A 74 year old man arrives at our ED with fever, agitation, mild confusion (vs. dementia), and a complaint of being very weak. He was brought in at his children's insistence after first presenting to an outside hospital the prior evening for care for his fever. He had taken a handwritten list of his medical conditions, medicines and allergies to that hospital. He reported that he had some lab studies and radiographs done at that facility but thinks he was told that the radiographs would not be read until a radiologist arrived the next morning. He said he got tired of waiting at the other hospital and finally went home without any treatment. The following morning, when one of his children came to check on him, it was noted that his fever had worsened. They, therefore, brought him into our ED. He had never been seen here before and had no medical record at our facility.

At the time the patient was checked into the ED, it was noted that our facility was not on his insurance plan. This worried the patient and his family. They urged the ED resident to contact the outside hospital and try and get the results of the tests that had already been done, to help save money. The resident calls the hospital and cannot get any information on the patient's visit, in part due to a "shift change" and to the fact that the patient left AMA and his paperwork could not be located.

Because of the patient's mild confusion and the fact that his family did not know many of the details of his current illness or his medication history, it takes longer than usual to get the patient's history. He mostly wanted to discuss his chronic health complaints. He did not provide a history to localize the source of his fever. His physical exam is notable for a frail appearing, elderly man, with fever (T = 101.4), some mild tachypnea (RR = 20), mild tachycardia (P = 110), and slightly decreased RLL lung sounds, but no signs of consolidation. SaO2 = 96% on room air. Since the outside test results were not available, blood work and radiographs were repeated.

Because of a multi-victim trauma, the available radiology staff were occupied with the care of other patients. The ED resident reviewed the films and felt "underwhelmed" with the chest x-ray.

Because of the patient's fever and general appearance, the resident in the ED begins the process of getting the patient admitted to the medicine team. The medicine residents comes to evaluate the patient. (Our hospital has a computer order entry system which allows residents to enter orders on admitted patients, but not on patients who are not yet admitted.) The medicine resident tracks down a radiologist to review the films and the official read is that the patient has a RLL infiltrate, consistent with pneumonia. The resident tries to order antibiotics for the patient, but is delayed because the patient is "not yet in the system".

Eventually, the patient is admitted and the antibiotics are given. The patient does well and recovers from his community acquired pneumonia.

Patient Healthcare Matrix: Care of Patient with pneumonia

Competencies \ AIMS	SAFE[1] (Overuse, underuse, misuse)	TIMELY[2] (Delay in Hrs, days weeks)	EFFECTIVE[3] (Outcomes, Evidence-based care)	EFFICIENT[4] (Waste of resources)	EQUITABLE[5] (Gender, ethnicity, race, SES)	PATIENT-CENTERED[6] (Preference, needs, values)
Assessment of Care						
PATIENT CARE[7] (Overall Assessment) Yes/No	No	No	Yes	No	Yes	No
MEDICAL KNOWLEDGE and SKILLS[8] (What must we know?)	Pt could have become septic because of the delay in starting antibiotics. He went home before films were read. Did not get proper care at OSH and came to us.		Once proper diagnosis was made, treatment was appropriate. Outcomes were good.			
INTERPERSONAL AND COMMUNICATION SKILLS[9] (What must we say?)	Spent a lot of time with pt getting history, care, etc. Pt had many other care problems.	Needed to get x-rays first and discuss healthcare issues later.		Should have waited until results of X-ray to make plan of care. We wasted a lot of time going down wrong path.		Team was very good at talking to him but we did not get to his chief complaint fast enough.
PROFESSIONALISM[10] (How must we behave?)	Team was very eager to help and no one acted unprofessional.	What is our role in letting an OHS know that radiology was not available?				
SYSTEM-BASED PRACTICE[11] (What is the process? On whom do we depend? Who depends on us?)	Multiple doctors in multiple systems caused dangerous delay. There were many players: MD, radiology, admissions, insurance, and social worker. This actually caused the problem of getting a fast diagnosis.			Patient needed to go outside of his usual system because he could not get x-rays read at night.		Patient had to navigate the complex system of care at OSH and finally get to Vanderbilt for help.
Improvement						
PRACTICE-BASED LEARNING AND IMPROVEMENT[12] (What have we learned? What will we improve?)	Getting records from other hospitals is critical when pt has many other problems. Better to repeat x-ray	We need a faster system to identify "pneumonia" so they can get ABX quickly regardless of other co-morbidities..		Because we could not get films, they had to be repeated. This patient also needed to be admitted this is a financial concern if not in our system.		We need to be sure pts with pneumonia are informed of what is happening and including them in the monitoring of time to treatment.

[1] Safe: Avoiding injuries to patients from the care that is intended to help them.
[2] Timely: Reducing waits and sometimes harmful delays for both those who receive and those who give care.
[3] Effective: Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse, respectively).
[4] Efficient: Avoiding waste, including waste of equipment, supplies, ideas, and energy.
[5] Equitable: Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socio-economic status.
[6] Patient-Centered: Providing care that is respectful of and responsive to individual patient preferences, needs and values and ensuring that patient values guide all clinical decisions.
[7] Patient care: that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
[8] Medical Knowledge: about established and evolving biomedical, clinical, and cognate sciences (e.g. epidemiological and social-behavioral) and the application of this knowledge to patient care.
[9] Interpersonal and communication skills: that result in effective information exchange and teaming with patients, their families and other health professionals.
[10] Professionalism: as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
[11] System-based practice: as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.
[12] Practice-based learning and improvement: that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvement in patient care.

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