



NCG-KCDO EMR Requirement (NER)-Pain Management Module (Version 2.0)

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FOREWORD

The National Cancer Grid (NCG) Electronic Medical Records (EMR) initiative has been well received by the NCG Hospitals and our community of healthcare professionals and stakeholders. The enthusiasm and support we have garnered for this initiative reflect a shared commitment to advancing cancer care through technology and collaboration.

As part of our ongoing efforts to enhance the EMR initiative, the pain management module has been developed. Thismodule aims to streamline the process, providing clinicians with the tools they need to deliver optimal care to patients with cancer.

This collaborative effort has been informed by thorough industry research, ensuring that the NCG helps EMR vendors build solutions aligned with best practices and meet the diverse needs of our stakeholders.

We are immensely grateful for the feedback, suggestions, and guidance provided by the healthcare professionals involved in treating cancer patients, as well as the healthcare technology companies and providers. We are pleased to share the final version of the Pain Management Module. Thank you for your continued support and collaboration.

Dr C.S. Pramesh

Convener, National Cancer Grid October 2024





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1. NCG EMR INITIATIVE OVERVIEW

The National Cancer Grid Koita Centre for Digital Oncology (NCG KCDO) launched an initiative to empanel Electronic Medical Records (EMR) vendors and help develop high quality EMR solutions that are appropriate for use in hospitals providing cancer care. This marks a significant milestone in the ongoing efforts to promote digital health and enhance cancer care across the country. Launched with the aim of standardizing and improving clinical practices in oncology, it is a collaborative approach involving leading healthcare institutions, clinicians, and technology partners.

In March 2023, NCG KCDO released the NCG EMR Requirements (NER) – a comprehensive set of EMR requirements needed for effective management of patients with cancer. The NER is a blueprint for the development and implementation of robust EMR systems which will serve general hospitals well, but are also tailored specifically for oncology practices. The NER document is a result of intense deliberations over several months between healthcare professionals involved in cancer care and technology experts, and is available as a digital public good at NCG-KCDO EMR Initiative.

To further support the development of the empanelled EMR systems, the NCG has developed detailed requirements and features in specific areas of oncology including radiotherapy, chemotherapy and surgical oncology. This document details the pain management requirements based on best practices developed at several leading NCG centres.

2. EMR FEATURE BUILDING

A. Pain ManagementModule Overview

Building on the features outlined in the NER (NCG EMR Requirement), the Pain Management Module is designed to streamline and optimize the treatment process for patients with cancer. The module is designed to enhance the quality, safety, and efficiency of the treatment within the NCG network, ultimately improving outcomes for cancer patients and advancing the field of oncology care.

Key features of the Pain Management module include:

2.1 Pain Characteristics: Documents the site, type, intensity, and duration of pain.

2.2 Quality of Life: Assesses the impact of pain on sleep, mood, and daily activities.





- **2.3 Current Medication and Treatment Plan:** Lists medications being taken and plans for ongoing pain management.
- **2.4 Procedure Details:** Documents the type of nerve block, drugs used, and imaging guidance.
- **2.5 Pre- and Post-Procedure Assessment:** Includes vital signs and pain scores before and after the procedure.

B. Methodology

The methodology used to build the pain management module within the NER (NCG EMR Requirements) document encompasses a systematic and collaborative approach, involving key stakeholders and leveraging best practices across NCG hospitals.

The pain management formis characterized into 3 parts:

Part A:Pain Management Form-New- This sectioncollects essential patient data including general details, diagnosis, pain score, treatment history, and consent.

Part B: Pain Management Form-Follow Up- The section records previous assessment details and current treatment, including the type and location of pain, pain score, and any aggravating factors. Automatically populate fields from previous assessments to ensure continuity of care and facilitate accurate tracking of patient progress over time.

Part C:Pain Management Form-Nerve Block- The section documents procedure details such as the type of nerve block performed, drugs used, and imaging guidance. Pre- and post-procedure assessments include vital signs and pain scores to monitor patient response and immediate complications.

