



Section 1 Clinical	
1.1	Patient identifier <i>(Please do not enter NHS or hospital numbers)</i>
1.2	Sex <input type="checkbox"/> Male <input type="checkbox"/> Female
1.3	Admission date (DD/MM/YYYY)
1.4	Admission time
1.5	Discharge date (DD/MM/YYYY)
1.6	Age (years)
1.7	Respiratory diagnosis (select one) <input type="checkbox"/> COPD <input type="checkbox"/> Obesity/hypoventilation <input type="checkbox"/> Chest wall/neuromuscular <input type="checkbox"/> Cardiogenic pulmonary oedema <input type="checkbox"/> No data / not recorded <input type="checkbox"/> Other (please specify):
1.8	Performance status before exacerbation (select one) <input type="checkbox"/> Unrestricted <input type="checkbox"/> Strenuous activity limited <input type="checkbox"/> Limited but self-caring <input type="checkbox"/> Limited activity, limited self-care <input type="checkbox"/> Confined to bed/chair, no self-care <input type="checkbox"/> No data / not recorded
1.9	CXR consolidation <input type="checkbox"/> Yes <input type="checkbox"/> No data / not recorded <input type="checkbox"/> No
1.10	Previous acute NIV <input type="checkbox"/> Yes <input type="checkbox"/> No data / not recorded <input type="checkbox"/> No
1.11	Was O2 delivered to a target saturation range pre-hospital? <input type="checkbox"/> Yes <input type="checkbox"/> No data / not recorded <input type="checkbox"/> No
1.12	Was O2 delivered to a target saturation range in the ED? <input type="checkbox"/> Yes <input type="checkbox"/> No data / not recorded <input type="checkbox"/> No
1.13	If yes to 1.12, what target range was documented in the ED? <input type="checkbox"/> 88-92% <input type="checkbox"/> Other <input type="checkbox"/> 94-98% <input type="checkbox"/> Not documented
Section 2 Physiological Assessment pre-NIV	
2.1	Date of first pre-NIV blood gas measurement (typically on arrival to ED)
2.2	Time of first pre-NIV blood gas measurement (typically on arrival to ED)
2.3	Pulse oximetry value (SpO₂) <i>nearest time point to first blood gas</i> (%)
2.4	Oxygen delivery and flow rate <input type="checkbox"/> Venturi flow rate: (%) <input type="checkbox"/> Nasal cannula flow rate: (L/min) <input type="checkbox"/> Non-rebreathe bag flow rate: (L/min) <input type="checkbox"/> Other / Not known
2.5	Type of blood gas measurement <input type="checkbox"/> Arterial <input type="checkbox"/> Capillary <input type="checkbox"/> Venous <input type="checkbox"/> Not known
2.6	First pre-NIV PaO₂ (kPa)
2.7	First pre-NIV PaCO₂ (kPa)
2.8	Please indicate whether the you are using pH or H+ values in this audit <input type="checkbox"/> pH <i>(Please stick to either pH or H+ throughout the audit – questions 2.9, 2.17, 3.5, 5.5)</i> <input type="checkbox"/> H+
2.9	First pre-NIV pH OR H+ measurement
2.10	First pre-NIV HCO₃

2.11	Was another blood gas measurement obtained before starting NIV?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>If yes, please go to question 2.12</i> <i>If no, please go to question 2.18</i>
2.12	Date of final pre-NIV blood gas		
2.13	Time of final pre-NIV blood gas		
2.14	What type of blood gas measurement	<input type="checkbox"/> Arterial <input type="checkbox"/> Venous	<input type="checkbox"/> Capillary <input type="checkbox"/> Not known
2.15	Final pre-NIV PaO₂ (kPa)		
2.16	Final pre-NIV PaCO₂ (kPa)		
2.17	Final pre-NIV pH <u>OR</u> H⁺ measurement		
2.18	Respiratory Rate pre-NIV <i>(nearest documented value pre-NIV)</i>		<input type="checkbox"/> unknown / not available
2.19	Heart rate pre-NIV <i>(nearest documented value pre-NIV)</i>		<input type="checkbox"/> unknown / not available
2.20	Date of decision to start to NIV		
2.21	Time of decision to start NIV		<input type="checkbox"/> time not documented
2.22	Date NIV commenced		
2.23	Time NIV commenced		<input type="checkbox"/> time not documented
Section 3 Physiological Assessment post-NIV			
3.1	Was a blood gas measurement repeated after starting NIV?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>If yes, please go to question 3.2</i> <i>If no, please go to question 3.7</i>
