Milestones GMI - all working groups

THEMES / OBJECTIVES (could be several)	ACTIVITIES / SOLUTIONS	INDICATORS	TIMEFRAME (Apr. 2013 - Apr. 2016)	Status	RESPONSIBLE ORGANIZATION
WG 1					
Map and engage stakeholders, catalogue regulations and international agreements			2013 Q2	Database with all GMI participants has been generated. Workgroups have been generated for different stakeholders. Membership and followers possibilities have been added to the website.	George H will contact WTO about legal issues
Define GMI management funding group	Email request send. One reaction.		2013 Q2	On going. Small group works ad hoc, but the team is not there yet. This may need more effort.	
Advocacy paper for end-users			2013 Q3	[GH: here I am confused what is was, but i will look this up]	George H
Agreement on organization form and communication strategy	Charter. Legal document written and emailed for discussion in WG1.		2013 Q4	Documents are there. Completed: charter and legal structure is unanimous accepted and published	RIVM / George H
[Develop a list of barriers for minimum optional metadata model.] We should ask the other group what is the minimum data requirements, what data could be hidden. Once we have decided on a list of issues we have to describe how to come around this. We might not be able to take care of all. Some countries have high restriction on sharing any metadata. What do we cope with this so these countries get involved? Can the GMI databases work without metadata? (minutes GMI 6 wg1)			2013 Q4	[GH contacted CDC on 1-11-2013 but it never came to next steps]	George H, Palmer, Marguerite Pappainoanou, Eric Brendon
Risk/benefit. Identify / develop communication strategy to industry, academia, governments	Website. Newsletters. Sharepoint. Wikipedia. Twitter account. List of potential meetings to present GMI. Presentation of GMI at IAFP 2014.		2013 Q4	Many communication tools are in place. The strategy may be improved still	Stephanie Defibaugh-Chacez (one pagers)
Resource needs report. Coordinate funding applications	List of potential global foundations. Contact with Bill and Melinda Gates foundation.		2013 Q4	Some is actual funding for the organization part of GMI has just started. A formal team of expert is still needed to take this further. A list of GMI paticipants looking for grant writting partners in GMI is made and put on SharePoint..Application to Bill Gates foundation was rejected in 2015	Jørgen Schlundt (Application to Bill Gates foundation)
GMI should be known by 65% of professionals			2014 Q1		Eric Brown (stands/seminars at ASM and AFP)
Present stakeholder analysis and recommendations	Short stakeholder analysis on sharepoint. Needs follow up		2014 Q1	Follow up should be made.	
Develop approach to release data			2014 Q2		
Overall strategy involving global funding			2014 Q2	Application to Bill Gates foundation was rejected in 2015	J. Schlundt
GMI information points in 50 countries			2014 Q3	Ongoing - but no records made	
Technical expert MTG			2014 Q3	Has been done by FAO (WHO) 2015	Masami T.
Survey model acceptance			2014 Q4		
Get money			2014 Q4		
Risk / benefit. Stakeholder outreach to illustrate benefits of open access.			2014 Q4		
Publication on legal implications of GMI			2015 Q2	Work in progress	G. Haringhuizen
Global level political MTG			2015 Q2		
Review and develop communication strategy for outbreak response			2015 Q2		
Side event at governing bodies (WHO, OIE, FAO)			2015 Q4		
Global agreement			2015 Q4		
Resolution at governing bodies (WHO, OIE, FAO)			2016	1st Draft under development for inspiration	J. Schlundt
WG 2					
First flow of data into GMI repository (NCBI/EBI)			2013 Q2	COMPLETED (data received across 4 Bioprojects and 3 organisms - see below)	NCBI/EBI
Discussion of GMI and MixS std. harmonization at GSC.			2013 (January)	Requires survey of GMI members expected to submit data to gather requirements for optional fields. 1st - survey of all GMI members to ask who will contribute data, 2nd) to ask those contributing for optional data types - GSC requires for spec of required and optional qualifiers	NCBI/EBI

Discussion at INSDC for two new tags for pathogen data:			2013 (May)	Tags for Bioprojects exist (http://www.ncbi.nlm.nih.gov/bioproject/?term=GMI[keyword] returns the 4 current Bioprojects - links to the thousands of samples that have already been sent can be retrieved). Tags for Biosample or SRA data are not yet implemented	NCBI/EBI
GMI reporting standard			delayed	Requires survey of GMI members expected to submit data to gather requirements for optional fields. 1st - survey of all GMI members to ask who will contribute data, 2nd) to ask those contributing for report types (NB: CDC and FDA have already contributed ideas as they are already submitting data).	NCBI/EBI
Working repository infrastructure, prototype GMI data discovery programmatic interface and generic web interface			2013 Q4 (ongoing)	NCBI/EBI already have capabilities to submit data. NCBI has an analysis pipeline and preliminary results are available: ftp://ftp.ncbi.nlm.nih.gov/pathogen	NCBI/EBI