3. Part A:Pain Management Form- New

	New Pain Management Form				
Sno	Data elements	Clinician's Response	Remarks for Vendors		
1	General Details				
Α	Case Number				
В	Name		Auto populate as per case no		
С	Age		Auto populate as per case no		
D	Sex		Auto populate as per case no		
Е	Diagnosis		Auto populate as per case no		





F	Phone Number		Auto populate as per case no
G	Any Allergies	□Yes, Please specify	
Н	Service	□OPD □Ward	
I	Name of the Pain/Palliative Physician		Add the doctors as per the facility
J	Disease Status	☐Curative ☐Palliative ☐Disease Free Interval, Specify no of years	
K	Surgery		Autopopulate from EMR
L	Chemotherapy		Autopopulate from EMR
М	Radiotherapy		Autopopulate from EMR
N	Pre- Existing Chronic disease	☐ COPD ☐Epilepsy ☐ Asthma ☐HT ☐DM ☐IHD ☐ Others, Please Specify	Multiple Choice Possible
0	Current medications		
2	Investigations		
Α	CBC		Link to EMR
В	RFT		Link to EMR
С	LFT		Link to EMR
D	Serology		Link to EMR
Е	Any other, Specify		Link to EMR
3	Pain Characteristics		
Α	Site		Open text box
В	Radiates to		Open text box
С	Referredto		Open text box
D	Type of Pain		Choose from the table below





Multiple choice possible		Single choice possible		Single choice	possible	Multiple choice possible	
	□ Bu □ Sta □ Du □ Nu □ Pri □ Sho □ Spa	irning libbing Ill Aching mbness icking poting asmodic	☐ Localised ☐ Continuous ☐ Intermitten			☐ Breakthrough ☐Incidental	
	E	Pain score		10 digit from □Wong Baker Rating Scale	e a scale of 0- ts to select		
	F	Duration and onse	pain Duration and onset of		☐ Days ☐Weeks ☐ Months		eks/Months
	G	No of episodes of	ВТР			Please pr	ovide options from 0-9
	Н			□After meals □On movemer □Not related □On Swallowir □Coughing □Others,		Multiple	choice Possible
	1	Relieving Factors				Free text	box
	J	Pain Pathophysiolo	□Somatic □Visceral			Multiple	choice Possible
	K	☐ Ps ☐ ☐ H ☐ Pair ☐ P ☐ Vi ☐ Vi ☐ Si ☐ Si ☐ Bi		☐ Head and Ne Pain Syndrome ☐ Post Mastec ☐ Visceral Pain ☐ Pelvic Pain Sy ☐ Skeletal Meta ☐ STS Pain Synd ☐ Bracheal Plex ☐ Lumbosacral	tomy Pain Syndrome androme astasis drome copathy	Multiple	choice Possible





		□ Post Thoracotomy Pain □ Post RT Pain □ Post CT Pain □ Phantom Limb Pain □ CRPS □ Others,	
L	Pain diagnosis	☐ Due to cancer☐ Cancer Therapy☐ Unrelated	Multiple choices possible
М	Diagnosis Made By	☐ Clinical ☐ X-Ray ☐CT ☐ Bone Scan ☐ USG ☐ MRI ☐ PET	Auto Populate the reports as per the option selected. Multiple Choice Possible
N	Click to add/View Pain Image		
4	Quality of Life		
Α	Affect	☐ Sleep ☐Mood ☐ Bladder ☐ Bowel ☐Appetite ☐ Others ☐ None	Multiple choice Possible
В	Performance Status	□Karnofsky Performance Scale • >80% Normal activity with no special care • 50-70% Unable to work but able to live at home • <50% Needs Hospital Care □ ECOG • 0 • 1 • 2 • 3	Choose one type of scale and map the subsequent grades





