Evaluation of ICU Staff Performance (An Overall Perspective)

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Defining Intensive Care Unit Performance

- Defining ICU performance is a difficult exercise that embraces diverse elements such as medical knowledge, ethics, economics, systems engineering, sociology, and philosophy.

- Efforts to measure ICU performance should follow two essential principles:

I. Evaluate a variety of measures that span the dimensions of ICU performance; and

II. Use performance measures that are directly relevant, or have an unequivocal relationship to measures that possess such relevance.

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- There are a number of domains within which an ICU should be judged
- While ultimately an ICU exists to serve the medical needs of critically ill patients, it also provides important services for families and friends of patients, health care workers in the ICU, the hospital, and society
- Rating ICUs only on narrowly defined measures of health outcomes fails to recognize the larger social value associated with expert care of these patients.
- In addition, no single metric is adequate to address all of the categories of outcomes

TABLE 3-1 Domains and Measures of Intensive Care Unit Performance

Medical outcomes

- Survival rates: ICU, hospital, and long-term
- Complication rates related to care
- Medical errors
- Adequacy of symptom control

Economic outcomes

- Resource consumption: ICU, hospital, and posthospital
- Cost effectiveness of care

Psychosocial and ethical outcomes

- Patient satisfaction
- Family satisfaction
- Concordance of desired and actual end-of-life decisions
- Appropriateness of medical interventions provided
- Long-term functioning and quality of life among survivors

Institutional outcomes

- Staff satisfaction and turnover rate
- Effectiveness of ICU bed utilization
- Satisfaction of others in the hospital with the care and services supplied by the ICU
- Efficiency of the processes, procedures, and functions involved in ICU care

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- Assessing performance requires direct measurement of end points that are relevant—to patients, society, and the hospital
- Because they are usually easier to measure, surrogate parameters are often used in Performance Improvement (PI) efforts
- While assessing surrogate end points is often a component of PI, this should not substitute for measuring and addressing the truly important parameters

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- For example, errors in drug administration have a proven association with detrimental outcomes, and therefore the rate of such errors is a relevant performance measure.

- Processes instituted within the pharmacy to try and reduce errors, such as altered drug labeling or direct communication with nurses, represent surrogates for the relevant index.

- While addressing such processes is in fact the necessary means to the end, changing a given process may or may not result in improvement in the rate of such errors, and does not obviate the need to measure it.

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- The ICU readmission rate is not listed in the Table because it is at best a questionable indicator of ICU performance
- Its potential value derives from observations that readmitted patients have a higher mortality rate and longer length of stay

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- However, for it to be a meaningful surrogate requires that:

(1) Premature ICU discharge was the cause of a subsequent detrimental outcome due to a problem that was already present in the ICU, and

(2) It would not have occurred if the patient had remained longer in the ICU

- There are no data that have demonstrated this

- The optimal readmission rate is unknown, and a low one could indicate that on average, patients are inappropriately remaining in the ICU too long, when they could be adequately cared for in less expensive venues

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- All of the performance parameters listed have limitations.
- ICU or hospital mortality rates are commonly used measures of ICU performance that are relatively simple to collect.

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- While some data indicate that hospitals with higher death rates have more preventable deaths, short-term survival tells nothing about the things that are much more important to people, long-term survival and quality of life (QOL)

- Also, certain attitudes about death and dying can mean that higher short-term mortality represents superior care by virtue of being more concordant with patients' end of- life wishes

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- Complication and error rates are often used as measures of ICU performance.
- These are relevant because of potential causal relationships of such adverse events with increased mortality, morbidity, or costs
- However, such adverse events do not necessarily lead to clinically relevant consequences, and some studies have found little effect

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- Therefore, care must be taken to ensure that an established relationship to relevant outcomes exists for any medical error or complication whose rate is used as a surrogate for ICU performance

- Since only a fraction of medical practices have been rigorously proved to be efficacious, many deviations from recommended practice may have no such relationship

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- Symptom control and end-of-life decision making are important aspects of ICU care
- There is much room for improvement in this area
- Use of these outcomes as measures of ICU performance has been limited by lack of training and orientation among physicians, a paucity of pre-existing tools to measure them and other factors

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- Because of the enormous costs of ICU care, resource consumption should be part of every institution's assessment of ICU performance
- The best measure that balances simplicity and information content is ICU length of stay

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- Others that require much effort to acquire include total monetary charges or costs, usage of various diagnostic and/or therapeutic procedures, and Therapeutic Intervention Scoring System (TISS) score

- TISS is a relatively comprehensive attempt to measure resource utilization for ICU patients that works well for cohorts.

