%</b>	11%	9%
BP	53%	48%	46%	51%	<b>48%</b>	49%	50%
Diabetes	26%	25%	25%	27%	<b>28%</b>	17%	27%
Cardiac	33%	34%	36%	36%	<b>39%</b>	38%	35%
Vascular	27%	26%	20%	26%	<b>28%</b>	31%	29%

Cellulitis is intrinsically linked to older age and frailty and capturing Frailty Scores highlights that over 57% of patients seen were categorised as 4 (Vulnerable) or worse (Figure 4). This is the highest percentage in all the Health Boards in NCIP data.

**Figure 3: Frailty Score**



### Cellulitis Episodes and Impact

Of the 642 people who have completed the programme, 1,669 episodes of cellulitis were reported with an average of 2.6 each with one-person experiencing 8 episodes. The overall cellulitis resulted in 3,279 days spent in hospitals with an average each of 3.8 days and 15,279 days of lost normality for the patient (Table 5).

**Table 5: Cellulitis episodes for the 642 cohort**

	last 12 months	last 24 months	Lifetime
<b>Cellulitis Episodes</b>	<b>725</b>	<b>1,112</b>	<b>1,669</b>
<b>Admissions for cellulitis</b>	<b>432</b>	<b>581</b>	<b>782</b>
<b>Length of stay</b>	<b>3,695</b>	<b>4,705</b>	<b>6,279</b>
<b>Normality lost</b>	<b>9,874</b>	<b>12,093</b>	<b>15,279</b>

Positively, following the 642 patients data 12 months before and 12-months after intervention shows a reduction from 432 hospital admissions to seven and 22 being treated by GP/Self-management with Rescue antibiotics (Table 6).

**Table 6: Patient Outcomes 12 months before and after intervention**

	Pre Intervention			Post Intervention		
	Cellulitis episodes	Hospital admissions	Length of stay (days)	Cellulitis episodes	Hospital admissions	Length of stay (days)
Patients (n)	725	432	3,695	29	7	43

Similar to established research, deprivation data highlights those that live in the most deprived areas tend to have more cellulitis (Figure 5). Further those that live in the least deprived areas are more likely to respond to NCIP. (Figure 6) respond more to the invite than those in the most deprived areas

Figure 5: Welsh Index of Multiple Deprivation (WIMD) quintile (LSOA) of residence for Cellulitis