Survey GMI members for those willing to contribute data			see below	GMI membership list will be surveyed for data contributors	
GMI presentation standard			see below	See above on reporting standard - expect delay	NCBI/EBI
Feedback from GMI analysis groups for refinement of reports and standards			see below	See above for suvey of GMI members - expect delay	NCBI/EBI
Enhancements to APIs and web interfaces (too early to start)			see below	Expect a delay	NCBI/EBI
GMI toolkit specification (too early to start)			see below	Expect a delay	NCBI/EBI
Create a mailing list of GMI users (potential and current).			2015 Q2		NCBI/EBI
Inform GMI submitters of how to submit data at EBI and NCBI, and help them through technical hurdle.			2015 Q2		NCBI/EBI
Poll the mailing list on where they are having difficulties in submission, either technically, or socially/politically. GMI would like to know what are the objections to the GMI concept as a core model.			2015 Q2	feedback has been minimal, need more users to fill out the survey	NCBI/EBI
Find out from the GMI community what data errors are impacting their analyses and educate said community on how they can help the archives to clean up the errors			2015 Q2 - started	feedback has been minimal, need more users to fill out the survey	NCBI/EBI
Continue to improve submissions and make it easier to do so. Inform the group established in point one when new submission capabilities become available			Ongoing		NCBI/EBI
EBI/NCBI will work out the translations of metadata fields between the two systems and report back to the community. Publish paper on the standard. How to use it and what it can do (EBI/NCBI). On the GMI site describe the standard, and point to the archive descriptions and implementations (with version – at NCBI/EBI)				Expect a delay	NCBI/EBI
Put together a publication on the standard, how to use it, and what it can do.				Expect a delay	NCBI/EBI
Describe the metadata standard (link or put on GMI site) and point to archive descriptions and implementation (versioned)				Expect a delay	NCBI/EBI
Educate the community on how to access the submitted data (search, retrieval, find samples and sequences collected in 2014, for example). Inform them that some data is protected/not submitted and end users will likely need to contact the submitter in order to access the protected data.				Expect a delay	NCBI/EBI
API to retrieve compliant data.				Expect a delay	NCBI/EBI

	Determine who is willing to contribute under the GMI concept and label their data with the GMI keyword (current contributors can be found at: https://www.ncbi.nlm.nih.gov/bioproject/?term=GMI[keyword])				Expect a delay	NCBI/EBI
	Contact these subgroups and determine what optional fields they feel are useful to add to the template in order to fill out the spec for a proposal to GSC (ex: ST = sequence type)				Expect a delay	NCBI/EBI
	Contact these submitters to get feedback on what reporting information they would like to receive – ex: programmatic way to retrieve the analysis results without having to go to the website/ftp and download them (GMI Reportng Std)				Expect a delay	NCBI/EBI
	Reevalute the above action items that extend back to GMI5 in light of current developments.			2016 Q3		NCBI/EBI
WG 3						
	Survey for methods in use and data to be stored.			2013 Q1	Survey has been designed and adminstered. Results will be presented at GMI8	
	Establish WG between academia and industry			2013 Q2	March 2015 meeting in USA with IFSH and ITT; in Europe the COMPARE project was funded, in which industry prtners are involved through external advisory panels.	
	Common pipeline to prepare data to be shared			2013 Q3	PeerJ manuscript publiched on FDA pipeline; survey has identified other pipelines and uses thereof, proposal will be to indentify groups that want to compare these with datasets.	
	Compile BoD estimates			2013 Q3	We have a common pipeline to share data through INDIS see bioproject genometrakr for Listeria, Ecoli, Salmonella and Campylobacter.	
	Survey to ID enduser needs prepared.			2013 Q3	Survey has been conducted and will be presented at GMI8	RIVM, ErasmusMC
	Milestone forum created			2013 Q4		DTU
	End-user needs identified.			2014 Q1	Survey has been conducted and will be presented at GMI8	RIVM, ErasmusMC
	Reports on:			2014 Q1	Survey has been conducted and will be presented at GMI8	RIVM, ErasmusMC
	Tool availability and gaps.			2014 Q1		
	Previous successes and failures.			2014 Q1		
	Epidemiology and bioinformatics integration.			2014 Q1		
	Regional priority of organism database created.			2014 Q2	Defined in Europe for COMPARE project	
	GMI session on tool availability and ontology.			2014 Q2	In survey to be presented at GMI8, including proposal for joint work	
	Decision tree for standardized sample preparation.			2014 Q2	Work started in COMPARE project for range of templated.	
