Assessment of EMS Agency
Michigan Ongoing Stroke Registry to Accelerate Improvement of Care (MOSAIC)

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INTRODUCTION
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Michigan's Ongoing Stroke Registry to Accelerate Improvement of Care (MOSAIC), a program within the Michigan Department of Health and Human Services, is working to assess and reduce barriers to communication among EMS agencies and their receiving hospitals. The feedback from the agencies has been collected to allow the MOSAIC team to determine ways they can assist EMS and hospitals in working together to improve patient hand-off and the transfer of crucial outcome information.

METHODOLOGY

A survey was developed for EMS agencies that transport patients to hospitals participating in MOSAIC; data was collected electronically. This survey focused on five areas:

1) The stroke protocol used by agencies
2) Patient Care Record submission process
3) Feedback agencies receive from hospitals
4) Feedback agencies would like to receive from hospitals
5) Barriers to information exchange with hospitals

On February 26, 2016, twenty-two EMS agencies and the Medical Control Authority (MCA) within the Tri—County MCA Region were e-mailed an explanation of the purpose of the survey and an invitation to complete the survey. This initial contact was followed by a reminder e-mail one week later to encourage participation.

Out of the twenty-two EMS agencies that were invited to complete the survey, 12 (55%) responses were received. Although the number of potential respondents was small, the margin of error (11 percent at a 95 percent confidence interval) is higher than typically expected.

INFORMATION ABOUT THE AGENCIES

Participating agencies were asked to disclose their agency type which included: Advanced Life Support (ALS), Basic Life Support (BLS), or another type.

❖ Overall, almost all agencies (83 %) were **ALS**, 8% were **BLS**, and one agency was an **MCA**.

1- PROTOCOL:

❖ Agencies were asked whether the stroke/CVA protocol their agency used included modifications or addendums to the Michigan Adult Treatment Protocol: Cerebrovascular Accident (CVS/Stroke). The majority (90%) of respondents reported that their stroke/CVA did **NOT** include modifications or an addendum.

❖ Agencies were asked if they require pre-notification of the destination facility specific to suspected stroke patients. The majority (82%) of respondents reported that they require pre-notification.

2- PATIENT CARE RECORD:

❖ Agencies were asked how their Patient Care Record (run sheets) were submitted to hospitals. Slightly more than half (55%) reported that they submit them **electronically**, 27% reported submitting them via **paper copy**, and about one-fifth (18%) indicated that their agency **faxes** the records.

❖ A follow up question was asked about *where* the run sheets were submitted at the emergency department. None of the respondents reported submitting the run sheets to **Registration**. Twenty-seven percent of respondents reported submitting the records to **Receiving Staff**, while 46% did not know where the run sheets were submitted. Close to one-third of the agencies (27%) reported submitting the charts at an unspecified location.

❖ Regarding the timeframe the run sheets are to be submitted to the hospital, more than half (55%) of respondents reported that they were submitted **Immediately**, 18% reported submitting them **Within 24 hours**, and one-third (27 %) reported submitting them within one hour, 2-4 hours, or 4 hours.

❖ Less than half (36%) of respondents reported they had a procedure in place to monitor missing EMS run sheets. Some of the procedures that were reported to be used were: daily review when uploaded from rig computer, through Zoll Data System documentation/dispatch/billing interlaced, QA'd runs almost always daily to discover any missing runs within 24-48 hours, and hospital contact with the MCA to obtain the Electronic Patient Care Record (EPCR).

3- FEEDBACK EMS AGENCY RECEIVES FROM HOSPITALS:

- ❖ Overall, more than half (55%) of responding agencies indicated that they receive feedback from the receiving hospitals.
    - ▪ Out of the agencies that reported that they receive feedback, 33% reported that they received feedback **RARELY**, while 50% received it **AS NEEDED**.
    - ▪ **Hospital Staff/Coordinators** and **Medical Control Staff/ Medical Directors** were equally reported as the source of feedback to the responding agencies.
    - ▪ A follow up question was asked about the type of feedback agencies received. Out of the 17% of respondents that answered this question, one reported that they received written feedback that included the review of CVA patients. Another respondent stated that feedback was received concerning patient initial assessment, diagnostics, care and outcomes.
    - ▪ Of the 45% of respondents that did **NOT** receive feedback, 80% reported they would like to receive feedback from hospitals. Two agencies stated that feedback about patient outcomes was needed, another agency was interested in feedback concerning what they could have done differently.