Deprivation: invites sent per 1000 by deprivation quintile

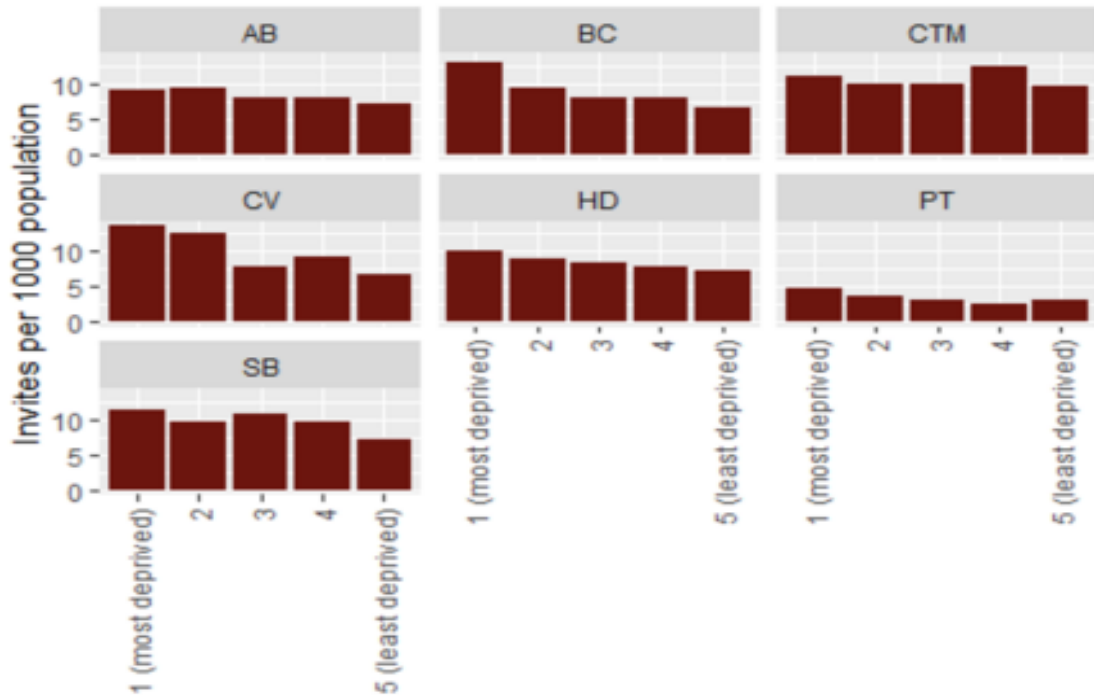
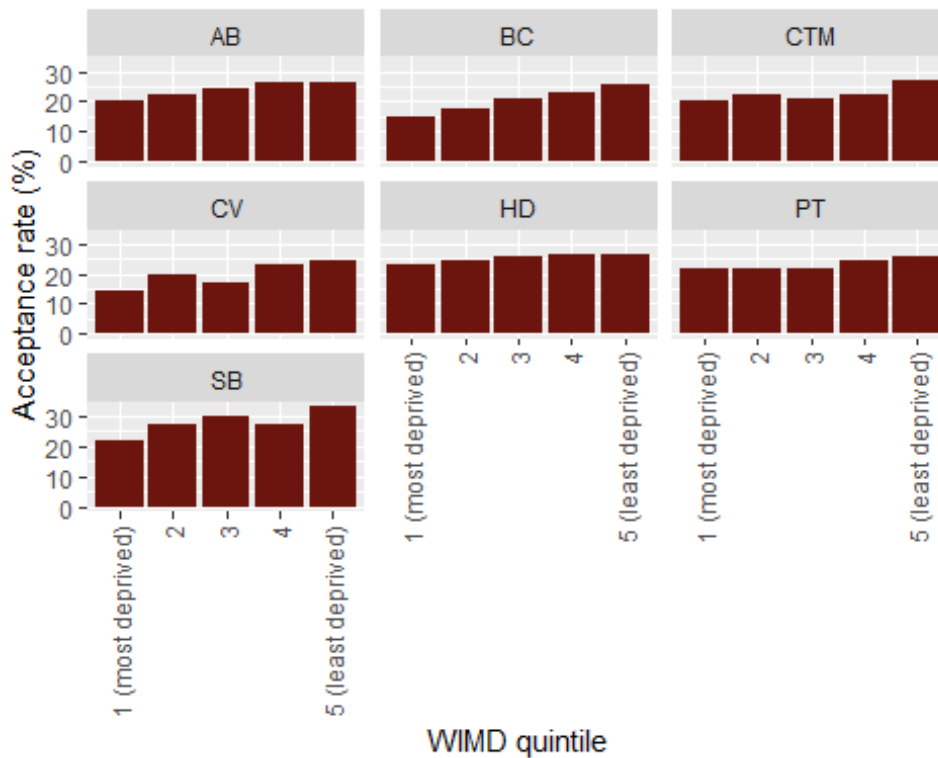


Figure 6: WIMD quintile for NCIP acceptance



### Treatment provided for Cellulitis

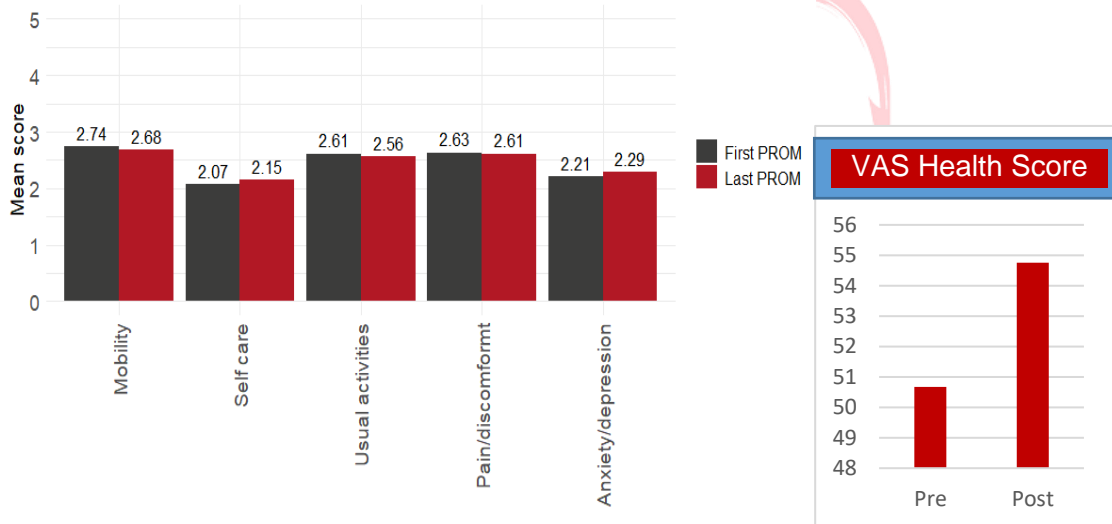
After a patient is assessed, a treatment plan is devised co-productively with the patient. All patients received advice on cellulitis prevention, skin care, wound care treatment, exercises, weight management, and 57% were issued with compression to treat their lymphoedema.

