Purpose: To identify variables that help develop models for predicting which persons are likely to come to harm or cause harm while missing. Methods: Uses a sample of 3,298 persons, reported missing 5,115 times during six months in a U.K. Police jurisdiction. Bi-variate significance tests and binary logistic regression for multivariate analysis. The Cambridge CHI scale was used to classify harm. Results: Very low levels of harm were suffered by missing persons while they were missing with only 0.7% of the sample suffering harm and a mere 0.1% serious harm. Missing persons experienced far more harm and more serious harm when not missing. Two variables provide a basis for a model that enables the few persons likely to suffer harm while missing to be identified: a measure of ‘maximum harm suffered at incidents while not missing’ and the ‘number of occasions victimised while not missing’. These predict the 1.5% of the missing person population likely to be victimised while missing. This 1.5% contained all but one of the 0.7% of persons suffering harm while missing. Number of times a suspect while not missing was related to harm perpetrated while missing and persons who were crime suspects five or more times while not missing may be prioritised while missing. Far greater harm was suffered by missing persons when not reported missing, a reflection of the longer periods not missing and higher victimisation risks. Conclusion: The algorithm enables the prioritisation of the small subset of incidents where officers may avert harm, potentially making the policing of missing persons more effective, and saving resources. The predictive links between harm suffered while missing and while not missing may identify those liable to come to serious long-term ‘victim harm’, helping targeted intervention to reduce harm, including that at missing persons incidents.