

# NETIMIS

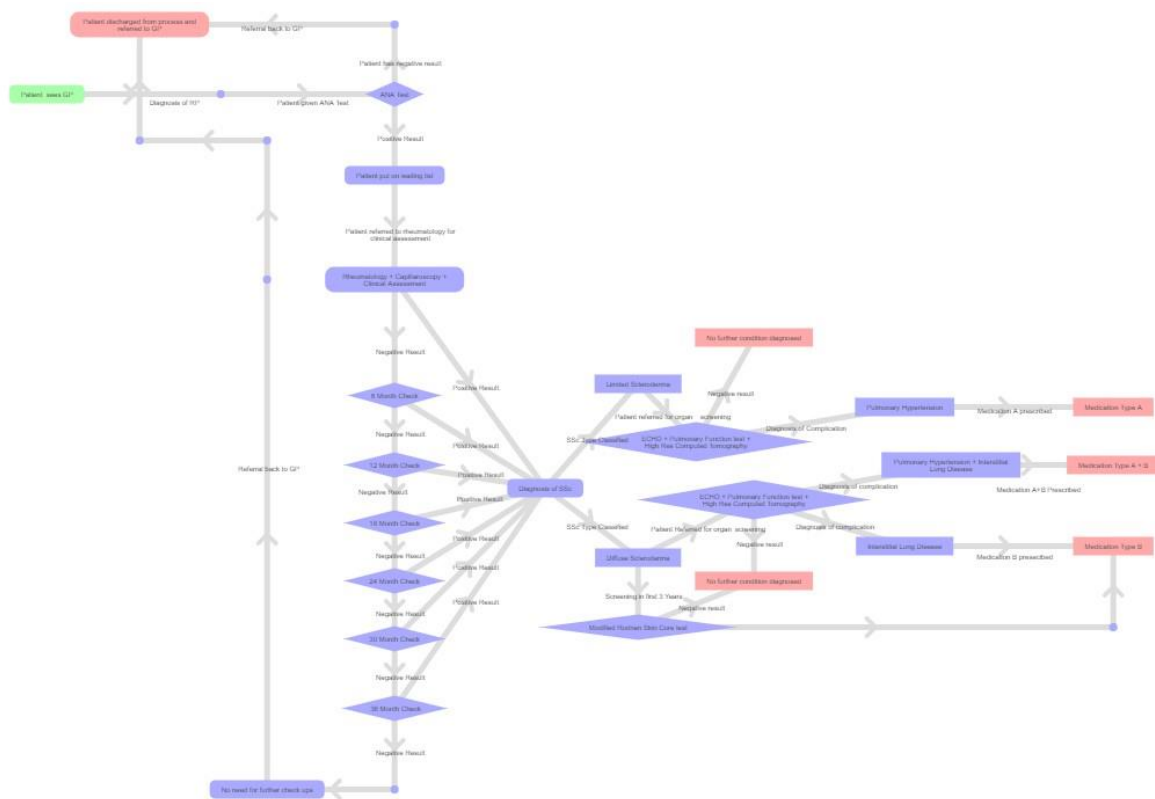
## REFERENCE DOCUMENT

Client: Diagnostic Evidence Co-operative Leeds

Pathway: Diagnosis of Scleroderma (Current State Pathway)

---

## Pathway: Diagnosis of Scleroderma (Current State Pathway)



Online at: <https://www.netimis.co.uk/shared/59807042d70a388c6eb3b198>

### Brief

In collaboration with X-Lab and Diagnostic Evidence Co-operative (DEC) Leeds, the model above has been created to represent the current state pathway of patients with Scleroderma within Chapel Allerton Hospital. The results of the simulation will be used to show a comparison the current state process and a future state redesigned process which implements a Point of Care Testing Device (POCT). This document provides detail of the settings specified in the NETIMIS model such as capacity, time, cost and probability.

### Client

DEC Leeds facilitates the required research to enable the evaluation of diagnostic tests to provide benefits to the NHS in fields including urological, oncology, liver, musculoskeletal and colorectal diseases.

Working in partnership with DEC Leeds, is Chapel Allerton Hospital, who are a leading source in the investigation of Rheumatic and Musculoskeletal diseases. The Rheumatology department acts as a regional hub for the Yorkshire and Humber region. The department's main aim is to provide service for patients who have been diagnosed, or undergoing the diagnosis of Scleroderma. Scleroderma is an autoimmune and rheumatic disease that affects the body by hardening the skin and connective tissues.

### Model

The focus of this modelling work is to improve the process that currently takes place for Scleroderma patients at Chapel Allerton Hospital. The model shows the current state process for the diagnosis of

Scleroderma amongst these patients and provides a base line for evaluating a proposed future state process that includes a POCT device.