Further, of the 642 patients 102 should have been put on prophylactic antibiotics to prevent a recurrence as they met the criteria however only 47 were. This was corrected immediately and moving forward the Cellulitis Improvement Team now issue prophylactic antibiotics and review in six months following the new Cellulitis Pathways supported by the All-Wales Antimicrobial Guidance group. Rescue Packs of antibiotics have also been issued to 18 people negating attendance to ED and GP services.

### Patient Reported Outcome Measures

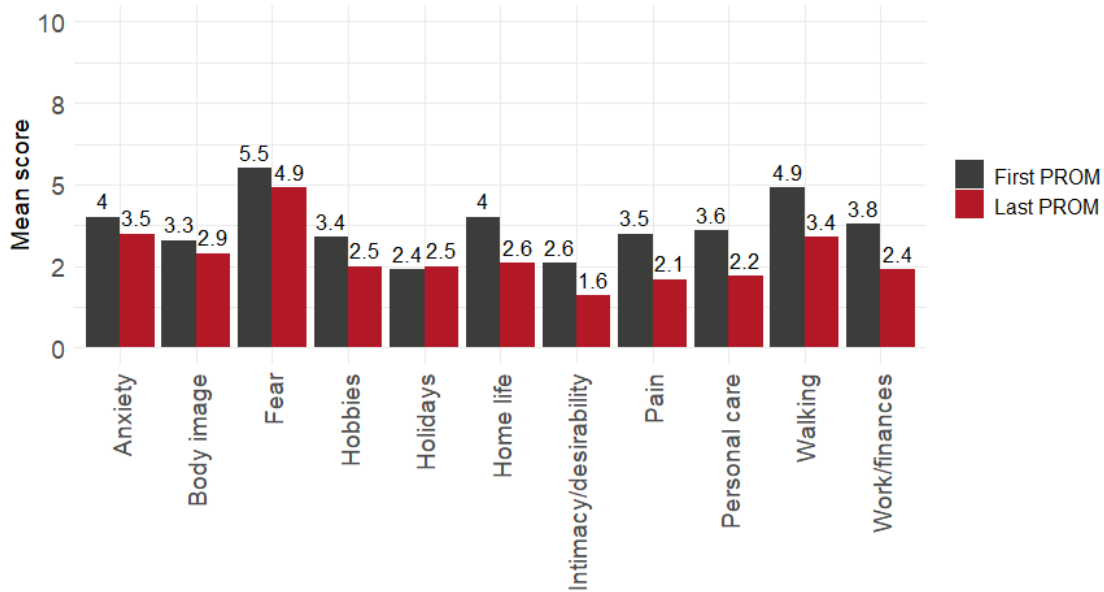
Patient-Reported Outcome Measures are vital and have been captured throughout this programme of work. CELLUPROM<sup>®</sup> is a new cellulitis-specific PROM created by NCIP and is currently under validation. Patients complete CELLUPROM<sup>®</sup> and EQ-5D-5L at the start and end of the programme. As shown in Figure 7 the EQ-5D-5L items have slightly altered pre- and post-the programme but it does demonstrate the EQ-5D-5L is not sensitive enough even though the patients' overall health score has improved from 50 to 54/100. These results are promising.

**Figure 7: EQ5D5L**



CELLUPROM<sup>®</sup> explores what is valuable to patients and positively all PROM scores have improved from pre to post programme. Devising a world-first cellulitis-specific PROM has been extremely beneficial, as the outcomes have been devised by what is valuable to patients. Figure 8 reports the CELLUPROM<sup>®</sup> data. Interestingly the fear of having another cellulitis is very important to people and would not have been captured using existing tools.