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- However, because spending a lot of money is justifiable if the benefits are commensurately large, while even small expenditures that generate no benefits are wasted, resource use is most relevant in combination with the noneconomic outcomes

- While the formalism associated with this concept, cost effectiveness, is well beyond the scope of local attempts to improve ICU performance, it would be a powerful tool to assist society in clarifying the value of ICUs, as well as to assess the performance of individual ICUs

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- A simpler approach to assessing cost effectiveness that could be adapted within a single ICU depends on case-mix adjustment of short-term mortality and length of stay
- Effective use of ICU beds is important for a number of reasons
- The ICU is an expensive and limited resource
- Moving patients out of the ICU prematurely due to limited availability has serious negative consequences

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- But ICU triage decisions are often inefficient, and can be made more effective without adverse medical consequences

- Arguing that rationing of critical care is common but often inequitable, Kalb and Miller published a thoughtful framework for consideration of ICU triage in which they propose that the use of critical care be limited to clinical settings in which it has been demonstrated, or at least is presumed, to be cost effective.

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- They and others provide arguments for using medical suitability as the primary determinant of such triage decisions, proposing that a low priority for ICU beds be assigned to those too healthy to require such care and to those too hopelessly ill to benefit

- While rates of adherence to written or published admission and discharge standards is a common means of measuring ICU bed utilization, such information is not likely to result in much useful information, as such standards have not been subjected to scientific validation of whether they affect relevant outcomes

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- Possible measures of utility include:

(1) The percentage of ICU patients who only receive care that could be provided elsewhere in the hospital,

(2) The fraction of patients for whom ICU care represents an exercise in medical futility, and

(3) Patients who remain in an ICU for longer than they need its special capabilities

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- The importance of satisfaction among patients and their families as measures of ICU performance is highlighted by data documenting that poor communication and dissatisfaction are common

- Unfortunately, at the local level there is usually more talk than action on this topic

- This is partly because unfamiliar survey instruments, questionnaires, or interviews that are time-consuming to administer and analyze, are utilized to gather this data

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- There are numerous potential dimensions to such surveys in ICU care, including satisfaction with:

(1) level of care from physicians, nurses, and other ancillary health care personnel;
(2) Involvement in decisions regarding care;
(3) amount and quality of communications with health care and administrative personnel;
(4) outcomes of care;
(5) administrative hospital functions such as admissions, discharge, and billing;
(6) food; and
(7) housekeeping

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- While there are doubts about the validity of currently used methods, a variety of tools exist to measure these aspects of satisfaction, including some created specially for use in ICUs

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- The satisfaction of all those who work in an ICU should likewise be considered a component of ICU performance.

- Job dissatisfaction contributes to higher rates of staff turnover, which:

(1) Wastes training time and money;

(2) Diminishes the ability of the ICU to perform as an experienced, highly functioning team; and

(3) Further degrades staff morale while increasing stress on managers and remaining staff

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- The nursing shortage is already substantial, especially in ICUs
- That of respiratory therapists is not far behind, and a shortage of ICU physicians is looming
- Problems related to dissatisfaction and turnover are obviously worse if those who quit cannot be replaced.
- In fact, dissatisfaction and burnout is common among nurses, respiratory therapists, and ICU physicians

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- While staff retention rates are easily obtained from personnel records, data about job satisfaction are collected from questionnaires or interviews

- Many survey tools exist to assess job satisfaction, burnout, and related constructs

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- A large class of performance measures quantifies problems in the processes, procedures, and functions occurring within the ICU, or that link the ICU to the rest of the hospital