			● □ Oth	4 ers,			
5	Current Medication	□Trans □Code □Trans Bupren □Tram □Dicloi		entadol acetamol sdermalFentanyl eine sdermal norphine nadol ofenac rufen -2 Inhibitors hadone		Multiple ch	noice Possible
6	Treatment Plan						
Α	Opioid					Multiple C	hoice possible
Drug	Name	Dos	sage	Unit	Rout Adm	e of inistration	Frequency
	prenorphine			mcg	□Ora	al	☐ 4 Hourly
	sdermal Patch					nsdermal	☐ 6 Hourly
	deine			mg	1	b Lingual	☐ 8 Hourly
⊔⊔Bu	prenorphine SL			mcg		sal Spray travenous	☐ 12 Hourly ☐ OD
□Мо	orphine			mg	. ⊔ in	uavenous	☐ 3 days
	ntanyl Transdermal			mcg			☐ 7 days ☐ SOS
	pentadol			mg			☐ HS
	ethadone			mg			
□Tra	amadol			mg			
□вт	P dose of Morphine			mg			
В	NSAIDS					Multiple C	hoice possible
						•	•





Drug	Name	Dosage	Unit	Route of Administration	Frequency
□Dic	clofenac		mg	□Oral	☐ 6 Hourly
	pricoxib		mg	☐Transdermal	☐ 8 Hourly
	ıprofen		mg	☐ Sub Lingual	☐ 12 Hourly
	eclofenac		mg	□ Nasal Spray	
			IIIg	☐ Intravenous	□ sos
□Otl	ners			- miravenous	
	_				
С	Paracetamol				
Drug	Name	Dosage	Unit	Route of Administration	Frequency
□Pai	racetamol		mg	□Oral	☐ 6 Hourly
□Otl	hers			□Transdermal	□ 8 Hourly
				□Sub Lingual	☐ 12 Hourly
				□Nasal Spray	□ sos
				☐ Intravenous	
D	Adjuvants				
		I _	T •	I	1 _
Drug	Name	Dosage	Unit	Route of Administration	Frequency
			m a	□Oral	☐ 8 Hourly
□Ga	bapentin		mg		
	bapentin egabalin		mg	□Transdermal	☐ 12 Hourly
□Pre	<u> </u>			_	·
□Pre	egabalin nitryptiline		mg	□Transdermal	☐ 12 Hourly
□Pre	egabalin nitryptiline ortryptiline		mg mg	□Transdermal □Sub Lingual	☐ 12 Hourly
□Pre	egabalin nitryptiline ortryptiline		mg mg	☐Transdermal☐Sub Lingual☐Nasal Spray	☐ 12 Hourly
□Pre	egabalin nitryptiline ortryptiline		mg mg	☐Transdermal☐Sub Lingual☐Nasal Spray	☐ 12 Hourly
□Pre □Am □No □Otl	egabalin nitryptiline ortryptiline hers Muscle Relaxants	Dosage	mg mg mg	☐ Transdermal ☐ Sub Lingual ☐ Nasal Spray ☐ Intravenous	☐ 12 Hourly ☐ HS
□Pre □Am □No □Otl	egabalin nitryptiline ortryptiline hers	Dosage	mg mg	☐Transdermal☐Sub Lingual☐Nasal Spray	☐ 12 Hourly
□Pre □Am □No □Otl E	egabalin nitryptiline ortryptiline hers Muscle Relaxants	Dosage	mg mg mg	☐ Transdermal ☐ Sub Lingual ☐ Nasal Spray ☐ Intravenous Route of	☐ 12 Hourly ☐ HS
□ Pre □ Am □ No □ Ottl E Drug	egabalin nitryptiline ortryptiline hers Muscle Relaxants Name	Dosage	mg mg mg	□Transdermal □Sub Lingual □Nasal Spray □ Intravenous Route of Administration	☐ 12 Hourly ☐ HS Frequency
□Pre □Am □No □Otl E Drug □Baa □Flu	egabalin nitryptiline ortryptiline hers Muscle Relaxants Name	Dosage	mg mg mg Mg Mg Mg Mg Mg Unit	□Transdermal □Sub Lingual □Nasal Spray □ Intravenous Route of Administration □Oral	☐ 12 Hourly ☐ HS Frequency ☐ 8 Hourly
□ Pre □ Am □ No □ Ottl E Drug □ Baa □ Flu □ Ch	egabalin nitryptiline ortryptiline hers Muscle Relaxants Name clofen piritine	Dosage	mg mg mg Mg Wnit mg mg	□Transdermal □Sub Lingual □Nasal Spray □ Intravenous Route of Administration □Oral □Transdermal	☐ 12 Hourly ☐ HS Frequency ☐ 8 Hourly ☐ 12 Hourly
□ Pre □ Am □ No □ Ottl E Drug □ Baa □ Flu □ Ch	egabalin nitryptiline ortryptiline hers Muscle Relaxants Name clofen piritine loroxazone anidine	Dosage	mg mg mg Wnit mg mg mg mg mg	□Transdermal □Sub Lingual □Nasal Spray □ Intravenous Route of Administration □Oral □Transdermal □Sub Lingual	☐ 12 Hourly ☐ HS Frequency ☐ 8 Hourly ☐ 12 Hourly
□ Pre □ Am □ No □ Otl E Drug □ Baa □ Flu □ Ch □ Tiz	egabalin nitryptiline ortryptiline hers Muscle Relaxants Name clofen piritine loroxazone anidine	Dosage	mg mg mg Wnit mg mg mg mg mg	□Transdermal □Sub Lingual □Nasal Spray □ Intravenous Route of Administration □Oral □Transdermal □Sub Lingual □Nasal Spray	☐ 12 Hourly ☐ HS Frequency ☐ 8 Hourly ☐ 12 Hourly
□Pre □Am □No □Otl E Drug □Baa □Flu □Ch □Tiz	egabalin nitryptiline ortryptiline hers Muscle Relaxants Name clofen piritine loroxazone anidine	Dosage □ Yes,_	mg mg mg mg Unit mg mg mg mg mg mg	□Transdermal □Sub Lingual □Nasal Spray □ Intravenous Route of Administration □Oral □Transdermal □Sub Lingual □Nasal Spray □ Intravenous Provide Op	☐ 12 Hourly ☐ HS Frequency ☐ 8 Hourly ☐ 12 Hourly