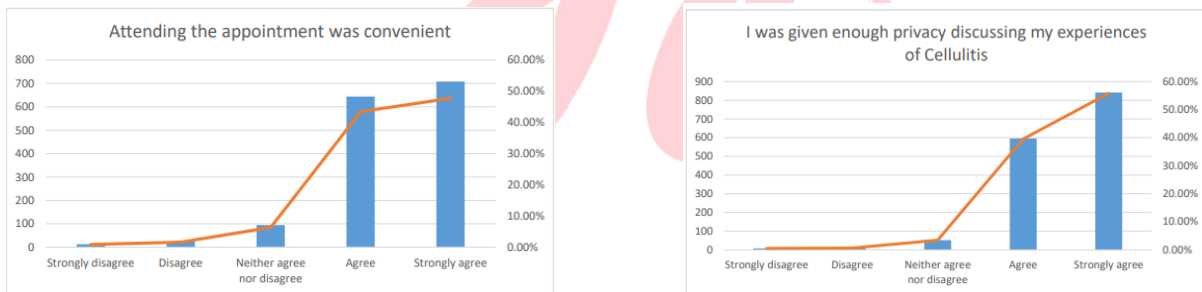
**Figure 8: CELLUPROM Data in HDUHB**



**Patient Reported Experience Measures (CELLUPREM)**

Patient reported experience measures are also being issued to capture patient’s views. CELLUPREM is being used digitally is extremely supportive of the programme (Figures 7).

**Figures 7: CelluPrem data**

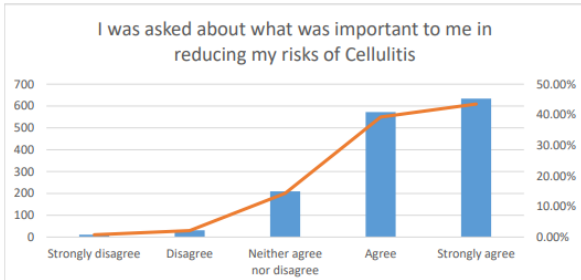
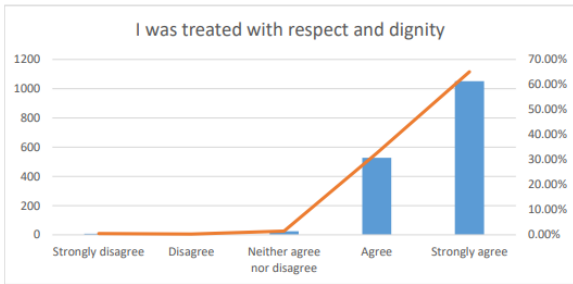


**CELLPREM® overview of results (excluding N/A and blanks)**

The staff introduced themselves		
Yes	1689	98.83%
No	20	1.17%
Respondents	1709	

HB activity		
HB	Secondary care	Primary care
NCIP	112	
ABUHB	360	19
BCUHB	325	19
CTMUM	170	33
CVUHB	174	53
HDUHB	127	25
PTHB	28	1
SBUHB	179	84
Not recorded	0	
Total	1475	234

Attending the appointments was convenient		
Strongly disagree	13	0.88%
Disagree	24	1.62%
Neither agree nor disagree	94	6.34%
Agree	644	43.43%
Strongly agree	708	47.74%
Respondents	1483	

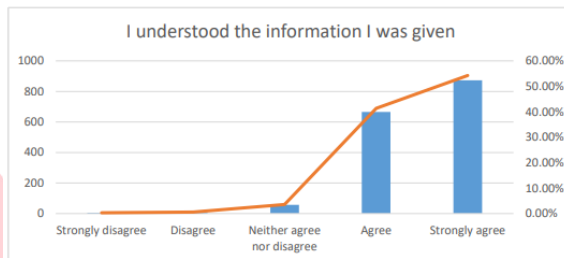


I was able to ask questions

Strongly disagree	7	0.44%
Disagree	14	0.88%
Neither agree nor disagree	62	3.88%
Agree	623	39.04%
Strongly agree	890	55.76%
<b>Respondents</b>	<b>1596</b>	

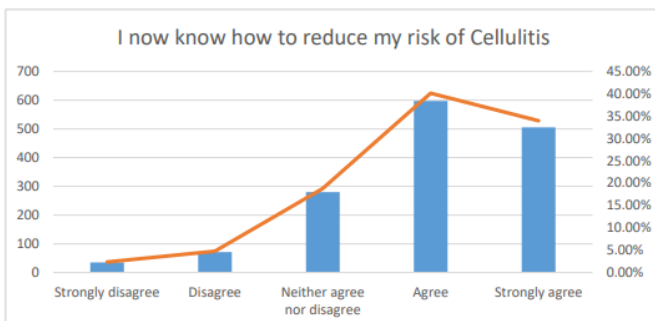
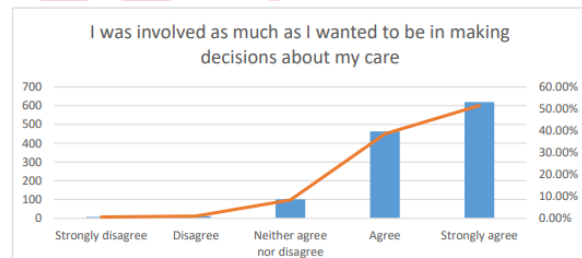
I was listened to in my appointments