3.2	If yes to 3.1, when was the blood gas measurement obtained? <i>(select one)</i>	<input type="checkbox"/> 0-2 hours after starting NIV <input type="checkbox"/> 2-4 hours after starting NIV <input type="checkbox"/> More than 4 hours after starting NIV	
3.3	First post-NIV PaO₂ (kPa)		
3.4	First post-NIV PaCO₂ (kPa)		
3.5	First post-NIV pH <u>OR</u> H⁺		
3.6	What type of blood gas measurement <i>(select one)</i>	<input type="checkbox"/> Arterial <input type="checkbox"/> Venous	<input type="checkbox"/> Capillary <input type="checkbox"/> Not known
3.7	Respiratory rate at 2 hours <i>(nearest time point to 2 hours after starting NIV)</i>		<input type="checkbox"/> unknown / not available
3.8	Heart rate at 2 hours <i>(nearest time point to 2 hours after starting NIV)</i>		<input type="checkbox"/> unknown / not available
3.9	What action was taken within 30 minutes of this post-NIV blood gas result? <i>(tick all that apply)</i>	<input type="checkbox"/> Review, NIV-trained healthcare professional <input type="checkbox"/> Adjusted NIV settings <input type="checkbox"/> Adjusted FiO ₂ <input type="checkbox"/> No action (patient improved) <input type="checkbox"/> No action / not documented	
3.10	Was the patient reviewed by an NIV specialist?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3.11	If yes to 3.10, when did the review occur? <i>(select one)</i>	<input type="checkbox"/> 0-2 hours after starting NIV <input type="checkbox"/> 2-4 hours after starting NIV <input type="checkbox"/> More than 4 hours after starting NIV	

Section 4 Care Plan and Outcome		
4.1	Was an escalation plan documented?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No data / not recorded
4.2	If yes to 4.1, what plan was made? (select one)	<input type="checkbox"/> Proceed to intubation <input type="checkbox"/> NIV as ceiling to treatment <input type="checkbox"/> Remove NIV if no benefit (i.e. palliative approach) <input type="checkbox"/> Other
4.3	If yes to 4.1, was this documented before NIV started? (select one)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No, but documented within 4 hours of NIV <input type="checkbox"/> No data / not recorded
4.4	Is there evidence that the pt or a relative was involved in decision making?	<input type="checkbox"/> Yes <input type="checkbox"/> No data / not recorded <input type="checkbox"/> No
4.5	Did the patient require ward transfer to start NIV?	<input type="checkbox"/> Yes <input type="checkbox"/> No data / not recorded <input type="checkbox"/> No
4.6	Place where NIV was initiated: (select one)	<input type="checkbox"/> ICU <input type="checkbox"/> Respiratory unit (dedicated NIV area) <input type="checkbox"/> HDU <input type="checkbox"/> Respiratory ward (no dedicated NIV area) <input type="checkbox"/> MAU <input type="checkbox"/> General Medical Ward <input type="checkbox"/> ED <input type="checkbox"/> No data / not recorded <input type="checkbox"/> Other
4.7	Do you consider there was a delay in starting NIV?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know
4.8	If yes to 4.7, was this delay due to: (tick all that apply)	<input type="checkbox"/> Failure to recognise need for NIV <input type="checkbox"/> Lack of equipment <input type="checkbox"/> Patient required transfer to another area <input type="checkbox"/> Lack of beds <input type="checkbox"/> Other (please specify):
4.9	Was NIV continued in a different location?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.10	If yes to 4.9, where was NIV continued? (tick all that apply)	<input type="checkbox"/> ICU <input type="checkbox"/> Respiratory unit (dedicated NIV area) <input type="checkbox"/> HDU <input type="checkbox"/> Respiratory ward (no dedicated NIV area) <input type="checkbox"/> MAU <input type="checkbox"/> General Medical Ward <input type="checkbox"/> ED <input type="checkbox"/> No data / not recorded <input type="checkbox"/> Other
4.11	Date and time of transfer to place where NIV continued	Date: Time:
4.12	What ventilator mode was initially used?	<input type="checkbox"/> Pressure support <input type="checkbox"/> Pressure control (rate & inspiratory time set by operator) <input type="checkbox"/> Other (please specify):
4.13	IPAP achieved after 2hrs NIV	(range 0-30)
4.14	EPAP achieved after 2hrs NIV	(range 0-15)
4.15	Hrs of NIV within 24hrs of starting NIV	(range 0-24)
4.16	Outcome of NIV:	<input type="checkbox"/> Success (clinical improvement, pH >7.35 before NIV episode discontinued) <input type="checkbox"/> Success (clinical improvement, no blood gas confirmation of pH normalisation) <input type="checkbox"/> Failure, but proceeded to intubation <input type="checkbox"/> Failure, did not proceed to intubation <input type="checkbox"/> No data / not recorded
4.17	If NIV failed, when was it discontinued?	<input type="checkbox"/> Within 6 hours of starting NIV <input type="checkbox"/> 6-24 hours <input type="checkbox"/> More than 24 hours <input type="checkbox"/> No data / Not recorded

4.18	If NIV failed, was the patient referred to critical care?	<input type="checkbox"/> Yes and transferred to critical care (level 3) <input type="checkbox"/> Yes, not transferred to critical care (level 3) <input type="checkbox"/> No, documented not for critical care <input type="checkbox"/> No, no escalation documentation
4.19	If NIV failed, was the patient intubated?	<input type="checkbox"/> Yes – within 6 hours of starting NIV <input type="checkbox"/> Yes – within 6-24 hours of starting NIV <input type="checkbox"/> Yes – more than 24 hours after starting NIV <input type="checkbox"/> No <input type="checkbox"/> No data / Not recorded
4.20	Outcome of admission:	<input type="checkbox"/> Discharged from hospital off NIV <input type="checkbox"/> Transferred to home ventilation centre or discharged with home NIV by treating centre <input type="checkbox"/> Death (respiratory cause) <input type="checkbox"/> Death (non-respiratory cause) <input type="checkbox"/> No data / Not recorded <input type="checkbox"/> Other (please specify):
4.21	If death in hospital, was there a structured case review and/or M&M meeting discussion?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No data / Not recorded
Section 5 Discharge and Follow-Up		
5.1	If discharged from hospital, was a blood gas measurement obtained prior to discharge?	<input type="checkbox"/> Yes <i>If yes, please go to question 5.2</i> <input type="checkbox"/> No <i>If not, please go to question 5.7</i> <i>(for audit purposes, we would accept a measurement within 1 week of discharge if the patient is considered stable)</i>
5.2	FiO₂ for pre-discharge blood gas measurement	<input type="checkbox"/> On air <input type="checkbox"/> Added oxygen:% ORL/min <input type="checkbox"/> No data /not recorded
5.3	Pre-discharge PaO₂ (kPa)	
5.4	Pre-discharge PaCO₂ (kPa)	
5.5	Pre-discharge pH <u>OR</u> H⁺	
5.6	Pre-discharge HCO₃	
5.7	Respiratory follow-up arranged	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No data / not recorded
5.8	If obesity-hypoventilation was the diagnosis, what was the discharge plan?	<input type="checkbox"/> Sleep study organised or referred to sleep service <input type="checkbox"/> Discharged home on CPAP or NIV <input type="checkbox"/> Respiratory follow up alone <input type="checkbox"/> No data / not recorded
5.9	If COPD was the diagnosis, was a blood gas measurement organised 2-4 weeks after discharge?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No data / not recorded
5.10	If yes to 5.9, are these results available?	<input type="checkbox"/> Yes <i>If yes, please complete questions 5.11- 5.15</i> <input type="checkbox"/> No <input type="checkbox"/> No, referred to an external service
5.11	Post-discharge FiO₂	<input type="checkbox"/> On air <input type="checkbox"/> Added oxygen:% ORL/min <input type="checkbox"/> No data/ not recorded
5.12	Post-discharge PaO₂ (kPa)	
5.13	Post-discharge PaCO₂ (kPa)	
5.14	Post-discharge pH or H⁺	