	Model for genotype to phenotype prediction.			2014 Q3		DTU
	General SOP for pilot projects			2014 Q3	We have concucted one pilot project within the US in 2013 and we have a second one planned for summer 2014 - probably will not be international yet.	
	12 countries upload to public databases.			2014 Q3	We do not have a dozen people sharing data but we do have US, UK, Mexico and DK	
	Friendly user interface for analytic tools.			2014 Q3		DTU
	Genomic diagnostic traits identified.			2014 Q3		
	Top applications where NGS is relevant identified.			2014 Q3		
	SOP for novel pathogen discovery			2014 Q4	Work on metagenomics is developing fast, comparative studies ongoing in COMPARE	

	Approved ontologies			2014 Q4		
	All NGS upload to central repositories.			2014 Q4	2015 25,000 draft genomes in NCBI	
	Species and strain characterization running			2014 Q4	This is already accomplished for Listeria monocytogenes and Salmonella if you use genometrakr (one shared site)	DTU
	Industry buy-in and shared ownership.			2014 Q4	March 2015 meeting in USA with IFSH and ITT	
	Centralized repository for novel strains.			2015 Q2		
	Databases and outreach modules linked.			2015 Q2		
	Transparency of methods used.			2015 Q4		
	Interpretation to public warning running			2015 Q4		
	Data standards implemented.			2015 Q4		
	All microbial ID is digital.			2015 Q4		
WG 4						
	1. Survey end users, taget organisms and quality markers for the GMI PT	Develop a questionnaire to identify end users	Questionnaire ready for dissimination	2Q of 2013	Vitali Sintchenko, Bill Wolfgang ,	Completed
		Develop a questionnaire to identify target organisms	Questionnaire ready for dissimination	2Q of 2013	Vitali Sintchenko, Bill Wolfgang , Jacob Moran Gilad,	Completed
		Develop a questionnaire to identify quality marker	Questionnaire ready for dissimination	2Q of 2013	Bill Wolfgang ,Strain, Errol	Completed
		Add questions into a survey tool	Survey final	3Q of 2013		Completed
		Launch survey to GMI members	Survay dispatched	3Q of 2013		Completed
		Assess the outcome of the questionnaires	Provide a summary report	4Q of 2013	Jacob Moran Gilad,	Completed
		Provide a summary scientific paper	Summary scientific paper accepted	2Q of 2015	Jacob Moran Gilad,	Accepted and online BMC
	2. Preparation of reference material	Identify target organisms	Final list of target organisms for the PT	1Q of 2014 (Sep)	Decided during GMI6	Completed
		Selection of suitable reference material (bacteria) for component 1	Three bacterial isolates selected	1Q of 2014 (Sep)	FDA (Errol), DTU (Rene) and ATCC (Brian)	Completed
		Selection of a data set containing suitable reference genomes for component 2	data set containg 20-40 genome selected	1Q of 2014 (Sep)	FDA (Errol)	Completed
		Finished genomes for component 1	Reference genomes of all selected isolates	1Q of 2014	FDA (Errol), DTU (Rene) and ATCC (Brian) depending on ownership of the isolates or other agreements	Completed
		Finished genomes for component 2	Reference genomes of all selected isolates	1Q of 2014	FDA (Errol) - call for additional data if neccesary	Completed
		Preparation of reference material - DNA propagation, purification and vial prep for component 1: isolate, DNA	Reference material ready for dissimination	1Q of 2014	FDA (Errol), DTU (Rene) and ATCC (Brian) depending on ownership of the isolates or other agreements	Completed
		Preparation of reference material - sequencing of 20-40 isolates for component 2: flowcell data	Reference material ready for dissimination	1Q of 2014	FDA (Errol) - call for additional data if neccesary	Completed
	3. Organise the logistic of the GMI PT	Definition of coordinator / contact point of the PT	Roles appointed		Skipped step	Cancelled
		List of participants for the pilot	Full list avaiable	1Q of 2014	DTU (Susanne, week 39)	Completed
		Create a web site / wiki	Website goes live		Skipped step	Cancelled
		Develop a submission portal	portal goes live	1Q of 2014	DTU (Rene)	Completed
		Develop documentation, prenotification, invitation letter, instructions (SOP) and guidelines for PT	Documents online	1Q of 2014	DTU (Susanne) will lead a sub-WG of xxxx	Completed