Strongly disagree	8	0.50%
Disagree	8	0.50%
Neither agree nor disagree	36	2.26%
Agree	570	35.71%
Strongly agree	974	61.03%
<b>Respondents</b>	<b>1596</b>	



I was given choices or options for my care

Strongly disagree	10	0.71%
Disagree	27	1.92%
Neither agree nor disagree	148	10.52%
Agree	555	39.45%
Strongly agree	667	47.41%
<b>Respondents</b>	<b>1407</b>	



## Financial Benefit Realisation

As well as patient benefits there have been strong financial benefits too. In analysing the overall spends of the small group of patients who have completed the programme (642) so far, we can estimate costs of those 642 patients with 432 Emergency

Department admissions (x£308= 133K) with 3,695 nights in hospital (x £582= 2.2m) would be close to £2.3 million.

If we estimated the lowest evidenced recurrence rate of 10% of 642, patients over 12 months 64 would have had another cellulitis episode costing around 180K if admitted for 5 days. **Only 29 patient reported a reoccurrence and only seven were admitted.**

22 of these were treated at home (£924=1x GP and antibiotics) and 7 in hospital costing 18K thus totalling around 19K.

If the 64 potential cases had been admitted for the average 5 days this would have costed HDUHB around 180K thus 180K-19K is around 161K avoidance costs. **This is a promising start to financial realisation.**

### Targeting the GP Clusters (Phase Two)

As well as expediting the secondary care cellulitis work, the team has also prioritised working with primary care clusters. When interrogating the SAIL database for GP contacts for cellulitis it alluded significant numbers – nearly 205,000 for 75,000 people costing over 8 million in Wales. To raise the profile of cellulitis the following has will be achieved.

- All GP Practices have received three separate emails direct to their Practice Manager discussing the Cellulitis Improvement Programme offering a training session on cellulitis. The emails have been sent since 2022 with updates and reminders. As can be seen in Table 6, 31 sessions have been delivered with 159 attendees. 15 GP surgeries have not responded to three separate emails.
- Cluster uptake is highlighted in Table 7 with the lowest areas in South Ceredigion which is 0% uptake. In Table 8 shows HDUHB at 64% uptake which is highest in Wales.
- GP Education training- Lectures on cellulitis and lymphoedema are now being delivered direct to GP Trainees which is extremely positive.
- Feedback has been really encouraging and GPs are now referring patients direct via Consultant Connect. 8 direct referrals have been received in 23-24.
- All GP Practices and staff would benefit from the education. To further this initiative in the summer each GP and Practice Manager will be sent a Teams link for different cellulitis/ lymphoedema education sessions over a lunchtime to see if we can increase participation.
- All District Nurses/ Community nurses will be sent links for summer 2024.
- Cellulitis training has also commenced in ABUHB with Allied Health Professional groups including Physiotherapy, Occupational Therapy and Podiatry.

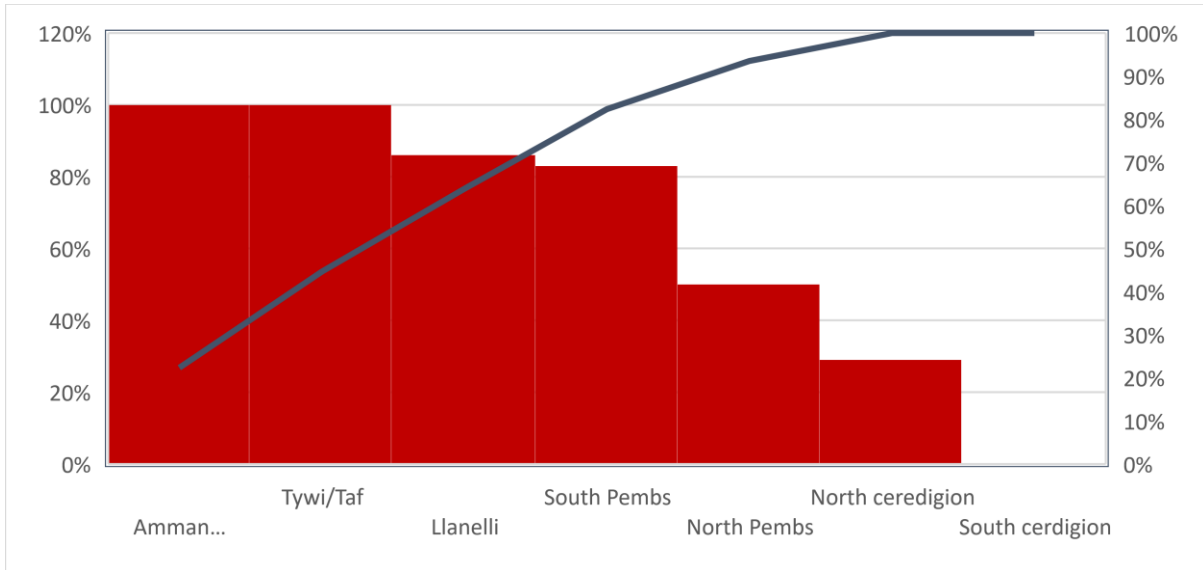
**Any support in increasing education participation for the benefit of patients would be gratefully received.**

