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| **Data to feed SD Model** | | | | | | | | | | |
| Step | Optimal Delay (minutes) | Delay Retained (minutes) | % of patients exceeding optimal delay | Nº | Problem | Solution | % Improvement on timeout | % Overall improvement | Cost | Degree of difficulty |
| FMC | 2 | 5 | 52% | 1 | Lack of knowledge by workers at reception and nursing screening about signs and symptoms of patient with the STEMI. | Training for professionals. Manchester - Risk Classification System. | 15 | 40 | Medium | Medium |
|  | Optimal FMC delay | Delay FMC | Portion FMC | 2 | Lack of interaction between the reception and the nursing sectors. Delay in referring patients for screening sector. | Improving communication between reception and nursing sectors. | 10 |  | Low | Low |
|  |  |  |  | 3 | Delay in the screening and ECG due to delay in the decision on to do ECG by nursing, because some physicians do not like nurses performing ECGs before their request. | Training for Emergency physicians and nurses regarding the guidelines of ACC/AHA for the initial treatment of patients with STEMI. | 15 |  | Medium | Medium |
| ECG | 8 | 20 | 79% | 4 | Some professionals of nursing team do not know how to perform ECG or perform the wrong way. | Training nursing staff on the correct techniques to perform ECG. | 10 | 40 | Medium | Medium |
|  | Optimal ECG delay | Delay ECG | Portion ECG | 5 | Lagged Electrocardiogram | ECG equipment with digital output, less artefacts, and faster transfer via internet. | 20 |  | Medium | Medium |
|  |  |  |  | 6 | ECG equipment gets more broken than working. | Do not loan the device for other sectors. A member of staff should be responsible for get 12-lead ECG. | 10 |  | Low | Low |
| TXF  Tx ECG Feedback | 5 | 71 | 76% | 7 | Lack of knowledge of the physicians about ECG interpretation. | Training for emergency physicians about interpretation of the ECG. | 20 | 50 | Medium | Medium |
|  | Optimal TXF delay | Delay TXF | Portion TXF | 8 | ECG result transmission by fax and delay in obtaining the feedback by PCI center. Low image quality, and often the transmission process need to be repeated. | Acquisition of modern ECG equipment with transmission by internet. | 15 |  | Medium | Medium |
|  |  |  |  | 9 | The delay in the diagnosis definition and discussion of the case with the emergency physician of PCI Center. | ECG transmission straight to the hemodynamicist physician through internet that will determine whether to accept the patient at that moment for primary PCI. | 15 |  | Medium | High |
| TWT  Awaiting Transfer | 15 | 63 | 86% | 10 | Many patients are brought by EMS of the residence or public road to primary hospital for first diagnosis and after will be transferred to PCI center. | Perform ECG at the ambulance and after confirming the diagnosis of STEMI, direct transfer of the patient to PCI center. | 30 | 50 | High | High |
|  | Optimal TWT  delay | Delay TWT | Portion TWT | 11 | Bureaucracy – The primary hospital have to wait a fax with the authorization of the PCI center, that is need after be send by fax to the EMS, to finally, the EMS, authorize the ambulance transport. | Telephone contact and discussion of the case by the emergency physician with the EMS regulator physician, without the need of authorization transmission by fax. Eliminating the bureaucracy at this phase. | 20 |  | Medium | High |