	4. Lauch of the pilot GMI PT	Dispatch of reference materials	Parcels arrived at distination	1Q of 2014	DTU (based on participants shipping account or paid by DTU up to 10.000 USD)	Completed
		Relevant information (protocol, deadlines) to participants	Participants informed about Protocol and guidelines	1Q of 2014	DTU (Susanne) will lead a sub-WG of xxxx	Completed
		Analysis of submitted data	Raw data ready for analysis	2Q of 2014	FDA (Errol), DTU (Rene) and one or two more institutions	Completed

	Individual evaluation reporting	Completed first round of pilot GMI PT	2Q of 2014	FDA (Errol), DTU (Rene) and one or two more institutions	Cancelled
	Overall summary report	Final report ready	2Q of 2015	FDA / DTU	Completed
5. Lauch of the full rollout GMI PT	Send prenotification; Open sign-up	Participants signed up	May 4th	DTU	Completed
	Receive bacterial cultures (individual vials) from Microbiologics	Material received	May 18th	Microbiologics, DTU	Completed
	Deadline for sign-up	Participant list final	May 29th	DTU	Completed
	Shipment of bacterial culture and DNA, info on download of datafiles from ftp-site	Parcels arrived at distination	August 17th	DTU	Completed
	Relevant information (protocol, deadlines) to participants	Participants informed about Protocol and guidelines	August 17th	DTU /FDA	Completed
	Deadline for submission of results and surveys	Database closed	October 9th	DTU	Completed
	Analysis of submitted data	Raw data ready for analysis	4Q of 2015	DTU /FDA / PHE	Completed
	Individual evaluation reporting	Completed first round of GMI PT	2Q of 2016	DTU /FDA /PHE	On going
	Overall summary report	Final report ready	3Q of 2016	DTU/ FDA /PHE	On going
	Provide a summary scientific paper	Summary scientific paper accepted	3Q of 2016	DTU/ FDA/ WG4	Delayed
6. Lauch of the 2nd GMI PT	Identify target organisms	Final list of target organisms for the PT	2Q of 2016	DTU / FDA / PHE	Completed
	Selection of suitable reference material (bacteria) for component 1	Three bacterial isolates selected	2Q of 2016	DTU / FDA /PHE	Completed
	Selection of a data set containing suitable reference genomes for component 2	data set containg 20-40 genome selected	2Q of 2016	DTU / FDA /PHE	On going
	Send bacterial cultures to Microbiologics	Strains sent	2Q of 2016	Microbiologics, DTU	On going
	Finished genomes for component 1	Reference genomes of all selected isolates	2Q of 2016	FDA	Pending
	Finished genomes for component 2	Reference genomes of all selected isolates	2Q of 2016	FDA	Pending
	Send prenotification; Open sign-up	Participants signed up	2Q of 2016	DTU	Pending
	Deadline for sign-up	Participant list final	2Q of 2016	DTU	Pending
	Preparation of reference material - DNA propagation, purification and vial prep for component 1: isolate, DNA	Reference material ready for dissimination (DNA)	3Q of 2016	DTU	Pending
	Preparation of reference material - sequencing of 20-40 isolates for component 2: flowcell data	Reference material ready for dissimination (Drylab data)	3Q of 2016	FDA	Pending
	Receive bacterial cultures (individual vials) from Microbiologics	Material received	3Q of 2016	Microbiologics, DTU	Pending
	Relevant information (protocol, deadlines) to participants	Participants informed about Protocol and guidelines	3Q of 2016	DTU	Pending
	Dispatch of reference materials	Parcels arrived at distination	3Q of 2016	DTU (based on participants shipping account or paid by DTU up to 10.000 USD)	Pending
	Shipment of bacterial culture and DNA, info on download of datafiles from ftp-site	Parcels arrived at distination	3Q of 2016	DTU	Pending
	Relevant information (protocol, deadlines) to participants	Participants informed about Protocol and guidelines	3Q of 2016	DTU /FDA /PHE	Pending
	Deadline for submission of results and surveys	Database closed	4Q of 2016	DTU	Pending
	Analysis of submitted data	Raw data ready for analysis	1Q of 2017	DTU /FDA / PHE	Pending
	Individual evaluation reporting	Completed first round of GMI PT	2Q of 2017	DTU /FDA / PHE	Pending
	Overall summary report	Final report ready	3Q of 2017	DTU/ FDA / PHE	Pending

	Provide a summary scientific paper	Summary scientific paper accepted	3Q of 2017	DTU/ FDA/ WG4	Pending