**Table 7:- GP Education in HDUHB**

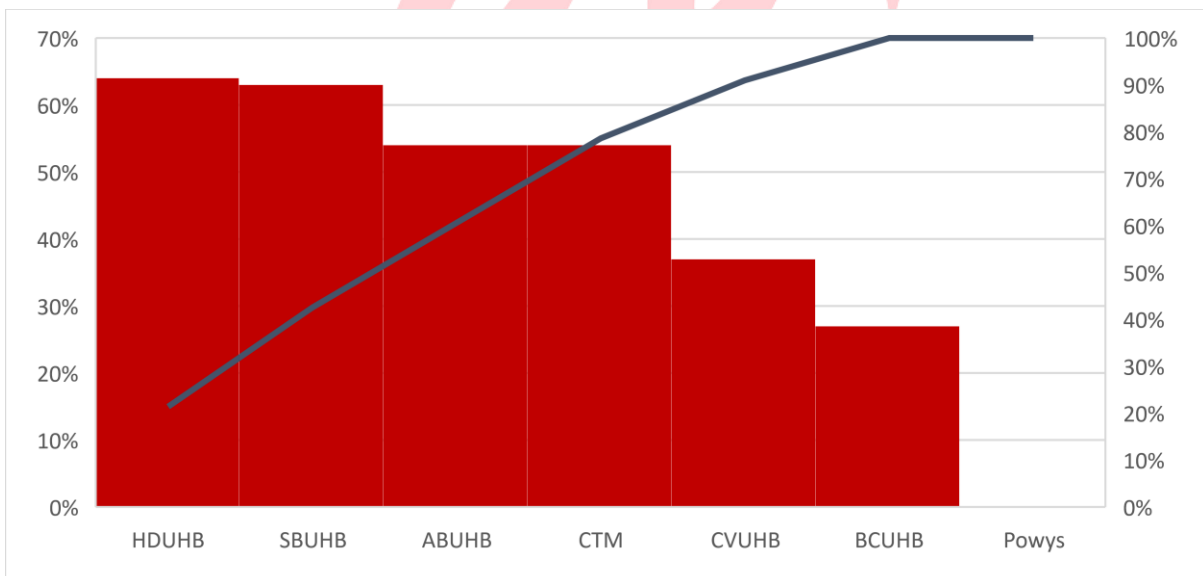
Amman Gwendraeth	<b>Amman Valley Medical Practice</b>	<b>Delivered</b>
Amman Gwendraeth	<b>Ammanford - The Surgery</b>	<b>Delivered</b>
Amman Gwendraeth	<b>Brynteg Surgery</b>	<b>Delivered</b>
Amman Gwendraeth	<b>Coalbrook Surgery</b>	<b>Delivered</b>
Amman Gwendraeth	<b>Meddygfa Minafon</b>	<b>Delivered</b>
Amman Gwendraeth	Meddygfa Penygroes	<b>Delivered</b>
Amman Gwendraeth	<b>Meddygfa Sarn</b>	<b>Delivered</b>
Amman Gwendraeth	<b>Meddygfa'r Tymbl</b>	<b>Delivered</b>
Llanelli	<b>Ash Grove Medical Centre</b>	<b>Delivered</b>
Llanelli	<b>Avenue Villa</b>	<b>Delivered</b>
Llanelli	<b>Fairfield Surgery</b>	<b>Delivered</b>
Llanelli	<b>Llwynhendy Health Centre</b>	<b>Delivered</b>
Llanelli	<b>Meddygfa Tywyn Bach</b>	<b>Delivered</b>
Llanelli	The Surgery Llanelli	3 emails no reply
Llanelli	<b>Ty Elli Group Practice</b>	<b>Delivered</b>
North Ceredigion	<b>Borth Surgery</b>	<b>Delivered</b>
North Ceredigion	Church Surgery	3 emails no reply
North Ceredigion	<b>Llanilar Health Centre</b>	<b>Delivered</b>
North Ceredigion	Padarn Surgery	3 emails no reply
North Ceredigion	Tanyfron Primary Care	3 emails no reply
North Ceredigion	Tregaron Surgery	3 emails no reply
North Ceredigion	Ystwyth Primary Care Centre	3 emails no reply
North Pembrokeshire	Barlow House	3 emails no reply
North Pembrokeshire	<b>Newport Surgery</b>	<b>Delivered</b>
North Pembrokeshire	<b>St Davids Surgery</b>	<b>Delivered</b>
North Pembrokeshire	St Thomas Surgery	<b>Delivered</b>
North Pembrokeshire	The Health Centre (Fishguard)	3 emails no reply
North Pembrokeshire	<b>The Robert Street Practice (The Surgery - Milford Haven)</b>	<b>Delivered</b>
North Pembrokeshire	The Surgery Solva	3 emails no reply
North Pembrokeshire	<b>Winch Lane Surgery</b>	<b>Delivered</b>
South Ceredigion & Teifi Valley	Bro Pedr Medical Group	3 emails no reply
South Ceredigion & Teifi Valley	Cardigan Health Centre	3 emails no reply
South Ceredigion & Teifi Valley	Llwynfran Surgery	3 emails no reply
South Ceredigion & Teifi Valley	Meddygfa Emlyn	3 emails no reply
South Ceredigion & Teifi Valley	The Surgery (New Quay)	3 emails no reply
South Pembrokeshire	Argyle Medical Group	3 emails no reply
South Pembrokeshire	<b>Narberth Practice (Narberth Surgery)</b>	<b>Delivered</b>
South Pembrokeshire	<b>Neyland and Johnson Health Centre</b>	<b>Delivered</b>
South Pembrokeshire	<b>Saundersfoot Medical Centre</b>	<b>Delivered</b>
South Pembrokeshire	<b>Tenby Surgery</b>	<b>Delivered</b>
Tywi/ Taf	<b>Coach and Horses</b>	<b>Delivered</b>

