Appendix 2 – Criteria Definitions

1 – Emergency Department visit within 72 hours of non-emergency referral

Name	**Emergency Department visit within 72 hours of non-emergency referral**
Definition	An emergency department visit is defined as a physical contact between a patient and medical personnel at an ED belonging to a hospital with full tertiary care capabilities. In this definition, patients visiting free-standing urgent care centers and primary care centers offering acute care services are not included, unless these patients are referred onwards to an ED meeting the above definition. A visit is deemed to have occurred if the patient leaves without being seen, but is not deemed to have occurred if the patient is immediately referred by personnel to other healthcare services without being formally triaged (eg., referral by a reception nurse to an urgent care clinic). Specialized EDs (eg., psychiatric and pediatric) are also included in this definition. Unplanned visits to in-patient care wards are not included, unless the patient was referred via an ED. The time interval is calculated from the time of first contact with the patient by EMD staff to the first time noted in the ED records.

2 – Emergency Department visit related to reason for EMD contact

Name	**Emergency Department visit related to reason for EMD contact**
Definition	The relationship between the EMD contact and the subsequent ED visit is key to establishing whether mis-triage occurred in a given case. This criterion is considered to be met if the complaint reported to ED personnel matches the medical complaint reported previously to the EMD nurse. While this is in many cases obvious, this is in some cases unclear either due to insufficiencies in documentation, or vague and/or obscure patient complaints. In this study, the relationship was first determined based on a comparison of the patients reported chief complaint, then a review of free-text notes, followed by a review of interview recordings depending on documentation completeness. While it was found to be difficult to eliminate subjectivity entirely in classifying edge cases (particularly among patients with chronic ailments and psychiatric conditions), the following rules of thumb were used to mark contacts as related among edge cases: • Patient is seeking care for a complaint which could be a consequence of the complaint reported to the EMD nurse (eg., a fall post complaint of dizziness) • The same symptom reported in a different body part • The complaint reported by the patient is noted as having a duration longer than the interval between the EMD contact and ED visit Edge cases were marked as non-related if:

	• Patient is seeking care for a distinct acute instance of an underlying chronic disease (e.g., a diabetic seeking care for two distinct episodes of hypoglycemia, with a return to normoglycemia in between)

3 – Emergency Department treatment at specialist level

Name	**Emergency Department treatment at specialist level**
Definition	The Swedish National Board of Health and Welfare defines specialist care as services which exceed the capabilities of primary care. Primary care is in turn defined as "healthcare activities […] which do not require the medical or technical capabilities of a hospital" As such, this definition is based on identifying interventions and diagnostic procedures which are not available at a typical primary care center. If the treatment given to a patient could not have been performed at a typical primary care center, an ED visit (defined per marker 1) was deemed to have included specialist care. Note that this criterion includes only procedures executed or ordered by ED staff. While the scope of practice of primary care centers vary widely even within Sweden, examples of such interventions identified in the context of this study include: • Radiological imaging performed and evaluated within the time frame of the patient's ED visit. • Blood tests performed and evaluated within the time frame of the patient's ED visit. (eg, Hb, CRP, monospot, strep, crea, etc.) • Structured suicide risk evaluations and any non-consensual medical or psychiatric interventions. • Observation involving continuous patient monitoring (ie., telemetry, but not single EKG evaluations) • Identification of a patient condition with a high risk of deterioration which would have indicated referral to an ED if the patient had visited a primary care center.

4 – Admission to in-patient care from Emergency Department

Name	**Admission to in-patient care from Emergency Department**
Definition	Admission to in-patient care from the ED is considered to have occurred is the patient is referred directly to a ward within the same hospital, or is transported directly to an in-patient ward at another hospital (potentially via that hospital's ED). An admission is thus not considered to have occurred if the patient is released with a referral for in-patient care at a later time. Note that referrals to hospital clinics lacking in-patient facilities are not included in this definition, but that true in-patient care (ie., an overnight stay) is not required to meet this criteria – Only that the receiving department has the capacity for in-patient care.