- ❖ Agencies were asked how frequently they provided feedback to their individual field staff.
    - ▪ Overall, more than half (60%) indicated that feedback was provided **OFTEN**, 20% reported that feedback was provided **AS NEEDED**. The types of feedback provided to field staff were:
        - o Continuous Quality Improvement (CQI) (43%).
        - o Feedback from family or facility (71%).

4- WORK GROUPS:

- ▪ Agencies were asked if they participated in any work groups or committees concerning Trauma, STEMI or Stroke within their own agency, medical control and/or hospital staff. The majority (83%) of agencies participated in **STEMI** – focused groups, while **Trauma** and **Stroke**-focused groups were equally represented (67%).

5- BARRIERS:

- ❖ Agencies were asked to report any barriers in communication they had experienced with the receiving hospitals: One-third of agencies answered this question. One agency reported that HIPAA concerns were occasionally voiced by hospitals, but stated that the MCA holds a data sharing agreement. Another agency reported that feedback used to take weeks but things have been improving. Lastly, one agency reported that the process of the agency request to MCA then to hospital and back is lengthy and sometimes does not result in any feedback.

Survey Responses

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1. Agency Type:

	%	# of agencies
Advanced Life Support (ALS)	83.3	10
Basic Life Support (BLS)	8.3	1
Other	8.3	1

Number	Other
1	Medical Control Authority (MCA)

2. Does the Stroke / CVA protocol used by your agency include any modifications or addendum to the State CVA protocol?

Yes	No
10.0 %	90.0 %

3. Does your agency require pre-notification of the destination facility specific to suspected stroke patients?

Yes	No
81.8 %	18.2 %

4. How are your agency's Patient Care Records (run sheets) submitted to the hospital?

	%	# of agencies
Electronically	54.5	6
Paper Copy	27.3	3
Other	18.2	2

Number	Other:
1	Faxed
2	Paper copy faxed to the receiving hospital

5. Where are the run sheets submitted at the ED?

	%	# of agencies
Registration	0.0	0
Receiving Staff	27.3	3
Unknown	45.5	5
Other	27.3	3

Number	Other
1	Attached to patient care chart
2	ER fax, in the event of multiple units they fax to each unit or pod
3	Designated location for EMS records and at bedside if patient is still in ED

6. Within what time frame are the run sheets to be submitted to the hospital?

	%	# of agencies
Immediately	54.5	6
Within 24 hours	18.2	2
Unknown	0.0	0
Other	27.3	3

Number	Other
1	ASAP, ideally within an hour, depending on call volume
2	2-4 hours
3	within 4 hours

7. Is there a procedure in place to monitor missing EMS run sheets?

Yes	No	Unknown
36.4 %	45.5 %	18.2 %

8. If yes, please describe the procedure to monitor missing EMS run sheets.

- Daily review when uploaded from rig computer.
- Through Zoll Data Systems documentation/dispatch/billing interlaced; outstanding run sheets are marked as not submitted.
- Not really a policy but if a hospital doesn't receive one, the report is sent immediately upon request.
- Runs are QA'd almost always daily, any incomplete or missing runs are discovered then, and typical time frame for discovery would be 24-48 hours.
- Contact is made from the hospital to the MCA, and they assist in obtaining the EPCR for the hospital.

9. Does your agency receive feedback from the receiving hospital?

Yes	No
54.5 %	45.5 %

10. If yes, how frequently does your agency receive feedback from the receiving hospital?

	%	# of agencies
Often	0.0	0
Rarely	33.3	2
As needed	50.0	3
Other	16.7	1

11. If yes, who provides the feedback to your agency?

	%	# of agencies
Hospital staff / Coordinator	50.0	3
Medical Control staff / Medical Director	50.0	3
Other	0.0	0

12. If yes, please describe the type(s) of feedback provided.

- Written feedback, participation with review of Cerebrovascular (CVA) patients.
- Patient initial assessment, diagnostics, patient care and patient outcome.