G	Hyoscine	☐ Yes, ☐ No	
Н	Steroids	☐ Yes, ☐ No	
I	Cyclopam (Dicyclomine)	☐ Yes, ☐ No	
J	Bisphosphonates	☐ Yes, ☐ No	Provide Open text box to enter
K	Antiemetic	☐ Yes, ☐ No	details, if the answer is yes
L	Antacid	☐ Yes,	
M	Advice		Open text Box
N	Next Follow up Date		

4. Part B:Pain Management Form- Follow Up

Pain Management Form- Follow up				
Sno	Data elements	Clinician's Response	Remarks for Vendors	
1	General Details			
Α	Case Number			
В	Name		Auto populate as per case no	
С	Age		Auto populate as per case no	
D	Sex		Auto populate as per case no	
Е	Diagnosis		Auto populate as per case no	
F	Phone Number		Auto populate as per case no	
G	Any Allergies	□Yes, Please specify		
Н	Service	□OPD		





		□Ward	
ı	Name of the Pain/Palliative Physician		Add the doctors as per the facility
J	Disease Status	☐Curative ☐Palliative ☐Disease Free Interval, Specify no of years	
K	Surgery		Autopopulate from EMR
L	Chemotherapy		Autopopulate from EMR
M	Radiotherapy		Autopopulate from EMR
N	Pre- Existing Chronic disease	☐ COPD ☐ Epilepsy ☐ Asthma ☐ HT ☐ DM ☐ IHD ☐ Others, Please Specify ☐ None	Multiple Choice Possible
0	Current medications		
2	Previous assessment detail	S	
Α	Site		Autopopulate from new form
В	Radiates to		Auto populate from new form
С	Referred to		Auto populate from new form
D	Type of Pain		Auto populate from new form
Ε	Pain score		Auto populate from new form
F	Duration and onset of pain		Auto populate from new form
G	No of episodes of BTP		Auto populate from new form
Н	Aggravating Factors		Auto populate from new form
I	Relieving Factors		Auto populate from new form
J	Pain Pathophysiology		Auto populate from new form
K	Pain Syndrome		Auto populate from new form
L	Name of Nerve Block		Auto populate from new form
M	Date of Procedure		Auto populate from new form
N	Present Treatment		Auto populate from new form
0	Laxatives		Auto populate from new form
Р	Hyoscine		Auto populate from new form
Q	Steroids		Auto populate from new form
R	Cyclopam (Dicyclomine)		Auto populate from new form
S	Bisphosphonates		Auto populate from new form