- This group of measures is strongly related to many of the other outcomes, but possesses independent importance because of its relationship to the quality of interpersonal interactions, and the staff's perceptions of their workplace

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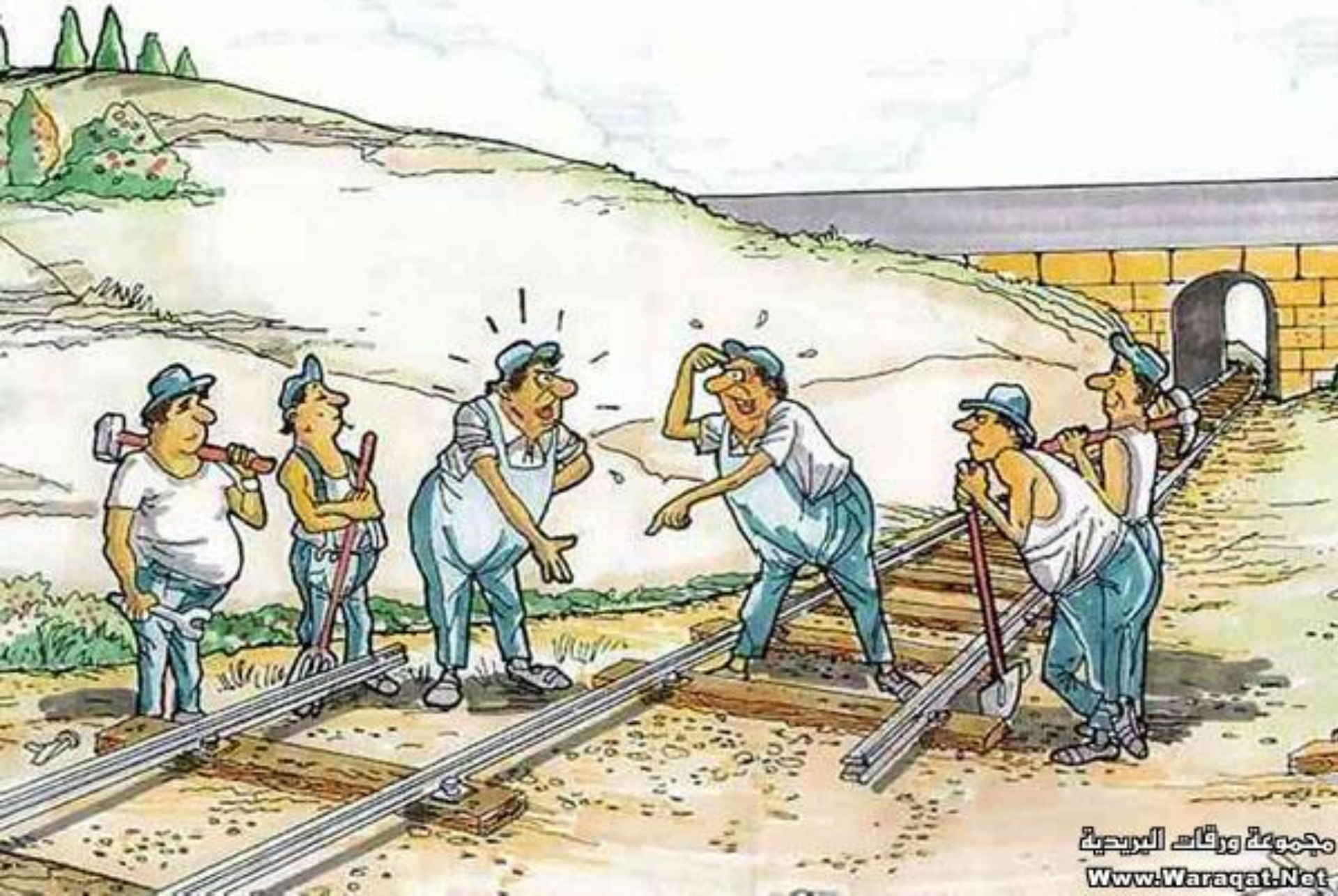
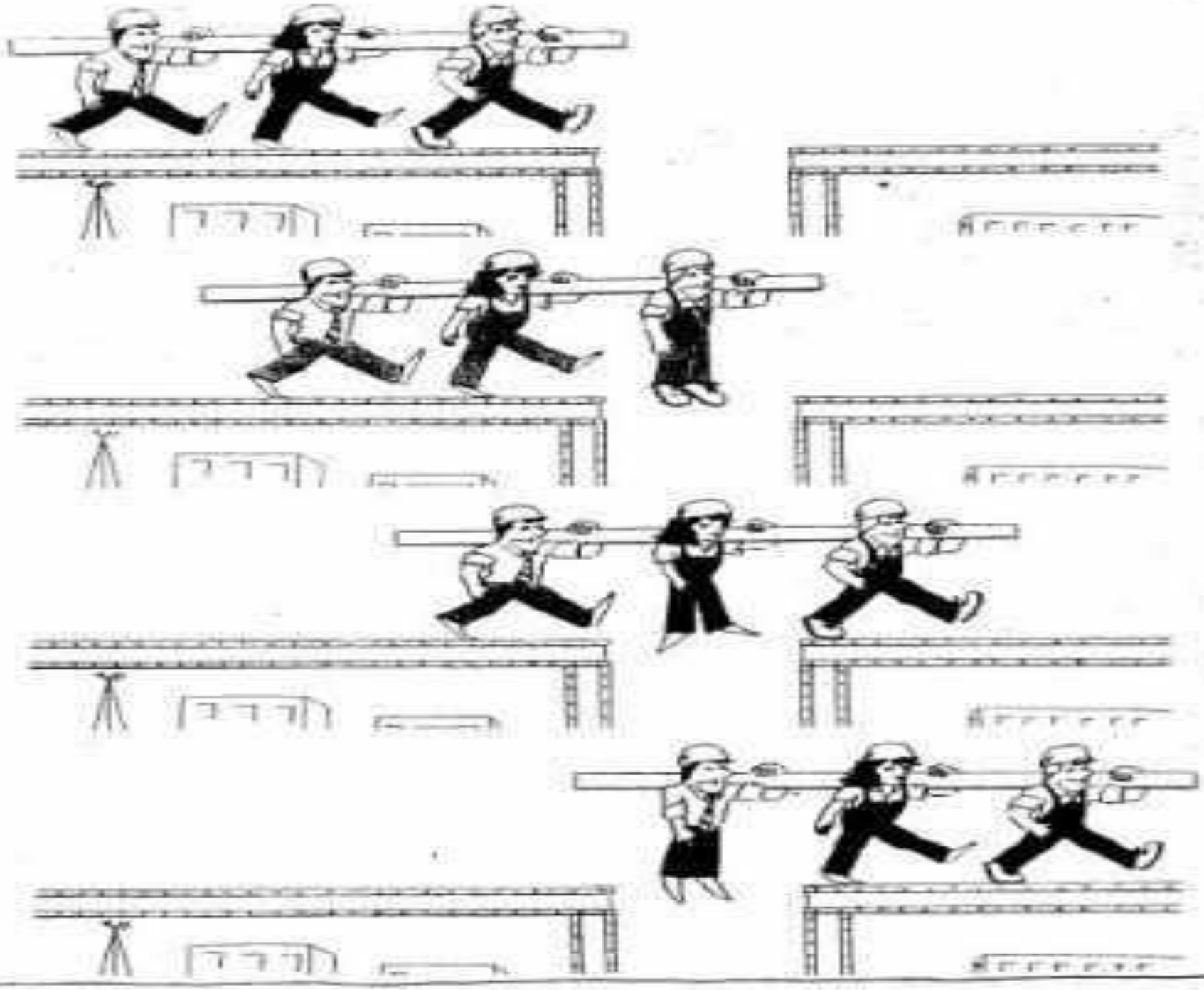
- An example is inefficiency or conflict in the course of interactions between the ICU and the pharmacy
- Even in the absence of identified errors in drug administration resulting from such incidents, they have the potential to lead to errors, waste, or rework, and in any case generate negative feelings among the staff

Team Work



TEAMWORK

So you only have to do half the work!



Thank You