Tywi/ Taf	<b>Furnace House Surgery</b>	<b>Delivered</b>
Tywi/ Taf	<b>Llanfair Surgery</b>	<b>Delivered</b>
Tywi/ Taf	<b>Meddygfa Taf</b>	<b>Delivered</b>
Tywi/ Taf	Meddygfa Teilo	<b>Delivered</b>
Tywi/ Taf	<b>Meddygfa Tywi</b>	<b>Delivered</b>
Tywi/ Taf	<b>Morfa Lane Surgery</b>	<b>Delivered</b>
Tywi/ Taf	<b>St Peters Surgery</b>	<b>Delivered</b>

**Figure 10: HDUHB Cluster uptake**



**Figure 11: Comparison of take up of GP Education across NHS Wales**



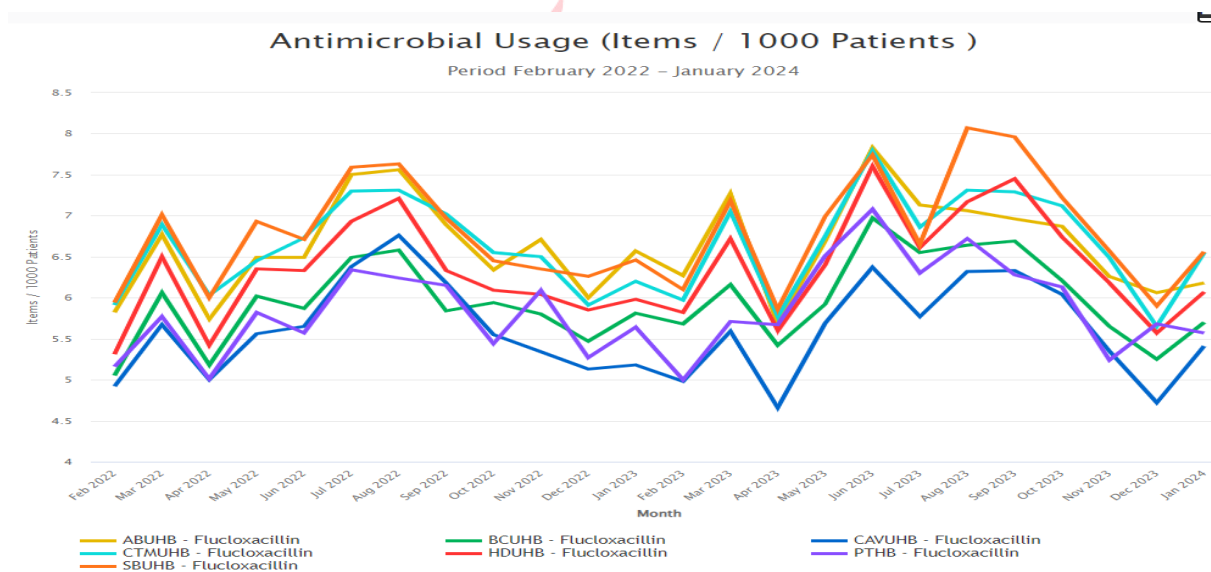
## Extending the programme into Primary Care collaborating with the Antimicrobial Pharmacists (Phase Three)