Т	Antiemetic		Auto populate from new form
U	Antacid		Auto populate from new form
3	Change treatment		
Α	Do you want to change treatment?	□Yes □No	
В	Pain Score	 Numeric Rating Scale Provide a scale of 0- 10 digits to select from □Wong Baker Faces Pain Rating Scale Map the pain scale 	
С	Overall Pain Relief	□<30% □ 40% □ 50% □ 60% □ 70% □>80%	
D	Drug Adherance	☐ Good ☐ Fair ☐ Poor	
E	Performance Status	□ Karnofsky Performance Scale • >80% Normal activity with no special care • 50-70% Unable to work but able to live at home • <50% Needs Hospital Care □ ECOG • 0 • 1 • 2 • 3 • 4 □ Others,	
F	No of episodes of BTP		Please provide options from 0-9
G	Rescue Doses		





4	Investigations					
Α	CBC				Link to Ef	MR
В	RFT				Link to Ef	MR
С	LFT				Link to EMR	
D	Serology				Link to Ef	MR
Е	Any other, Specify				Link to Ef	MR
5	New Pain					
Α	New Pain		□Yes □No		If yes, Enable Rows from 5B till 5O	
В	Site				Open tex	t box
С	Radiates to				Open tex	t box
D	Referred to				Open tex	t box
Е	Type of Pain				Choose f	rom the table below
		□ Local	ised	Single choice possible ☐ Continuous ☐Intermittent		☐ Breakthrough☐Incidental
F Pain score		10 digit from □Wong Baker Rating Scale	e a scale of 0- ts to select			
G	G Duration and onset of				Days/We	eks/Months
	pain					ovide options from 0-9
Н	ino oi episodes of i	DIF			riease pr	ovide options from 0-9
I	I Aggravating Factors		☐ After meals ☐ On movemer ☐ Not related ☐ On Swallowin		Multiple	choice Possible





		□Coughing	
	Delia de Fratas	□Others,	Fue a tout hour
J	Relieving Factors		Free text box
K	Pain Pathophysiology	□Somatic □Visceral □Neuropathic □Psychogenic	Multiple choice Possible
L	Pain Syndrome	□ Head and Neck Cancer Pain Syndrome □ Post Mastectomy Pain □ Visceral Pain Syndrome □ Pelvic Pain Syndrome □ Skeletal Metastasis □ STS Pain Syndrome □ Bracheal Plexopathy □ Lumbosacral Plexopathy □ Post Thoracotomy Pain □ Post RT Pain □ Post CT Pain □ Phantom Limb Pain □ CRPS □ Others,	Multiple choice Possible
М	Pain diagnosis	☐ Due to cancer☐Cancer Therapy☐ Unrelated	Multiple choices possible
N	Diagnosis Made By	☐ X-Ray ☐CT ☐ Bone Scan ☐ Clinical ☐ USG ☐ MRI ☐ PET	Auto Populate the reports as per the option selected. Multiple Choice Possible
0	Click to add/View Pain Image		
6	Side Effects and Follow up		
A	Side Effects	□ None□ Vomiting□ Sedation/Drowsiness□ Constipation□ Hallucinations	





		□ Pruritus□ Urinary Retention□ Others	
В	Please mention the advice		Open text box
С	Interim cancer treatment		Open text box
D	Follow up after	☐ 1 day ☐ 2 days ☐ 1 week ☐ 10 days ☐ 20 days ☐ 1 month ☐ 3 months ☐ Others,	
E	Follow up date		Date to auto populate as per the option chosen
	End		