Overall Model Settings	
Population Size: 400	Estimation of average patient admittance over one year.
Time Unit: Weeks	Rationale: most appropriate time unit
Costs: Various assessment service bands	Based on cost assumptions over various sites and evidential costs stated by client in a meeting.

Patient Field Settings
No parameters were provided as part of patient field settings.

Pathway Settings				
Activity	Time (week)	Cost	Probability	C.I.*
Patient sees GP			Diagnosis of RP	5
Diagnosis of RP		£12	Patient given ANA Test	4
ANA Test			Negative Result – 5% Positive Result – 95%	4
IF Negative (ANA Test)			Referral back to GP	5
Referral back to GP	1		Patient discharged from process and referred to GP.	4
IF Positive (ANA Test)			Patient put on waiting list	5
Patient put on waiting list			Patient referred to rheumatology for clinical assessment	5
Patient referred to rheumatology for clinical assessment	12		Rheumatology + Capillaroscopy + Clinical Assessment	2
Rheumatology + Capillaroscopy + Clinical Assessment			Negative Result – 83.24% Positive Result – 16.76%	5
<b>IF Negative (Assessment)</b>		£605	6 Month Check	4
6 Month Check			Negative Result – 96% Positive Result – 4%	4

IF Positive (6 mth)		£80	Diagnosis of SSc	4
IF Negative (6 mth)		£80	12 Month Check	4
12 Month Check			Negative Result – 96% Positive Result – 4%	4
IF Positive (12 mth)		£250	Diagnosis of SSc	4
IF Negative (12 mth)		£250	18 Month Check	4
18 Month Check			Negative Result – 96% Positive Result – 4%	4
IF Positive (18 mth)		£80	Diagnosis of SSc	4
IF Negative (18 mth)		£80	24 Month Check	4
24 Month Check			Negative Result – 96% Positive Result – 4%	4
IF Positive (24 mth)			Diagnosis of SSc	4
IF Negative (24 mth)		£250	30 Month Check	4
30 Month Check			Negative Result – 96% Positive Result – 4%	4
IF Positive (30 mth)		£250	Diagnosis of SSc	4
IF Negative (30 mth)		£80	36 Month Check	4
36 Month Check			Negative Result – 96% Positive Result – 4%	4
IF Positive (36 mth)		£250	Diagnosis of SSc	4
IF Negative (36 mth)	1	£250	No need for further check ups	4
No need for further check ups			Patient discharged from process and referred to GP.	5
<b>IF Positive (Assessment)</b>		£605	Diagnosis of SSc	4
Diagnosis of SSc			Limited Scleroderma – 65% Diffuse Scleroderma – 35%	5

<b>Limited Scleroderma Settings</b>				
<b>Activity</b>	<b>Time (week)</b>	<b>Cost</b>	<b>Probability</b>	<b>C.I.*</b>

Classified as Limited Scleroderma			Patient referred for organ screening	5
Patient referred for organ screening		£896	ECHO + Pulmonary Function test + High Res Computed Tomography	4
ECHO + Pulmonary Function test + High Res Computed Tomography			Negative result– 85% Pulmonary Hypertension– 15%	5
Negative result			No further condition diagnosed	5
Pulmonary Hypertension			Medication Type A prescribed	5

<b>Diffuse Scleroderma Settings</b>				
<b>Activity</b>	<b>Time (week)</b>	<b>Cost</b>	<b>Probability</b>	<b>C.I.*</b>
Classified as Diffuse Scleroderma			Patient referred for organ screening – 85% Screening in first 3 Years – 15%	4
Patient referred for organ screening		£896	ECHO + Pulmonary Function test + High Res Computed Tomography	4
ECHO + Pulmonary Function test + High Res Computed Tomography			Negative result– 70% Interstitial Lung Disease – 15% Pulmonary Hypertension + Interstitial Lung Disease – 15%	5
Negative result			No further condition diagnosed	5
Interstitial Lung Disease			Medication Type B prescribed	5
Pulmonary Hypertension + Interstitial Lung Disease			Medication Type A + B prescribed	5
Screening in first 3 Years			Modified Rodnan Skin Core test	5
Modified Rodnan Skin Core test			Negative result - 80% Prescribe Medication Type B – 20%	3
Negative result			No further condition diagnosed	5
Prescribe Medication Type B			Medication Type B prescribed	5

\* C.I. is a Confidence Indicator for confidence in the evidence base used to construct the model based on a score of 1-5 with 5 being highest (0=No confidence/ not applicable; 1=Guess by Modeller; 2=Estimate from Domain Expert; 3=Empirical evidence for direct observation/ Extrapolation from published literature; 4=Multiple reliable sources; 5=Confirmed through Expert Review Board).