Working with Medicine Management and Antimicrobial Pharmacist Consultants. We have commenced targeting GP Practices in HDUHB who have the highest prescribing rates of Flucloxacillin and offering clinical appointments with patients who have been issued with more than two prescriptions in a year.

- 226 letters have been sent with a response rate of 38% being assessed and treated with and risk reduced. Some have only just been sent which lowers the response rate.

Figure 12 highlights the antibiotic prescribing in in all the Health Boards per 1,000 of the medication for Cellulitis. HDUHB is one of the higher prescribing health boards and we aim that this scheme supports a reduction. Next steps will be to look at people who are on prophylactic antibiotics repeats.

**Figure 12: Cellulitis Prescribing across Wales HBs**



## New developments (Phase Four and Five)

Many patients remain on prophylactic antibiotics unnecessary. If patients are on antibiotics to reduce the risk of another cellulitis episode then the maximum amount of time should be 6-months. Through collaboration with consultant pharmacists we are reviewing patients on long term usage/ repeats and ceasing unnecessary scripts.

Excitingly, through working with other pharmacists it transpires that HDUHB Primary Care currently organise prescriptions for people utilising compression garments to the value of around 5K per month. These are not lymphoedema patients and many of these patients are provided with garments that are not on the All Wales Compression Garment Formulary and are usually on repeat prescriptions. There is obvious waste,

harm and variation happening that could be reduced. Discussions are underway how we can support the primary care pharmacists and GPs in assessing these patients to ensure they still require and are issued with the correct products. We have just received data from four GP Practices.

Phase Five has also seen progress in collaboration with the Heart Failure Services as up to 60% of people diagnosed with Heart Failure have lymphoedema which is mainly untreated. We are hopeful that this collaboration will occur in Quarter one in HDUHB. A full report of the benefits of Heart Failure Collaboration will be available later this year.

Lastly, another piece of exiting work is establishing the true signs and symptoms for cellulitis to improve differential diagnosis (Table 8). In the last 18 months we have commenced capturing the most common issues and which was the first symptom associated to cellulitis. Surprisingly, many of the thought signs and symptoms are not the most commonly seen. This information will be presented in the education sessions which will hopefully support better differential diagnosis.

**Table 8: Signs and Symptoms of Cellulitis**

Symptom	Cases	Percent of cases	First symptom	Cases (n)	Cases (%)
Redness	1,570	78.5	Redness	875	43.8
Swelling	1,226	61.3	Pain	264	13.2
Pain	1,014	50.7	Swelling	251	12.6
Fever	417	20.8	No recall	249	12.4
Other	296	14.8	Unknown	105	5.2
No recall	239	11.9	Fever	100	5.0
Blistering	200	10.0	Other	81	4.0
Lethargy	148	7.4	Blistering	25	1.2
Full limb redness	53	2.6	Lethargy	24	1.2
Blotchy rash	51	2.5	Blotchy rash	12	0.6
Vomiting	46	2.3	Vomiting	6	0.3
Headache	32	1.6	Full limb redness	5	0.2
			Headache	2	0.1
			Itch	1	0.0

## Conclusion

Success breeds success and this report has highlighted the ongoing plans to continue reaping the benefits of this programme of work. In 2024-2025, we will be prioritising formally publishing the results of the programme as well as entering the NHS Wales Awards.

Based on the significant benefits for patients and HDUHB we want to continue the National Cellulitis Improvement work at speed, which is only possible with the continuation of the band 7-dedicated post funding.