5.Part C:Pain Management Form- Nerve Block

Pain Management Form- Nerve Block			
Sno	Data elements	Clinician's Response	Remarks for Vendors
1	General Details		
Α	Case Number		
В	Name		Auto populate as per case no
С	Age		Auto populate as per case no
D	Sex		Auto populate as per case no
Е	Diagnosis		Auto populate as per case no
F	Phone Number		
G	Any Allergies	□Yes, Please	





		specify □No	
Н	Service	□OPD □Ward	Auto populate as per case no
1	Name of the Pain/Palliative Physician		
J	Consent Taken	□Yes □No	
K	Disease Status	□Curative □Palliative □Disease Free Interval, Specify no of years	
L	Surgery		Autopopulate from EMR
M	Chemotherapy		Auto populate from EMR
N	Radiotherapy		Autopopulate from EMR
Ο	Pre- Existing Chronic disease	☐ COPD ☐ Epilepsy ☐ Asthma ☐ HT ☐ DM ☐ IHD ☐ Others, Please Specify ☐ None	Multiple Choice Possible
2	Procedure Details		
A	Name of the Block	□ Diagnostic Celiac plexus block □ Neurolytic Celiac Plexus block □ Glassopharyngeal Nerve block □ Mandibular Nerve Block □ Maxillary nerve block □ Stellate Ganglion block □ Sphenopalatine ganglion block □ Intercostal nerve blocks □ Superior hypogastric plexus block □ Ganglion impar block □ Neurolytic epidural	





		block Subarachnoid Neurolytic Block Intrathecal morphine pump Epidural morphine Epidural steroids Lumbarsympathetic block Peripheral nerve blocks (Specify name of the nerve) Trigger Joint Injections Joint Injections Fascial plane blocks Other blocks (pls specify)	
В	Approach/Procedure		
С	Date of Procedure		
D	Performed By		
Ε	Assisted By		
F	Drug Used		
G	Concentration		
Н	Volume (ml)		
I	Image Guidance	□USG □Fluroscopy □CT scan □Landmark	
J	Contrast Used		
K	Volume (ml)		
3	Pre-Procedure		
Α	Pulse/min		
В	BP mm/Hg		
С	Pain Score	 Numeric Rating Scale Provide a scale of 0-10 digits to select from □Wong Baker Faces Pain Rating Scale Map the pain scale 	
D	Procedure Description		Open text box





4	Post Procedure			
Α	Pulse/min			
В	BP mm/Hg			
С	Pain Score	 Numeric Rating Scale Provide a scale of 0-10 digits to select from □Wong Baker Faces Pain Rating Scale Map the pain scale 		
5	Immediate Complications			
	inimediate complications			
Α	Immediate Complications		Open text box	
	, , , , , , , , , , , , , , , , , , ,			
6	Status Change			
Α	Pre-Procedure Activity			
В	Performance Status	□ Karnofsky Performance Scale • >80% Normal activity with no special care • 50-70% Unable to work but able to live at home • <50% Needs Hospital Care □ ECOG • 0 • 1 • 2 • 3 • 4 □ Others,		
С	Post Procedure activity	□Worsened		
		□No change		
		□Improved		
	End			





6. Appendices

Appendix 1- Glossary of terms

	Abbreviations
NCG	National Cancer Grid
EMR	Electronic Medical Record
NER	NCG EMR Requirements
LEAP	Leading EMR Adoption Program
COPD	Chronic Obstructive Pulmonary Disease
HT	Hypertension
DM	Diabetes Mellitus
IHD	Ischemic Heart Disease
CAD	Coronary Artery Disease
CVA	Cerebrovascular Accident
TB	Tuberculosis
RFT	Renal Function Test
LFT	Liver Function Test
BTP	Breakthrough Pain
HS	At Bedtime
OD	Once Daily
CRPS	Complex Regional Pain Syndrome
ECOG	Eastern Cooperative Oncology Group
SL	Sub Lingual
COX-2 Inhibitors	Cyclooxygenase-2 (COX-2) inhibitors

Appendix 2- NER Document

1. ncg-emr-requirements-ner.pdf (kcdo.in)