13. If no, would your agency like to receive feedback from the receiving hospital?

Yes	No
80.0%	20.0%

14. If no, what kind of information, or additional information, would your agency like to receive feedback on?

- Whether or not patient had a stroke, type of CVA, patient outcome.
- Patient outcome.
- Something similar to the STEMI reports we get back would be okay (D2B or D2D2B from Sparrow). It's always good to know the final outcome, STEMI reports are back quickly (within 24 hours) and outcome is not included. Feedback on a stroke patient could be more...a chart of significant events such as last time seen normal, 911 activation, our scene arrival/departure, hospital arrival, stroke activation time, CT findings, interventions if any, and outcomes. The outcome piece could be patient status at a determined time post intervention, or perhaps it would be too cumbersome to acquire the longer term data and share. We have mechanisms in place that we can request outcome data on specific patients, sometimes the information is received in a timely fashion, sometimes there is quite a delay.
- Was EMS on track with what was going on with patient, what was patient's disposition, did they go home, go to rehab, go to nursing home, or die, Was there something EMS could have done differently.

15. How frequently does your agency provide feedback to your individual field staff?

|	%	# of agencies
Often	60.0	6
Rarely	0.0	0
As needed	20.0	2
Other	20.0	2

16. Please describe the type(s) of feedback provided to field staff.

- If we get any type of feedback from the hospital or Tri-County we let those individuals know.
- CQI reports as to how the runs meet individual benchmarks, review and find out if there were difficulties with individual patients, discuss both good and bad CQI issues with general membership.
- Written feedback and CQI/Peer review.
- Let them know any updates we receive from either the facility or family.
- Any communications from the receiving hospitals such as patient outcome requests or D2B reports.
  Any questions or "attaboys" found in the QA process.
  Any questions originating from the field staff regarding a particular call.
  Any concerns or compliments with any aspect of a call, from family, fellow responders, ED staff, etc.
- Hospital findings patient disposition.

17. Does your agency participate with any work groups or committees with representatives from your agency, Medical Control, and/or hospital staff on the following topics?

	%	# of agencies
Trauma	66.7	4
STEMI	83.3	5
Stroke	66.7	4
Other	33.3	2

Number	Other
1	Board
2	We participate in Sparrow's "Leadership Saves Lives" (LSL) meetings covering the whole spectrum of patient care.
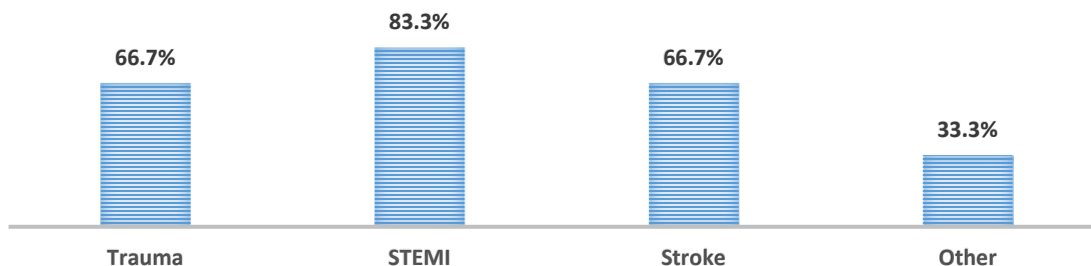
18. Please describe any barriers in communication you have experienced between your agency and receiving hospitals.

- Have to send information about patient to our Tri-County office then they send in a request to the hospital may take days, to weeks or no information at all back to our agency.
- We work very closely with our local critical access hospital (Sparrow Clinton) with very few barriers. Sparrow Main has had mixed successes with taking down barriers in a very busy ED. With the right person in place, feedback on patient outcomes has been efficient, other times it may be weeks for a response. Currently things are improving in that respect. From the STEMI side, they have been amazing, reports on STEMI alerts we have transported are typically sent to me the next day. Stroke information is available by request (same as a trauma or other significant or interesting case). The hospital administration seems to be paying more attention to the medical and patient care side of the equation now, vs. purely the financial and business side. They also are beginning to realize that we are all on the same team with the same goal of providing excellent patient care. This should continue to improve communications and ultimately lead to more efficient and better care for our patients.
- HIPAA concerns occasionally are voiced by hospital.
  MCA does hold an information sharing document, so communication is available
- None.